

John Duffy

A HISTORY OF
PUBLIC HEALTH
IN NEW YORK
CITY 1866-1966



By virtue of its size, New York City was the first American city to encounter the large-scale health problems of rapid urbanization. As a result, it was forced to pioneer in areas of medicine and health, and to relate public health developments to political, economic, and social change.

A History of Public Health in New York City, 1866-1966, is the second of two volumes by John Duffy. The preceding volume traced the development of the sanitary and health problems of New York from the earliest Dutch times to the culmination of the nineteenth-century reform movement that produced the Metropolitan Health Act of 1866, the forerunner of the present New York City Department of Health. In this new book, Professor Duffy provides a fascinating and beautifully documented short history of many important aspects of life in New York City over the past 100 years — sanitation, water, food, housing, schools, hospitals, clinics, health centers, diseases, medical care, and the general state of medicine.

The first part of the work covers the period from 1866 to 1898, the year when New York City received its present constitution, while the second part surveys the years from 1898 to 1966, the one-hundred-year anniversary of the Department of Health. In each division, a series of chapters provide a narrative history of the major developments in the Health Department, followed by several topical chapters dealing with environmental conditions, epidemic diseases, the state of medicine, and maternal and child health.

The survival of urban civilization depends in large part on the ability of city and health administrators, physical and social scientists, and engineers to cope with existing problems and to recognize emerging new ones. With this book, Professor Duffy has contributed greatly toward that necessary end.

Jacket illustration from *Frank Leslie's Illustrated Newspaper*, March 16, 1872. Courtesy of the New-York Historical Society, New York City.

A History of Public Health in
New York City: 1866-1966



Life Sketches in the Metropolis—Our Homeless Poor. Early Morning in Donovan Lane, near the Five Points. From *Frank Leslie's Illustrated Newspaper*, March 16, 1872. Courtesy of The New-York Historical Society, New York City.

A History of Public Health
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1866-1966

John Duffy

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New York

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*To the memory of
Dr. George James,
an intelligent, dedicated public health leader
and a warm human being*

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Foreword by Dr. Leona Baumgartner

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Foreword

The long-awaited twin volume of John Duffy's monumental work on the history of public health in New York City is here! And what a task it has been to put so much history into relatively so few pages. The problem of what to put in and what to leave out is obviously enormous for so much has happened in these years—not only in scientific advances but in technological developments: to mention but a few—the germ theory of disease, immunizations, chlorination of water, pasteurization, epidemiological surveillance, the antibiotics, genetic counseling, a mental health movement—the many refinements in the treatment of disease, the rehabilitation of the disabled and the restoration of normal body function made possible by the ever increasing understanding of how the human being functions. On the other hand, the automobile, air travel, electricity, the telephone, the radio, the computer, the transistor, television, and a host of other inventions have also influenced the health of the population. So too have the changes in the political domination of governmental and private groups, and particularly the relationships among federal, state, and local governments, had their profound influences on the health of the public. This book makes possible a contribution to a deeper understanding of the relationships of these changes. This work is not only of historical interest but should be of significant importance to the managerial professionals who are beginning to dominate the health scene, and who too often know little of the product they are trying to create. Obviously the entire story cannot be told in one volume or by one historian, but Professor Duffy's study will be invaluable to future historians who wish to explore the same territory in greater depth or with other focuses of interest.

The century of which Professor Duffy writes is important, too, for here can be found the roots of many of our current "crisis" problems of medical and health care. If we in this country are to construct a system of delivering preventive, curative, and rehabilitative services to all citizens there are a host of obstacles to overcome. Many are found in the concepts of the public and health professionals, the social and economic climate of the time, the growth of professionalism and specialism, the philosophy and administrative ability of governmental and educational organizations, the extent of political interest, and the activity of the individual consumers and private health organizations. Future historians hopefully will be able to trace the interplay of one or more of these influences more intensively than Professor Duffy has been able to do. There is much here for the social historian of today to consider carefully.

As noted above, one of the strengths of Professor Duffy's work lies in the careful discrimination among the official records which he has used so extensively. His second volume is, however, of particular value in that the author has located so many of them. New York City officially transfers records to the City Archives for a number of years and then burns them—a most distressing practice for the historian.

The time span covered by this volume, ending in 1966, is a convenient one. That year marked the end of Mayor Wagner's term of 12 years of administration. The new mayor had no background in health and he brought a new style to the government. Consequently the reorganization of municipal health services was accomplished with considerable difficulty. It will be interesting to see what the next historian makes of those changes. Health as a right for all, not a privilege, has become a battle cry. Better care of the sick poor, accessibility of services, "consumerism," neighborhood health centers, regionalization of care, the wider use of allied health professionals, insurance and group practice are all coming to the fore. The seeds of these were planted before 1966.

In conclusion, may I say what a joy it has been to read this volume. I lived in the Department of Health through some 25 years of the century it covers. About 1958 some of us began to wonder how best to celebrate the centennial of the Board of Health in 1966. I called Dr. George Rosen, the medical historian

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now at the Yale School of Medicine, and asked him to find someone to write the history of these years. He did the job well in finding Professor Duffy. And I find great personal satisfaction in seeing this volume complete that decision to have the history of this century recorded.

Leona Baumgartner, M.D., Ph.D.
Visiting Professor of Social Medicine

March 1973
Harvard Medical School
Boston, Massachusetts

Preface

As my research extended into the late nineteenth and twentieth centuries, I felt compelled to narrow the focus of my study. The increasing size and resultant complexity of New York City made it virtually impossible to deal with all the political, social, and economic factors impinging upon public health. Moreover, technological and administrative changes solved many former public health problems and enabled the Health Department to turn the administration of many programs over to other branches of the government. Another reason for limiting my scope is the sheer mass of available sources, so many that I felt it wise to concentrate upon printed materials.

One can scarcely write the public health history of a major city in a vacuum, and I have tried to place health developments in perspective. In seeking to achieve a reasonable balance, I can only assume that I will have slighted areas of interest to many of my readers. As the number of pages began to accumulate well beyond my original quota, I arbitrarily eliminated what I felt were peripheral subjects, for example, the development of the New York State Board of Health, the American Public Health Association, and the various national health agencies. Where they touched directly upon New York City health, I brought them into the picture, but I did not attempt to deal with them on their own. The same is true for the many philanthropic individuals and organizations which contributed so much to improving the health of New Yorkers.

What I have sought to do is to lay out the broad outlines of the city's public health history and to provide a general reference work. I should like to feel, too, that the history will be of value

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to public health administrators. It may hearten them to know that encountering apathy, ignorance, and avarice is the lot of all conscientious public officials, and that as preventive measures in the health area are more successful, the public is less inclined to support the programs which insure this success. An awareness of how previous administrators dealt with specific problems may be of value in the decision-making process, and, if the efforts of present-day health leaders do not achieve as much as they hope, they can take consolation in the knowledge that most gains have been won on a piecemeal basis. Possibly the most important lesson they may learn, however, is that intelligent, conscientious, and forceful health officers can make a significant contribution to mankind.

Acknowledgments

Over the past ten years of work on this history I have incurred many obligations. Among those whose help during the early years contributed to the second volume are my former research assistant, Betty Ellen Green, and two former graduate students and assistants, Martin Kaufman and J. Thomas May. The role which Miss Green played in volume one was performed for the present volume by my former graduate student and research assistant, James P. Morris of Tulane University School of Medicine. Jim Morris presided over an extensive collection of notes, read drafts, checked innumerable details, and provided good advice and strong moral support. In the final stage, Peter Bruton, my assistant at the University of Maryland, carried on the good work.

My relations with librarians have always been cordial, and I received a great deal of help from the staff members of a wide variety of libraries. In the New York area I relied heavily upon the New York Historical Society Library, the Haven Emerson Library of the New York City Health Department, the New York Academy of Medicine Library, and the New York Public Library. Over the years there have been changes in the library staffs, and it is scarcely feasible to list all those who were kind and helpful. I would be remiss, however, not to mention the particular cooperation of Devra Zetlin of the Haven Emerson Library.

In the course of my research and writing, I have interviewed and chatted with a great many past and present members of the New York City Health Department, all of whom were generous with their time and their recollections. Three former commissioners, Leona Baumgartner, Ernest L. Stebbins, and the late George James, answered a good many questions, read sections of

Acknowledgments

the manuscript, and offered constructive suggestions. I cannot mention all from the Health Department who helped, but the following individuals deserve special credit: Carl L. Erhardt, Morris Schaeffer, Karl Pretshold, Jerome Trichter, Hanna Haier, Margaret McMahan, and Audrey B. Livingston.

Several secretaries worked with me on this present volume. I am most indebted to Dorothy Sievers who bore with me for six years in the Tulane School of Medicine. In the final stage Betty Golding of New Orleans and my present secretary, Denise Watkins, were extremely helpful.

Two colleagues in the medical history field, Gert H. Brieger and Barbara Rosenkrantz, carefully read the manuscript and made useful comments.

I owe a great deal to the School of Medicine and the History Department of Tulane University for giving me the time for, and creating an atmosphere conducive to, scholarly work. On coming to the History Department of the University of Maryland, I have found the same congenial atmosphere and a comparable encouragement to engage in scholarly activity. Although I far exceeded my original budget and long delayed my deadline, Russell Sage Foundation continued its unwavering and generous support of my efforts. I am more than grateful to President Orville G. Brim, and his successor at Russell Sage Foundation, Dr. Hugh F. Cline, for providing moral as well as financial support.

My wife, Corinne, has been my most able critic, and in true wifely fashion alternately encouraged and hounded me into completing the job.

John Duffy
University of Maryland

Introduction

New York City had existed for almost two and one-half centuries prior to the creation of the Metropolitan Board of Health in 1866. During these years it had progressed from a small isolated frontier post to become America's chief urban center with a population of almost 1,500,000. It had witnessed wars, revolutions, pestilences, massive riots, and had periodically been inundated by waves of illiterate rural immigrants. During the colonial years a relatively slow growth combined with the tradition of Dutch orderliness and cleanliness had kept New York a fairly clean, comfortable, and healthy town. Along with other colonial towns, it was beset at times by such diseases as smallpox, yellow fever, and diphtheria, but these visitations were accepted as the inevitable workings of Providence.

The early health measures taken by the city fathers reflected at least as much concern for esthetics and economics as for human welfare. The miasmas from garbage and human wastes were an offense to the eyes and nostrils as well as a danger to health, and the laws regulating public markets were designed to maintain fair prices as well as quality food. By the end of the colonial period, the limited ordinances regulating markets and attempting to control nuisances were inadequate. No longer a small colonial town, New York was faced with major problems in disposing of its waste products and maintaining the purity of its food and water supplies.

The turmoil of the American Revolution and the city's rapid growth in the ensuing years multiplied the problems of sanitation and health, and soon forced the municipal authorities into establishing the beginnings of public health agencies. The Board of

Aldermen had occasionally acted in a health capacity during the crises caused by the recurrent colonial epidemics, but it was not until after the Revolution that further progress was made. A series of major yellow fever attacks beginning in the 1790s led to the organization of a voluntary citizens' health committee which was subsequently given official status by the State Legislature. The next step came in 1796 with the establishment of the health office, a state agency concerned primarily with enforcing the quarantine laws. In January 1805 the City Council decided a local board of health with broad authority was necessary. During the yellow fever outbreak of the following summer, this board used its power fully, ordering the evacuation of a large part of the city and providing food and shelter for those dispossessed.

As the danger from yellow fever gradually receded, this health board, which was appointed on a yearly basis, atrophied and finally disappeared. For the next 60 years occasional temporary health boards appeared on the scene whenever an epidemic, or the threat of one, jarred the City Council into reluctant action. Since epidemic diseases, Asiatic cholera in particular, were associated with dirt and filth, these boards usually initiated a temporary cleanup of the city, following which the old abuses would promptly reappear.

A more permanent agency to grow out of the yellow fever outbreaks was the office of the city inspector, which was established in 1804. The city inspector's duties were to collect mortality and business statistics, investigate nuisances, inspect buildings, and carry out the orders of the Board of Health. In the hands of capable individuals, this office, despite a limited budget, performed creditably. The city inspector, however, had no power to correct unsanitary or unhealthy conditions, although many of the officeholders made notable efforts to draw public attention to the deplorable health and living conditions of the poor. By the 1850s the office had become a haven for political appointees, and when it was enlarged to include street cleaning in the latter part of the decade, it became a hindrance to public health.

The mid-century saw municipal government in New York City virtually break down. The great waves of Irish and German immigrants gave impetus to the rise of political machines and compounded the crowding in the miserable slum and tenement areas.

As the gap between the immigrant slum dwellers and the upper-class Americans widened, middle-class reformers found themselves unable to communicate with the poor and viewed as a source of irritation by their own class. The result was a steady deterioration of the city's sanitary condition and a corresponding increase in the crude death rate. The very magnitude of the city's problems eventually forced them upon the public's attention, and, backed by a varied group of voluntary organizations, professional groups, and the newspapers, a major drive was started to establish an effective city health agency.

This movement began in the early 1850s under the leadership of the Association for Improving the Condition of the Poor, the New York Academy of Medicine, and a number of resourceful individuals, and received strong backing from the newspapers. In 1859 the first of a series of bills to create a city health department was introduced into the State Legislature, but effective lobbying by the city inspector and other politicians prevented their passage. Two events in 1863 gave new strength to the reform movement. In July the so-called draft riot turned into a mass attack upon property and led to the destruction of much of Broadway. For the first time upper- and middle-class New Yorkers became aware of the bitter frustrations of the poor. The second development was the organization of the Citizens' Association. This association promptly appointed a Council of Hygiene and Public Health and assigned to it the task of making a street-by-street sanitary inspection of the city. The survey, which was carried out in 1864, revealed that thousands of New Yorkers were living in conditions of incredible degradation, filth, and brutality. These findings were given widespread publicity in the newspapers and journals and, in conjunction with the threat of Asiatic cholera, were a decisive factor in enabling the reformers to push a bill through the New York State Legislature creating the Metropolitan Board of Health. The Board of Health, the forerunner of the present Department of Health, became the model upon which many American cities subsequently built their health departments.

1

The Metropolitan Board of Health

The Health Department of a great commercial district which encounters no obstacles and meets with no opposition, may safely be declared unworthy of public confidence; for no sanitary measures, however simple, can be enforced without compelling individuals to yield something of pecuniary interest or of personal convenience to the general welfare. [*Second Annual Report of the Metropolitan Board of Health of the State of New York, 1867* (New York, 1868), p. 7.]

On February 26, 1866, with the enactment of the Metropolitan Health Bill, the long struggle to establish a relatively independent Board of Health for New York City came to an end. This measure provided for a single Board of Health for New York and Brooklyn, consisting of four police commissioners, the health officer, and four other commissioners appointed by the governor. All four of the governor's appointees were to be residents of the district, three were to be physicians, and one was to be a resident of Brooklyn. To all appearances, the authority conferred upon the board was exceedingly broad. One section of the law assigned to it all powers "for the purpose of preserving or protecting life or health, or preventing disease. . . ." In using this authority the board could call upon the police or else could enforce orders through its own officers.¹

Since the caliber of the board's personnel would be determined largely by Republican Governor Reuben E. Fenton, some fears had been expressed of the danger of partisan appointments. The governor's choices, however, fulfilled the best hopes of the health reformers. To serve with the four police commissioners and the health officer of the port, Dr. John Swinburne, the governor chose three physicians, James Crane, Willard Parker, and John O. Stone, and a prominent businessman, Jackson S. Schultz. The presence of four physicians on the Board of Health reflected the improving image of the American physician. The inability of the medical profession in the early nineteenth century to deal with the major diseases combined with its harsh therapeutics and bitter

public quarrels had brought the profession's status to a low point during the 1830s and 1840s. Reacting in part to competition from homeopaths and other irregulars and in part to the discoveries of the Paris and Viennese schools of clinical medicine, the profession was now beginning to moderate its practice. In addition, the formation of the American Medical Association in 1847 tended to reduce quarreling among orthodox physicians and to place the profession in a better light. A third factor helping the doctor's image was the improvements in medicine which were providing physicians with better diagnostic techniques and more effective therapeutics. Nonetheless, it should be noted that the majority of the members of the board were laymen; the belief was still widespread that a board dominated by doctors would be unable to agree upon any course of action.

On March 2, 1866, the board held an organizational meeting at which Schultz was elected president and Police Commissioner Benjamin F. Manierre was made treasurer. Three days later, at the first official meeting, the board clearly indicated that it meant business by selecting as registrar of records Dr. Elisha Harris, possibly the outstanding health reformer of his day and a man who played a key role in securing passage of the health measure.² The law had specified that the board should appoint a skilled physician as sanitary superintendent, and subsequently the board made the sound decision of appointing Dr. E. B. Dalton to this position. The choice of these two men guaranteed that the two major bureaus in the department, Records and Sanitation, would be headed by outstanding individuals.

Just prior to this meeting, Commissioner Schultz and Dr. Harris had visited the office of the former city inspector, F. I. A. Boole, in search of the city's health records. According to a reporter who accompanied them, they found only "a raft of old books and Coroner's inquest papers." This cursory visit to the city inspector's office led the board to pass a resolution on March 5 directing Boole to turn over all public records to Dr. Harris. About this same time, police officers were reported to have discovered a great many unnumbered burial permits signed by Boole. Although the *Times* printed a rumor that Boole had sold burial permits to enable murderers to conceal their crimes, it is more likely that the existence of these signed permits merely in-

dicates the generally careless and negligent manner in which the city inspector had been conducting his office.³ In any case, the board called upon the police to collect all blank burial permits in the hands of local undertakers and return them to the board's secretary. The board also decreed that henceforth the registrar of records should sign all permits relating to the removal, burial, or exhumation of bodies. Among the other actions of the board was the appointment of Dr. Joseph B. Jones as deputy registrar of records with the responsibility for maintaining vital statistics for Brooklyn.⁴

At this meeting and at the succeeding biweekly ones, the Board of Health accomplished an enormous amount of work. Quickly grasping the broad authority it had been given, the board began passing resolutions and issuing a great many specific orders ranging over the entire field of health and sanitation. The police were instructed to submit weekly reports of all instances in which the streets, wharves, and piers had not been cleaned in accordance with the street cleaning contracts. Commissioner Crane was ordered to confer with the former health officer of Brooklyn on ways to improve the health administration of that part of the city. Physicians within the metropolitan district were directed to report all cases of contagious diseases to the Board of Health.⁵

Other resolutions requested the city officials of New York and Brooklyn to supply the board with copies of all contracts relating to street cleaning and the removal of garbage, offal, and dead animals. The police were asked to make a list showing the locations of cesspools and cisterns still in use, and they were directed to enforce existing sanitary ordinances relating to public nuisances, privies, slaughterhouses, and other sources of potential danger.⁶

In addition to gathering the reins of power into its hands, the board wasted no time in building its organization. As mentioned earlier, Dr. E. B. Dalton was selected for the important job of sanitary superintendent, and Dorman B. Eaton, who had shepherded the Metropolitan Health Bill through the legislature, was appointed counsel to the board. Dr. Dalton was immediately instructed to devise a plan for dividing the metropolitan area into sanitary districts. A special committee, which included Counsel Eaton, was created to prepare a code of health ordinances. Two days after Dr. Dalton had been directed to determine the number

of sanitary districts, the board decided to divide New York City into eight sanitary inspection districts and Brooklyn into five. Later in the same meeting, while selecting the names of the sanitary inspectors, the board resolved to appoint a sixth sanitary inspector for Brooklyn.⁷ The original act had specified that 10 of the 15 inspectors must be physicians, but the board, in its efforts to create a competent professional staff, selected nearly all of the inspectors from the ranks of physicians.

Appealing to the Public

All these actions of the board, and many more, had been taken in the period from March 2 to March 7. Conscious of the enormity of the task confronting them and recognizing the need for cooperation, Counsel Eaton had been asked to prepare an appeal to the public. After careful consideration by a special committee, the board then published an open address, which briefly summarized the new health law and warned the citizens not to expect "great and speedy reforms," since it was easier "to detect existing abuses than to remove them. . . ." The commissioners pledged "to perform their duty without fear or favor" and asked the cooperation of all. The board asserted that while it preferred voluntary cooperation, it intended "to exert its powers to the utmost," for the "law the Board has to enforce is founded on the theory that individuals have no right to peril the lives of thousands; that the poor have a right of protection against avarice and inhumanity."

Turning to specific points, the board denounced the manure heaps, slaughterhouses, fat- and bone-boiling establishments, unsewered privies, and other "flagrant nuisances which have made some sections of the City utterly unfit to be inhabited. . . ." Contractors, investors, and owners were warned that the board would use its powers to see that all new tenement houses provided adequate air, light, water, and sewerage facilities. While intending to proceed with reasonable moderation, the board added, this did not mean inaction. Proprietors of filthy and overcrowded tenement houses were advised that only prompt action in cleaning the premises, and in improving the sewerage and ventilation "would save the additional expense that may attend these reforms if undertaken by this Board." After listing many of the sanitary provisions

The Metropolitan Board of Health

of the new law, the board invited citizens to record violations of the sanitary laws in complaint books which would be placed in the police stations.⁸

Some idea of the volume of business transacted at these bi-weekly meetings can be gathered from the minutes of the March 14 session. The board first considered and then accepted a long report listing the duties and responsibilities of the sanitary inspectors. It adopted a code of bylaws for governing its own meetings, established three standing committees, advised the public to submit all complaints or suggestions to the sanitary superintendent, dealt with a complaint about defective sewers, and heard a report from Counsel Eaton on the law and practice with respect to cleaning the public markets. After discussing the right of the offal contractors to use certain piers and slips, it requested the police to notify both the Board of Health and the offal contractor upon discovering any dead animal. The sanitary superintendent was ordered to investigate the equipment best suited for the removal of night soil, offal, and garbage. Orders to cease and desist were issued in connection with 116 nuisance complaints. Next the board tabled a request that the township of Yonkers be made an inspection district. It passed a resolution authorizing the captain of the Metropolitan Police Sanitary Company to investigate and report daily to the Board of Health any and all matters "detrimental to life or health. . . ." President Schultz presented a report on a series of conferences which he had held with butchers and other groups affected by the sanitary ordinances. The board finally concluded its activities by naming another sanitary inspector to replace one of the original appointees.⁹

Throughout the rest of March the board continued to act boldly and decisively against all complaints drawn to its attention. Operations of a number of businesses which the board considered dangerous to life and health were ordered suspended. Most of the offenders were fat- and bone-boilers, rag dealers, and the like, but the board did not hesitate to investigate a report that the Manhattan Gas Company works was polluting the water by discharging "coal-tar oil" into the East River. At the March 27 meeting, no less than 68 businesses were ordered to discontinue their work. At this same meeting, the board unanimously resolved that slaughtering animals in thickly settled portions of the city was

“detrimental to health, and must be abandoned.” A second resolution, designed to soften the impact of the first one, proposed to give butchers “a few weeks or even months” to find new locations for slaughtering, but it was tabled by a five to four vote. Responding to complaints about butchers and fishmongers, the board accepted a report from Counsel Eaton stating that while it was inexpedient to close the Washington Market, the place should be thoroughly cleansed.¹⁰

The Approach to Cholera

On March 30 the Board of Health first took note of what it termed “the impending danger from Cholera. . . .” The threat of Asiatic cholera, a deadly and horrifying disease which most articulate citizens associated with unsanitary conditions, had contributed to the passage of the Metropolitan Health Bill, and it helped create some public support for the board’s efforts to clean the city. While the board had been energetically mobilizing its forces and building an organization, as of March 30 the city was still, from a sanitary standpoint, in a deplorable condition. Even with unlimited powers it would have been impossible to have done much within the space of a month. The health authorities, however, were confronted with an inefficient civic administration in which a great deal of genial corruption was basic. In addition, they were faced with a wide variety of powerful vested interests, and with a public which in some cases actively opposed sanitary regulations, in most was apathetic, and in only a few instances was willing to give active support. Determined to do its best, the board decided to appoint 30 temporary assistants to facilitate the work of the sanitary inspectors in ferreting out breaches of the Sanitary Code. It also resolved to appoint a competent engineer to check on the construction, ventilation, and sewerage of all buildings. This individual was to confer with the engineers of the Croton Aqueduct Board and the Brooklyn Board of Water Commissioners in order to furnish the Board of Health with reliable information regarding the street sewerage.¹¹

In April the Board of Health pushed ahead with its program for the removal of nuisances and for a general cleansing of the city. On April 3 it approved the plans of Sanitary Superintendent Dal-

ton for making a "sanitary survey" of the metropolitan district. As quickly as obnoxious businesses or industries were reported, the board promptly ordered them to cease and desist. When President Schultz, who had been conferring with the street cleaning contractors, informed the board that he felt the contractors should not be paid unless they adhered strictly to their contracts, the board unanimously supported his position. The Brooklyn streets created a special problem, since the Brooklyn Common Council had failed to award certain street cleaning contracts. After noting that many of the streets in Brooklyn's sixth ward were in a filthy state, the board resolved to undertake the street cleaning job itself, and so notified the Brooklyn Common Council.¹² Meanwhile the board continued to deal with a wide range of problems—manure piles, escaping gas, public markets, privies, sewerage, and the swill milk situation. Informed that the New York City Hospital was infected with erysipelas, pyemia, and gangrene, the board suggested that "some fault in the structure, ventilation or locality" was responsible, and instructed the sanitary superintendent to investigate.¹³

On April 9 an editorial in the *New York Times* entitled "The Approach of Cholera" praised the vigorous efforts of the Board of Health and declared that if the board could not prevent cholera, it could at least limit the effects of the disease. The editorial also expressed the hope that the health officials would have "nerve enough to resist the powerful and selfish interests which are trying to perpetuate the nuisances and causes of disease in our City."¹⁴ The following day the Board of Health discussed the cholera question and appointed a special committee to determine whether an imminent threat from cholera existed and, if so, what measures should be taken. On April 13 the board drew up a proclamation stating that the city was directly threatened with Asiatic cholera and that a state of emergency existed. A series of resolutions provided for a massive cleanup and sanitary program, involving the cleaning, purifying, and disinfecting of all buildings, grounds, drains, sewers, slips, and other places, and improving the drainage and ventilation in built-up areas. The board assumed responsibility for the removal, accommodation, care, and treatment of cholera cases and for the interment of the dead. Leaving no doubt that it intended to use its broad grant of power to the fullest extent, the

board then asked for authority to make and enforce all regulations necessary to prevent the spread of cholera, to spend whatever funds were required, and to borrow money if necessary. Aware of the drastic nature of its resolutions, the board sent a copy of them to Governor Fenton for his approval.¹⁵

In the succeeding weeks the cholera problem increasingly preoccupied the Board of Health. In the nineteenth century the medical profession and the public rightly considered epidemic diseases to be the chief threat to public health. Of the epidemic disorders, the two which aroused the greatest apprehension among the public and medical profession were Asiatic cholera and yellow fever. The latter had been a major problem in all American port cities since colonial days and even though its main attacks in the nineteenth century were centered on the Gulf and south Atlantic ports, it was widely feared throughout America. Asiatic cholera struck only twice in the antebellum years, but each time it inflicted terrible casualties.

For most of the nineteenth century the two major theories of disease causation were the contagionist doctrine, that diseases were specific entities which might be excluded by isolation and quarantine measures, and the anticontagionist or sanitationist view that epidemic diseases were the product of a combination of dirt, crowding, meteorological factors, and putrefying filth. The failure of quarantine measures to stop yellow fever and cholera during the antebellum period convinced both the medical profession and informed laymen that a sanitary environment offered the best hope for preventing these disorders. In a series of annual sanitary conventions held in the United States from 1857 to 1860, the sanitationists carried the day, and the experiences with camp hygiene during the Civil War gave further proof that personal and public hygiene was the key to disease prevention.

Since epidemic disorders of all sorts flourished in the most crowded and dirty sections of cities, civic leaders and physicians agreed that an effective public health program was the logical means for combating communicable disease. The first duty of any Board of Health (and most of them at this time were temporary agencies created under the threat, or appearance of, a major epidemic disorder) was to institute sanitary measures.

Although the first two cholera epidemics were widely heralded,

the medical profession seemed powerless before them, and both outbreaks were characterized by appeals to Divine Providence. The sanitary movement and the advances in medicine by 1866, however, had engendered a better understanding of the disease and created a new spirit of optimism. The evidence clearly indicated that the disorder was associated with fecal matter and contaminated water and that there was a natural explanation for its origin. Moreover, as indicated earlier, the medical profession was beginning to realize that the traditional heroic medical practices—drastic bloodletting, purging, vomiting, and drugging—were positively harmful, and the result was that physicians were far more willing to rely upon supportive measures.

The metropolitan board had already started its sanitary program before the danger from Asiatic cholera materialized and the immediate effect was to intensify these efforts. The board, however, was forced to divert some of its energy to planning for the anticipated cholera crisis. On April 17 the Board of Health requested permission from the United States Secretary of War to use the barracks on the Battery for the reception of the sick. At its next meeting it ordered a special examination of the steamer *Virginia*, which had arrived from Liverpool with cholera apparently rampant among the steerage passengers. According to a newspaper report, the health officer discovered that 35 steerage passengers and 2 crewmen had died during the voyage.¹⁶ Although prompt action in quarantining all personnel from this vessel was effective in keeping the disease in check, the Board of Health continued its preparations for the expected cholera attack.

On April 24, having received Governor Fenton's approval, the board proclaimed a state of emergency and published the earlier resolutions in which it had taken upon itself special powers. In addition, several new resolutions were adopted. One directed the sanitary engineer to confer with the Croton Water Board and the Brooklyn Water Works about a program for the immediate cleaning of all sewers. Another asked the commissioners of charities and correction of New York City and the King's County superintendents of the poor to determine the available accommodations in the event the Board of Health thought it necessary to remove the thousands of cellar dwellers from their unhealthy domiciles. A third resolution proposed to distribute circulars to the

public giving advice on personal hygiene. The board also asked the medical societies to designate physicians to work with the health authorities in caring for cholera patients. Finally, the Board of Health appointed Dr. Stephen Smith as chief of hospitals and instructed him to organize a corps of physicians to serve in the several hospitals designated for the care of cholera patients.¹⁷

To some observers, the Board of Health was fighting a losing battle in its efforts to prevent cholera. George Templeton Strong wrote in his diary on April 26: "The new Board of Health is trying to clean the city, rooting up ancient nuisances, and using its great powers with energy, but also with moderation and sense." "But," he added "the time is too short." Speaking of one section of the slums, he asserted firmly that "however scrubbed and deodorized," it would "never be fit for human creatures to live in till its long lines of huge, many-storied tenement houses are razed to the ground." He concluded by direly predicting "a violent explosion of cholera in the city the moment the spark lights."¹⁸

Realizing the danger of the situation, and possibly spurred on by the pessimistic attitude of many citizens, the public health reformers were determined to prevent a major outbreak. Dr. Elisha Harris, who over the years had constantly sought to mobilize the New York Academy of Medicine in support of public health measures, proposed in the academy's April 26 meeting to increase the size of the Committee on Public Health and to have it draw up a program for systematizing medical service in the event of an epidemic. The academy accepted Dr. Harris' resolutions, and Dr. Stephen Smith was asked to design a medical care program. At a subsequent meeting, Dr. Smith presented his report in which he pointed out that the dispensaries helped only those who applied for assistance, but, he said, "the victims of cholera do not, as a general thing, make application for relief." He suggested the organization of a corps of volunteer physicians to make a systematic house-to-house visitation in any poor district suspected of harboring cholera cases. By this method, patients could be detected in the early stages of the disease when still amenable to treatment. At the same time, the sick should be isolated to prevent them from spreading the infection. In commenting favorably upon Dr. Smith's proposal, the *Times* shrewdly pointed out to its middle- and upper-class readers that if the poor are "thus guarded there

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is not much danger of the disease ranging in the more comfortable quarters of the City.”¹⁹

Meanwhile the Board of Health was steadily pushing ahead with its preparations for the expected attack. Anticipating that it might be necessary to order a mass evacuation of cellar dwellers, the board requested a legal opinion from Counsel Eaton as to its authority in that matter. It also directed Dr. Stephen Smith to consult with the trustees of the dispensaries to find out how far they were willing to cooperate with the board. When Dr. Smith broached the question of house-to-house visitations, he was instructed to draw up a specific plan, one which would include a nursing corps as well as a corps of physicians. The Board of Health then resolved to ask the commissioners of quarantine and the commissioners of emigration to collaborate in the creation of a joint committee to “ensure mutual cooperation for the prevention of the spread of disease.”²⁰

In its continuing struggle to improve sanitary conditions, the Board of Health ran into particular difficulties in Brooklyn, where the Common Council seemed to have little interest in sanitation or public welfare. On April 27 the board, irritated by the refusal of the Brooklyn Common Council to do anything about the filthy condition of the streets, took matters into its own hands. A committee was appointed with instructions to see that the Brooklyn streets were cleaned and that the piles of manure, garbage, and filth were removed within 30 days. At the next meeting of the board, a communication about “the impurity of water in Brooklyn” was referred to the Brooklyn Water and Sewer Commission, and a resolution was passed instructing the Brooklyn Common Council to make arrangements for collecting swill and garbage as often as “the public health required.” In June the board noted that it had received several reports of deplorable sanitary conditions in the public schools of Brooklyn and ordered that the conditions be remedied.²¹ Brooklyn was by no means the only offender. At every meeting the board routinely considered and acted upon several hundred sanitary violations, and its members devoted considerable time to investigating complaints against the gas companies and to clamping even tighter restrictions upon other obnoxious trades.

Early in May the board, informed by its counsel that it did

have the power to remove cellar dwellers, resolved to act as soon as other accommodations were available. It further directed that buildings be prepared for the detention of all persons landing from any vessel on which cases of cholera or other contagious diseases had occurred. After a great deal of trouble, several buildings were procured on Seguine's Point. A court injunction finally prevented the use of these buildings, and the board, unable to make provision for incoming passengers, was forced to leave them aboard ship during the quarantine period. On June 29, when it was clear that cholera had gained a foothold in the city, the board began a daily sanitary bulletin at its headquarters detailing the progress of the epidemic.²²

The Metropolitan Board of Health recognized from the beginning that a good part of its success would depend upon the quality of its personnel, and the board members had been particularly careful in the selection of the sanitary inspectors. Despite the generally high caliber of its appointees, almost all of whom were physicians, the board maintained a close watch and did not hesitate to dismiss anyone for good reason. On April 17 a Dr. Alvah Blaisdell was removed from his position as sanitary inspector for making "several Reports which were materially incorrect. . . ." When Inspector Lewis Neuman took a trip to Europe without obtaining leave, the board promptly terminated his employment. On June 22 one of the assistant sanitary inspectors was dismissed for negligence. On the other hand, while expecting a relatively high order of service, the board was willing to support its employees and agents. On June 1 it passed a resolution stating that no legal action could be brought against any policeman enforcing the laws and resolutions of the board and that the board itself would assume full legal responsibility for the actions of its employees.²³

In previous cholera epidemics the disease usually had appeared suddenly and then quickly spread through the crowded sections. This year, when the city was well prepared for the onslaught, there was no sudden onset. A few cases began appearing late in May and throughout June. Undoubtedly the rigid quarantine enforced by the Metropolitan Board of Health and the health officer combined with an energetic sanitary program contributed to altering the pattern of this cholera outbreak. Asiatic cholera, how-

ever, had already passed its peak in the United States with the previous epidemic in the midcentury. In all sections of the country the disease was spreading more slowly and with less virulence. By 1866 the sanitary movement was well underway in western Europe and North America, and this fact, combined with the rising standard of living, probably accounts for the gradual subsidence of cholera.

Medical practice, which had relied upon depletory treatment (bleeding, purging, vomiting, and sweating) in earlier years, was beginning to moderate. The minutes of the New York Academy of Medicine show that the profession had finally learned to deal with Asiatic cholera. In May and June a series of reports from members of the Health Committee were presented to the academy. Dr. Edward Robinson Squibb, chairman of a subcommittee on disinfectants, stressed the need for disinfecting privies and other potential trouble spots and reported on the relative value of various disinfectants. On June 20 Dr. Elisha Harris presented seven resolutions, in the course of which he asserted that cholera was transmitted through the bowel discharges of patients, and that in consequence there was no danger to attending physicians provided they took proper hygienic precautions. He also called for an effective program of sanitation, disinfection, and personal hygiene.²⁴ While the deplorable sanitary conditions in the tenement areas and the general lack of sewerage lines still made it difficult to apply the academy's recommendations, at least the medical profession and the Board of Health were no longer floundering in the dark.

By the end of May the Board of Health, under Dr. Stephen Smith's direction, had developed a highly coordinated system of medical care using the six city dispensaries as bases. Each dispensary was a district center of medical relief. In his capacity as director of medical relief, Dr. Smith divided these districts into as many subdistricts as became necessary, and placed each under the direction of a district physician. All told, some 60 subdistricts were created during the course of the outbreak, making an average of 10 for each dispensary district. In addition, a reserve corps of physicians was organized to deal with emergency situations.²⁵ Close checks were kept upon the number of diarrheal cases reported by sanitary inspectors and physicians, and whenever the incidence started rising in any given area, a prompt house-to-

house survey was made. As cases were discovered, the visiting physicians decided whether to treat the patient at home or to send him to one of the temporary hospitals. In some cases, an entire household was ordered evacuated, and the premises were cleansed and disinfected.

Acting upon Dr. Smith's recommendation, and the experiences of previous epidemics, the Board of Health opened emergency hospitals. In April the board had taken over the barracks on the Battery. When cholera was reported in Brooklyn early in July, a temporary hospital was established in a building on Hamilton Avenue over the protests of the residents. In Manhattan the Board of Health preempted another vacant building on the corner of 106th Street and Second Avenue late in July for use as a cholera hospital. As cases multiplied, the sanitary superintendent was directed to take possession of a third building between 23rd and 24th streets.²⁶ In every instance the board had a fight on its hands. The Municipal Councils in both New York and Brooklyn strenuously objected to every proposed location. Although councilmen collectively favored cholera hospitals, no individual member of the Council wanted one in his district. Fortunately the newspapers sided with the board on this issue. The editors of the *Daily Tribune* and the *Times* both deplored the irresponsibility of the Municipal Councils in this respect. The *Times* in particular criticized "the folly and cruelty of the public . . . to the sick" and those officials "who pander to their prejudices" by opposing the efforts of the Board of Health to establish cholera hospitals and provide adequate quarantine facilities.²⁷

This same unreasoning fear of epidemic disease which had prevented the commissioners of emigration from providing adequate facilities for quarantined passengers and crewmen was once more responsible for the Board of Health's failure to care for this group. Logically, a quarantine station for the reception of immigrants should have been established long before this, but each proposed location had brought trouble. Efforts to build one on Seguin's Point on Staten Island had led to the so-called quarantine war and to the burning of quarantine buildings in 1858. All subsequent attempts to find a new location had proved fruitless as local citizens rose in outraged protest at the thought of bringing individuals infected with epidemic diseases into their own neighborhoods.

As a temporary expedient, the board had fitted up an old vessel, the *Falcon*, and used it as a floating hospital.²⁸ This same ship was still in use in 1866, but obviously it could provide for only a handful of the sick. The situation improved a little when, at the state's request, the secretary of the army lent the steamship *Illinois* and the navy provided two sloops, the *Portsmouth* and *Saratoga*. However, the worst problem arose from the fact that healthy passengers were required to remain on board vessels in the harbor in close conjunction with those suffering from cholera and other highly contagious diseases.

Throughout the spring, the *Herald* and other newspapers denounced the laws which required immigrants, who had already endured the harsh trials of a long sea voyage, to remain on the vessels during the quarantine period. The situation was "a disgrace and scandal to American civilization and humanity," the editor of the *Times* wrote on June 4; "the National authorities," he continued, "ought to interfere, and save New York harbor from becoming a floating lazaretto of pestilence, where the sick have no proper care, and the well no escape. . . ." ²⁹ The following day, the Board of Health ordered that its buildings on Seguine's Point be restored and fitted up for the accommodation of healthy passengers.³⁰ Having pressured the board to take action, the editor of the *Times* now equivocated and suggested that the board's action would lead to a renewal of the riots which had occurred a few years earlier. To meet the threat this time, a large force of metropolitan police was mobilized and a United States revenue cutter was dispatched to the scene. Foiled by this decisive action, the Staten Islanders took their cause to the courts and obtained an injunction forbidding the use of Seguine's Point.³¹ The net effect was to keep the exhausted immigrants cooped up on dirty and crowded vessels for many additional weeks during the hot summer months. The one bright spot in the picture was the formal opening by the commissioners of emigration of a new Emigrant Hospital and Emigrant Refuge on Ward's Island early in July. Based on the pavilion design which had proved so successful during the Civil War, the new hospital contained 10 separate wards, each of which contained 28 beds. Although designed for 280 patients, in emergencies the hospital could accommodate about 500.³²

Providing for the Cellar Dwellers

The Board of Health was more successful in dealing with another major health problem, the 15,000 residents crowded into dark, damp, foul basement dwellings. With a major share of the city's population still using the crudest of privies, it is easy to understand why cellar dwellers constituted the lowest social and economic stratum. At all times sewage filtered through the floors and walls, and heavy rains often flooded the rooms with the contaminated drainage from the incredibly dirty streets. Drives had been made against these accommodations before the Civil War, but inevitably the exigencies of the war years had accentuated the housing shortage and increased the cellar population. Long experience had shown that these miserable apartments were invariably focal points of disease, particularly in the case of enteric disorders such as Asiatic cholera.

In April the Board of Health had asked its counsel to determine whether or not it had the authority to remove well persons from infected localities, and it had appointed a committee to look into the possibility of providing temporary housing. On May 1 the committee reported that all public hospitals and almshouses in King's County were filled and that the county had no housing facilities for the cellar population. At a subsequent meeting Dorman Eaton, the board's legal advisor, reported that the board could remove both the well and the sick if necessary. While Eaton was basing his advice upon the wording of the Metropolitan Health Act, his recommendation was consonant with the city's traditional policy. The temporary health boards established during the yellow fever epidemics of the late eighteenth and early nineteenth centuries had not hesitated to remove the entire population from certain infected districts. Acting upon Eaton's interpretation, a resolution was passed calling for the removal of lodgers from cellar dwellings and stating that the board would provide them with housing for so long as it deemed necessary.³³

Brave resolutions, however, were not enough. The *Times* agreed editorially that immediate action was necessary with respect to basement apartments, but pointed out that there were about 15,000 inhabitants involved (the city sanitary superintendent estimated the figure to be 20,000). It had been proposed that the Board of Health provide temporary housing and food, but, the

Times asserted, the board had neither the desire nor the funds "for any such gigantic charity," and the best solution was to rely upon the gradual elimination of cellar apartments by the sanitary officers.³⁴ Bowing to political and economic realities, the board wisely followed this advice. Wherever possible, the sick were removed to temporary hospitals or to tents. Temporary accommodations were also found for those residents living in the dirtiest and most crowded basements, and cleanup and disinfectant squads were sent in to make the better cellar apartments more habitable. Precisely how much housing was provided for those forced to evacuate is not clear, and it is not unlikely that many of those ordered out of basements simply crowded into other equally miserable quarters. Sanitary Superintendent Dalton claimed at the end of the year that the board's action had reduced the cellar population from 20,000 to about 10,000 or 12,000.³⁵ His estimate appears a little too optimistic, but the health authorities should be credited with closing many of the worst dwellings and with improving those that remained.

In connection with the drive to cleanse the city in general and the tenement areas in particular, the Board of Health established a disinfectant depot and laboratory at 308 Mulberry Street under the direction of a druggist, Mr. James A. Christie. In addition to testing various disinfectants, the laboratory maintained disinfecting squads on a round-the-clock basis to clean and disinfect all premises where cholera cases had been reported and to apply disinfectants to the bodies of cholera victims. The sanitary superintendent had orders to clean and disinfect premises regardless of objections from owners or tenants. In response to appeals from outlying towns and communities for help against the threatening cholera, the board appointed special sanitary inspectors and sent its personnel into these areas. On September 13, a special disinfectant corps was detailed to work in Portchester, Morrisania, and Mott-Haven.³⁶

The mobilization of its resources to combat the threat of cholera placed a heavy burden on the limited funds available to the Metropolitan Board of Health. In July the board appropriated \$100,000 to meet these extraordinary expenses. On August 2 the governor was requested to approve another appropriation of \$80,000 to meet the unusual expenses incurred in King's County.

At the end of the month the board's treasurer was authorized to borrow \$25,000 to cover the cost of the health program in Brooklyn. Two weeks later the governor was asked to approve \$40,000 more to provide for the sanitary expenses in the metropolitan district.³⁷

Greatly to the credit of the state—and indirectly to the Metropolitan Board of Health—no questions were raised about these relatively large expenditures. Three factors probably account for this: in the first place, remembrance of the horrors of previous Asiatic cholera attacks was still fresh in the public mind; in the second place, the prompt way in which the health authorities tackled the filthy streets and slums, provided for the sick, and sought by every means possible to remove nuisances, made a highly favorable impression upon all classes in New York; finally, the cholera epidemic proved relatively mild, and, correctly or not, the Metropolitan Board of Health received all the credit.

Throughout the spring effective sanitary measures had kept cholera in check. In June a few more scattered cases were reported, but by July it was clear that the disease was reaching minor epidemic proportions. Even so, the mildness of the outbreak led one newspaper to declare on July 29 that it now appeared the city would escape a cholera epidemic. Cholera had been in the city for two months, the editor wrote, and it had caused only a hundred deaths, a tribute, he added, "to the intelligent and scientific Board now controlling public health."³⁸

Despite this note of cheerfulness, the epidemic was intensifying. Early in August, George Templeton Strong, gloomily noting that cholera cases were multiplying, commented that it was "God's judgment on the poor for neglecting His sanitary laws." Yet by the end of August the worst was over. Scattered cases continued to appear, but the health authorities kept the disease under control. By the end of September the Board of Health returned to their owners two of the buildings it had commandeered as cholera hospitals, a clear indication that the outbreak had run its course.³⁹ On two previous occasions, 1832 and 1849, the disorder had brought large-scale sickness and death, had disrupted the city's economy, and had caused thousands to flee in blind panic. In 1866 advances in scientific knowledge and the work of an effective health agency, by drastically reducing the impact of the disease

and restoring public confidence, relegated cholera to the role of a minor nuisance.

Judged by today's standards, the epidemic was scarcely minor, since the board's own figures show that close to 600 persons died of cholera during 1866. Yet major epidemic diseases, which often struck down thousands within the space of a few weeks, were all too familiar to nineteenth-century Americans. Every summer the so-called fevers and fluxes killed hundreds of residents, while consumption, measles, smallpox, and a host of other disorders constantly winnowed the population. The loss of 600 residents to Asiatic cholera was not insignificant, but when compared with the casualties during previous outbreaks, the loss seemed small indeed.

Toward An Effective Sanitary Program

While the cholera epidemic preoccupied much of the board's attention throughout the year, the main thrust of its activities was directed toward developing an effective sanitary program. In view of the widespread assumption in the nineteenth century that filth and dirt were the breeding ground for disease, the condition of New York's streets (and those of other American cities, too) were the despair of all sanitary reformers. The thousands of newcomers pouring into New York, immigrant and native alike, came largely from rural areas. Accustomed to having nature absorb their garbage and wastes, they carried their rural habits into the teeming city slums. The streets, backyards, and alleys all became receptacles for garbage, rubbish, and the overflow from privies. Educating these slum dwellers would have been difficult even if an effective garbage and street cleaning system had existed. Unfortunately the caliber of the city government reflected the cultural level of its constituents. In an age of genial corruption and inefficiency, the handling of private contracts for street cleaning carried chicanery to the level of art. Inclement weather, especially in winter, always provided an excuse for omitting garbage collection and street cleaning. The contractors cheerfully laid off their employees, but, no doubt to simplify bookkeeping operations, continued to collect for their services from the city. Excuses for inaction, however, were only necessary under reform administrations; under normal circumstances, the contractors periodically

cleaned the major thoroughfares and, when the public outcry became great enough, made occasional forays into the side streets. They were a little more conscientious about collecting garbage and rubbish, since its sheer quantity required occasional action, but even here carelessness and negligence characterized the work of the contractors and their employees.

When the Metropolitan Board of Health assumed control, the city was spending in the vicinity of half a million dollars for sanitation. Judging by all accounts, the sanitary condition of the streets bore almost an inverse proportion to the funds appropriated for sanitation. The *Times*, the *Tribune*, and other newspapers had been denouncing, appealing to, and begging the authorities to remedy matters for years, but unfortunately their editorials had little influence on the mass of voters living in the slum areas, and even less on the civic officials and their corrupt associates. In his annual message, Mayor John T. Hoffman laid part of the blame upon the people themselves and called for the summary arrest of anyone throwing ashes or garbage into the streets.⁴⁰ The creation of the Metropolitan Police Force almost ten years earlier had greatly improved the enforcement of laws, but the police had soon learned that without judicial support, arrests were meaningless, and New York judges had no intention of annoying their constituents by convicting them of breaking the Sanitary Code.

The question of responsibility for the condition of the streets became even more confused with the creation of the Metropolitan Board of Health. According to law, the aldermen in each ward were to advertise annually and to award the street cleaning contracts to the lowest bidders. Not infrequently, the lowest bidder turned out to be someone with neither the equipment, the knowledge, nor the intention of living up to the terms of the contract. In cases such as these, one can only assume collusion between the alderman and the contractor. A few aldermen in the spring of 1866 hesitated to award contracts, believing that the responsibility had been delegated to the metropolitan board. In consequence, street conditions steadily worsened while the board was mobilizing its forces for an assault upon the multitude of tasks confronting it. With respect to the streets, the Board of Health had very limited authority. Only when the contractor's

negligence created a public nuisance could the board undertake to clean the streets and charge the expense to him. Unfortunately, if the contractor proved obdurate, there was no way to keep the streets clean. Having once done the job, the board could take no further action until the accumulating filth again warranted its intervention.⁴¹

One reason the contractors kept their garbage collection duties to an absolute minimum was the unofficial support they received from the many owners of hogs living in and around the city. After a long struggle, hogs had finally been banned from the streets, though not from the city, forcing their owners to collect the swill and garbage to feed their four-footed friends. Using dilapidated open carts and wagons, they passed from house to house carelessly picking up the most edible garbage and leaving the rest strewn on the sidewalks and streets. Putrefying liquids usually leaked from the carts as they jostled through the streets, while the bouncing inevitably left a trail of garbage behind the overloaded wagons. In addition to befouling the streets, the wagons trailed their filth on to the decks of the ferryboats. Moreover, the odor from the open carts as they passed outraged the sensibilities of all encountering them.⁴² With ample justification, Sanitary Superintendent Edward B. Dalton reported that removing ashes, garbage and rubbish from the tenements and streets had "been one of the most difficult and troublesome duties of this Board."

The health authorities attacked the problem on two fronts. First, they encouraged citizens to buy watertight boxes for garbage and to put these out for collection at a regular hour each day. Combining a little force with cajolery, the board prosecuted some of the worst offenders guilty of throwing garbage into the streets. They next insisted that contractors send out their ash and garbage carts at a regular hour each day and that the carts be watertight and have covers. Despite this major effort and the assistance of the Asiatic cholera epidemic, Superintendent Dalton conceded at the end of the year that "much remains to be accomplished."⁴³

Immense as was the street cleaning and garbage collection task, the metropolitan board found itself beset by a number of equally grave problems. Under the rubric of public nuisances, the board was compelled to deal with huge piles of manure, with filthy

privies, stables, markets, slaughterhouses, fat- and bone-boiling establishments, and with a host of other evils attacking the eyes, noses, and health of New Yorkers. Fortunately, it was aided in this work by the small but effective sanitary company of the Metropolitan Police Department. This group of 34 men cooperated closely with the sanitary inspectors of the Board of Health in reporting nuisances and in serving legal notices against offenders. To facilitate their work, complaint books were kept in each police precinct house and citizens were invited to report nuisances. These complaints were forwarded daily to the office of the sanitary superintendent, where they were assigned to the sanitary inspector responsible for the district involved. If, on investigation, the inspector found the complaint to be legitimate, he reported to the Board of Health, which in turn ordered the nuisance abated.⁴⁴

One of the worst hazards to health and decency was the condition of the privies. In the crowded slums the sharing of one privy by several families was the norm, and occasionally as many as 60 to 100 persons were forced to use a single privy. Under these circumstances, the personal standards of the most primitive individuals determined the hygienic level for the entire group. To make matters worse, the removal of night soil was deeply involved in city politics, a fact which greatly added to the cost of emptying and cleaning the privies. Since one contractor had a monopoly on collecting night soil and his contract called for delivery of the privy contents to only four piers, cartage costs were vastly increased. This extra charge fell largely on the lower economic groups, for the upper classes were rapidly installing water closets and connecting them to the sewers.⁴⁵ For the lowest economic stratum the situation was disastrous. Absentee slum owners were reluctant to spend any of their generous profits merely for the comfort and convenience of their tenants, with the result that the relatively few privies soon filled to overflowing, making the tenements even more uninhabitable.

Faced with an impossible job, the board attacked the worst conditions and was able to report at the end of the year that it had removed twice as much night soil as in previous years. A system of licenses and permits was established to regulate the scavengers, and efforts were made to enforce the regulations re-

quiring them to disinfect emptied privies. These measures were only palliative, since the solution, the board pointed out, was to connect all privies and water closets to the sewer system. The first and most pressing need, however, was to repair existing sewers and to build new ones. Until this was done, there could be little hope for real improvement.⁴⁶

With horses providing the chief form of transportation, stables and manure piles were omnipresent. During the summer months in particular they filled the air with flies and created an almost intolerable stench. When the board first took office, its members discovered that almost every vacant lot near the North and East rivers was covered with vast piles of manure. Moving vigorously against these noisome heaps, the health authorities removed 160,000 tons of manure during the first few months. In an attempt to limit this nuisance, the practice of storing manure on vacant lots was forbidden, and a set of sanitary regulations was drawn up with respect to stables.⁴⁷

Cow barns were another trouble spot, although the worst of them, the swill milk dairies, had been driven from Manhattan earlier. These latter were large dairies maintained in conjunction with breweries. The swill or waste products from brewing were carried by troughs directly to the cows. If this fairly rich diet had been supplemented and the cows kept under decent conditions, there might have been no objection. Unfortunately, the cows received no other food, were crowded together in dark and filthy stables, and were given no exercise. Under these circumstances they gave a thin bluish milk, suffered constantly from diarrhea, and were generally ulcerated and filthy.

While the Manhattan dairies were far from ideal, even by nineteenth-century standards, the real problem lay in Brooklyn. As indicated earlier, this municipality caused the Metropolitan Board of Health more worries than any other single area. Its streets were appallingly filthy, due to what Superintendent Dalton delicately referred to as "the injudicious contracts of its Common Council and the faithlessness of its contractors." In consequence, the Board of Health had assumed complete control of street cleaning in certain of the Brooklyn wards. Not surprisingly, the Common Council of Brooklyn had defied all attempts to eliminate the swill milk dairies and had even gone so far as to pass a

special ordinance guaranteeing the distillers the right to maintain their swill herds. Under pressure from the Metropolitan Board of Health, the Health Committee of the Brooklyn Common Council sought to eliminate this special privilege, but its efforts were in vain.⁴⁸

Along with stables and dairies, hog pens were another major nuisance, especially in the tenement areas. The worst ones were forced to close, but on this issue the board ran into considerable public opposition. It reported, however, that the work of eliminating the pigsties was progressing "as rapidly as could be done consistently with the interests of the poor, many of whom depended for a subsistence upon the profits of keeping and fattening these animals." One incidental result of driving the poor out of cellar dwellings was to make room for more pigs—a development which did little to enhance the tenements as living quarters. Possibly reacting to this situation, on November 30, the board resolved that no new permits for hog pens would be issued. The drive against swine herds on Manhattan only served to compound the problems of Brooklyn, since owners simply moved their hogs across the East River. The Board of Health in its annual report for 1866 specifically mentioned that large swine herds were maintained in the outskirts of Brooklyn by individuals holding garbage collection contracts within New York City.⁴⁹

Two other perennial nuisances, those arising from fat, offal, and bone-boiling establishments and from slaughterhouses, also occupied a good deal of the board's attention. On several occasions in the city's history, rendering firms had been compelled to move beyond the limits of built-up areas, but within a few years the spreading city had encompassed them again. Municipal ordinances banning these trades were still in force, but these businesses were profitable, and their owners had successfully avoided all attempts at prosecution. Over 60 of them were still operating in the city when the new Code of Health once again prohibited their operations. When the board decided to enforce its ordinances, the owners threw up all sorts of legal obstructions, but the board managed to fight the cases successfully through the courts. Its most convincing victory was the conviction and subsequent 60-day imprisonment of a prominent owner of a rendering firm. By the end of the year these businesses had been compelled

to close or else to reduce their offensive odors through the installation of new machinery.⁵⁰

The slaughterhouses were even worse offenders than the rendering establishments, since they provided the raw materials for tanneries and glue factories as well as for the rendering firms. An estimated 200,000 cattle, 70,000 calves, 800,000 sheep, and 550,000 hogs were slaughtered annually in the approximately 250 New York and Brooklyn slaughterhouses. The blood and other liquids from these butchered animals flowed into crude cesspools in the better establishments and into the gutters or onto the ground in the more marginal operations. The hides and entrails were simply piled in heaps to add their foul odors to that arising from putrefying blood. Another nuisance and hazard was created by the practice of driving the animals through the streets. Realizing that any action against the slaughterhouses would affect the butchers and other related trades, representatives of the health board met with a group of butchers in March to discuss the situation. The latter were informed that no sudden action was anticipated, but that the board's aim was to remove all slaughtering from the built-up sections of the city. About this same time an ordinance was passed restricting the driving of cattle, swine, and sheep through the city streets to the hours between 9 P.M. and 6 A.M. In September an amendment limited the number of animals that could be driven at any one time. As the health authorities began clamping down on the slaughterhouses and forcing them either to close or to clean up their premises, the secretary of the Butchers' Hide and Melting Association summoned a meeting of butchers, drovers, and yardmen. Expressing outrage over the rumored intentions of the Board of Health to close all slaughterhouses in the city, the group voted to take the legal steps necessary to defend themselves. The health authorities, nonetheless, pushed ahead with their drive and forced many slaughterhouses to shut down permanently and required others to close temporarily until proper equipment to reduce the odors could be installed.⁵¹

Public markets had been a feature of New York City dating well back into colonial days. They originally offered a chance for the farmers to sell their products at a reasonable price and provided the residents with fresh, cheap food. As the city grew, the markets became a constant source of complaint: it was difficult to

keep them clean; forestallers or middlemen intervened between farmers and consumers; and the markets were invaded by restaurants, liquor stores, and other enterprises having little to do with their original purpose. Only four markets still operated in the lower part of Manhattan in 1866: Catherine, Fulton, Franklin, and Washington. The latter market had often been cited for its deplorable conditions, and the others were only a little better. Sanitary Inspector J. Haven Emerson, a man whose ability and conscientious work later made him an outstanding figure in the public health movement, described the Washington Market as narrow and overcrowded. West Street, on which the market fronted, was "very dirty and imperfectly drained." Emerson was particularly critical of the outside stalls which encircled the market. By impairing ventilation and making it difficult to keep the market clean, he wrote, these outside stalls lowered the quality of the food and were generally "prejudicial to health. . . ."⁵² Other than to remove the more obvious unsanitary conditions, the Board of Health was unable to make any appreciable progress with respect to the markets. The number of them was far too small for the growing city, and as small shops multiplied, the public markets tended increasingly to become wholesale distributive centers. The fears of Dr. Emerson and other public-spirited citizens that the forestallers or middlemen would intervene between the producer and the consumer were justified, but in a complex urban society there was no alternative.

Dealing with the Courts

It is clear from the foregoing that the metropolitan board accomplished an incredible amount of work during its first year. This accomplishment is all the greater when one considers how the board's actions must have conflicted with vested interests, politicians, and corrupt contractors, and how the cost must have jarred reluctant taxpayers. The obvious need—and the rising demand—for reform combined with the threatening cholera, however, assured strong support for the board, but its opponents still found effective allies in the local judges. Since the court system could scarcely escape the pervasive corruption, the health offi-

cialists found themselves engaged constantly in legal battles. Dr. Dalton asserted at the end of the year that the work of the health officials had "been repeatedly obstructed by the interference of the Courts. . . ." George Bliss, the board's attorney, reported that almost every action of the board, ranging from attempts to secure a quarantine ground to the removal of stalls from the public markets, had led to court injunctions.⁵³

A good part of the difficulties arose from the long-standing practice of not enforcing the sanitary laws. In May, when the new Code of Health was published, the *Times* commented that it was largely a reenactment and simplification of the former city ordinances. These latter had been "so long utterly disregarded," the paper stated, that enforcing the new code would bring major changes in the city. In July and August the newspapers were particularly critical of judges who issued injunctions on behalf of fat-boiling and other rendering firms. One editor asserted that elected judges were more concerned with the votes of their constituents than with the public safety. Early in August the *Tribune* noted that the courts were beginning to rule in favor of the Board of Health, and attributed their actions to the slight increase in cholera and the general public alarm. By this time it was clear to all that the health authorities were conscientiously cleaning the city and successfully coping with the cholera outbreak. As public opinion swung behind the Board of Health, the judges began to reflect the change. In September the Board of Health, noting in its minutes that the legal status of the Code of Health had been upheld, adopted a resolution urging the Metropolitan Board of Police to enforce strictly all provisions of the code.⁵⁴

In summarizing his year's work, Attorney Bliss declared that the ease with which injunctions were obtained against the Board of Health had placed a heavy burden upon the legal division. He urged that the courts be forbidden to issue restraining orders unless they had previously given notice to the board, and he declared that the decisions of the board on health matters should not be subject to court review. Dorman B. Eaton, the board's counsel, attributed part of the opposition encountered to the fact that the public had become completely inured against observing "even the most extraordinary sanitary precautions. . . ." The

board, he continued, should have anticipated the litigation and the "unfriendly spirit manifested toward it by certain portions of the community. . . ." Those with a pecuniary interest in the most gross sanitary abuses—fat-boilers, and so forth—were in a position to influence "the ignorant and destitute classes, for whose special protection the exercise of the salutary powers of [the] Board are most needed. . . ." Before the board asks for more legal authority, Eaton asserted, it should first educate the public "upon the whole subject of sanitary science. . . ." If the board attempted to exercise too much authority "in a community accustomed to little restraint," the net effect might be to threaten its existence. Only after the board had gained experience and the public was prepared to accept health regulations should the board ask for the extensive powers necessary for the preservation of public health.⁵⁵ Eaton was ahead of his time in calling for a formal health education program. The Board of Health, however, had no illusions about its ability to bring about major changes in the lives of New York residents, and, after its initial reforms, tended to move slowly.

The need for health education was clearly illustrated in the way in which Democratic political leaders and newspapers were able to arouse public opposition to the board's program. The fact that the metropolitan board had been created by a Republican State Legislature was enough to damn it in the eyes of many deserving Democrats. The slum dwellers, who generally voted Democrat, had little understanding of the relationship between sanitation and health, and they tended to follow the party's leadership. Moreover, the arbitrary fashion in which health officers evacuated them from their homes, disinfected their belongings, and carted their sick relatives off to isolation hospitals was bound to cause resentment among those who could see no reason for such actions. One Democratic journal referred to the physician members of the Board of Health as the dupes of political swindlers, and declared in effect that the Republicans were using science as a front for political malfeasance.⁵⁶ Without question, it was this political suspicion of the board which encouraged the judges to place legal obstacles in its way in the spring and early summer. As indicated earlier, the success of the board against cholera quickly changed the public attitude, a change which was clearly

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reflected in court decisions and the tone of even the Democratic newspapers and journals.

The fight to secure a Metropolitan Board of Health had been long and bitter, and the newly appointed board members assumed office under somewhat inauspicious circumstances. The physician members represented a profession which was notorious for internecine rivalries and its acrimonious public debates upon professional matters. Politics at all levels was entering an era of unprecedented chicanery, and the Board of Health, as a public agency, was automatically suspect. Moreover, it had to fight against corruption and inefficiency in dealing with other branches and agencies of the municipal government. The city's sanitary condition in 1866 had reached a point which brought despair to all but the most optimistic health reformers, and to cap all of this, another wave of Asiatic cholera was threatening to engulf the city. Undismayed, President Schultz and his associates waded in, sparing neither politicians nor businessmen in their drive to improve the city's health. By the end of the summer they had removed thousands of tons of accumulated garbage, manure, and night soil, cleaned countless yards, alleys, vacant lots, and public thoroughfares, driven many of the most noxious businesses out of the city and forced others to institute remedial measures, improved the sanitary condition of public markets, reduced the number of cellar dwellers, and removed countless assorted nuisances. In addition to making the city a far cleaner and better place, they had instituted effective preventive measures against the spread of cholera and had provided complete care for thousands of individuals affected by the disease.

The board's success in its fight with cholera seemed to justify fully the thesis of the sanitationists that dirt and disease were synonymous. Even the physicians, many of whom rightly suspected that the sanitary theory was all too simple, for once closed ranks on the issue of how to deal with cholera. Happily, too, the board's health measures proved of immense esthetic value—and the direct benefit derived from a cleaner and sweeter-smelling city was apparent to all citizens. Thus at the end of 1866 the Metropolitan Board of Health found itself firmly established and possessing a strong administrative structure staffed by able, honest, and idealistic personnel.

Notes to Chapter 1

1. See John Duffy, *A History of Public Health in New York City, 1625-1866* (New York, 1968), chap. 24; *New York State Laws*, 89th sess., chap. 74, February 26, 1866, pp. 114-44; chap. 686, April 19, 1866, pp. 1462-70 (hereinafter cited as *N. Y. State Laws*).
2. Minutes of the Metropolitan Board of Health, March 2, 5, 1866, p. 1, New York City Board of Health mss. (hereinafter cited as *Met. B. of H., Min.*).
3. *Ibid.*, March 5, 1866, p. 2; *New York Times*, March 4, 1866 (hereinafter cited as *Times*).
4. *Met. B. of H., Min.*, March 5, 1866, pp. 1-3.
5. *Ibid.*, pp. 1-4.
6. *Ibid.*, March 7, 1866, pp. 9, 13.
7. *Ibid.*, March 5, 1866, p. 6; March 7, 1866, 9-10, 13-16.
8. *Ibid.*, March 10, 1866, pp. 11-12.
9. *Ibid.*, March 14, 1866, pp. 17-20.
10. *Ibid.*, March 16, 1866, pp. 23-24; March 20, 1866, p. 29; March 27, 1866, pp. 33-34.
11. *Ibid.*, March 30, 1866, p. 39.
12. *Ibid.*, April 3, 1866, pp. 43-46; April 6, 1866, p. 50.
13. *Ibid.*, April 6, 1866, pp. 47-50.
14. *Times*, April 9, 1866.
15. *Met. B. of H., Min.*, April 10, 1866, p. 51; April 13, 1866, 54-56.
16. *Ibid.*, April 17, 19, 1866, pp. 61-62; *Times*, April 20, 1866; *New York Herald*, April 19-21, 1866 (hereinafter cited as *Herald*).
17. *Met. B. of H., Min.*, April 24, 1866, pp. 66-71.
18. Allan Nevins and Milton H. Thomas, eds., *The Diary of George Templeton Strong: Young Man in New York* (New York, 1952), vol. IV, p. 79.
19. *Bulletin of the New York Academy of Medicine*, III (1866-69), 49, 61 (hereinafter cited as *Bull. of N.Y.A.M.*); *Times*, May 6, 1866.
20. *Met. B. of H., Min.*, April 27, 1866, pp. 72, 74.
21. *Ibid.*, pp. 75-76; May 1, pp. 78-79; June 15, 1866, p. 114.
22. *Ibid.*, May 4, pp. 80, 82; June 5, p. 111; June 29, 1866, p. 121.
23. *Ibid.*, April 17, 1866, p. 61; May 22, 1866, p. 98; June 1, 1866, p. 108; June 22, 1866, p. 117.
24. New York Academy of Medicine, Minutes, May 30-June 20, 1866 II, pp. 82-87, in New York Academy of Medicine mss. (hereinafter cited as *N.Y.A.M., Minutes*).
25. *Bull. of N.Y.A.M.*, III (1866-69), 67-68.
26. William Henry Thayer, M.D., "Epidemic Cholera in Brooklyn, New York," *New York Medical Journal*, IV (1866-67), 161-80 (hereinafter cited as *N.Y. Med. Jnl.*); *Met. B. of H. Min.*, July 27, pp. 133-34; August 6, 1866, p. 142.
27. *Times*, July 28, 1866; *New York Daily Tribune*, July 24, 1866 (hereinafter cited as *Daily Tribune*).
28. See Duffy, *History of Public Health in New York City*, pp. 346-52.

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29. *Times*, June 4, 1866; *Herald*, June 1-2, 1866.
30. Met. B. of H., Min., June 5, 1866, p. 111.
31. *Times*, June 8, July 10, 1866; *Annual Report of the Metropolitan Board of Health, 1866* (New York, 1867), pp. 50-58 (hereinafter cited as *Ann. Rep., Met. B. of H.*); *Herald*, June 8, 1866.
32. *Times*, July 12, 1866; *Evening Post*, July 9-10, 1866.
33. Met. B. of H., Min., May 1, 1866, p. 78; May 4, 1866, p. 82.
34. *Times*, May 5, 1866.
35. *Ann. Rep., Met. B. of H., 1866*, pp. 37-38.
36. *Ibid.*, p. 17; Met B. of H., Min., August 21, 1866, pp. 156-57; September 13, 1866, p. 173.
37. Met. B. of H., Min., July 20, 1866, p. 129; August 2, 1866, p. 140; August 30, 1866, p. 165; September 13, 1866, p. 174.
38. *Times*, July 29, 1866.
39. Nevins and Thomas, *Diary of George Templeton Strong*, vol. IV, p. 96; Met. B. of H., Min., September 27, 1866, p. 180.
40. *Times*, January 3, 1866; *Herald*, January 2, 1866.
41. *Ann. Rep., Met. B. of H., 1866*, appendix B, p. 31; appendix F, p. 361.
42. *Ibid.*, p. 37.
43. *Ibid.*, pp. 22-23.
44. *Ibid.*, p. 15; appendix A, p. 6; appendix G, pp. 376-77.
45. *Ibid.*, pp. 41-45.
46. *Ibid.*, pp. 26-27, 41.
47. *Ibid.*, pp. 26-27, 38-39.
48. *Ibid.*, pp. 23-24, 44-45.
49. *Ibid.*, pp. 27-28; Met. B. of H., Min., November 30, 1866, p. 209.
50. *Ann. Rep., Met. B. of H., 1866*, pp. 23-24, 36-37.
51. *Times*, March 16, June 20, 1866; *Herald*, April 18 (supplement), July 11, 1866; *Ann. Rep., Met. B. of H., 1866*, pp. 26-27, 33-34; Met B. of H., Min., September 27, 1866, p. 179.
52. *Ann. Rep., Met. B. of H., 1866*, pp. 29-30; appendix I, pp. 408-09.
53. *Ibid.*, pp. 22-23; appendix F, pp. 360-65.
54. *Times*, May 20, August 1, 1866; *Daily Tribune*, July 17, August 4, 1866; Met. B. of H., Min., September 13, 1866, p. 173.
55. *Ann. Rep., Met. B. of H., 1866*, appendix F, pp. 360-65, 373-75.
56. Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (Chicago, 1962), p. 208.

2

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. . . it is not to be expected that a Board of Health will become universally popular; for the principal cause of its creation is the fact that there are, in every community, and especially in large cities, considerable numbers of people who habitually so disregard the comfort of others and so conduct their business, as to require a regulation and coercion more prompt and summary than can be secured in the regular civil or criminal courts; and it not unfrequently happens that the profits made by such people are proportioned to their disregard of the rights of others, and their neglect of precautions demanded by the common safety. [*Second Annual Report of the Metropolitan Board of Health of the State of New York, 1867* (New York, 1868), p. 287.]

Proud of its accomplishments and basking in the warm light of almost universal approval, the Metropolitan Board of Health entered its second year under the most favorable circumstances. It had cheerfully taken on a host of vested interests and emerged victorious wherever the issue was clear cut. Wielding almost unprecedented powers, it had not hesitated to use them, and in so doing it had interfered with the personal life of the slum dwellers and had even gone so far as to override the sacred property rights of many businessmen. Its officers had criticized the poor for contributing to the foul conditions in which they lived, and denounced the owners of tenements and the many nuisance businesses for their greed and disregard for public welfare.

During the succeeding years the board continued to press ahead, touching on a wide range of social and health problems. Unfortunately, however, those vested interests which had the most to lose from the board's activities soon recovered from their initial shock and were able to put up a much more effective rear-guard action. Moreover, the first easy victories of the health reformers could not be sustained once they ran into the hard core of public ignorance and apathy. The fight for cleaner streets involved both vested interests and public apathy, and while

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the board occasionally won the field of battle, holding its gains was another matter. In many of the areas into which the board ventured, it was so far ahead of the times that its advice fell on deaf ears. In others it had full public backing and the going was much easier. To recount the full scope of the board's activities on a year-to-year basis is not feasible; hence this and subsequent chapters will trace the political and administrative events relating to the Health Department and touch lightly on its many and varied activities. Communicable diseases, street cleaning, sanitation, water supply, hospitals and medical care, and other important matters will be dealt with in later chapters.

For the next few years the Board of Health sought desperately to keep the streets clean, but the odds were too great. Public indifference and large-scale corruption defeated the department's best efforts, and any improvement in the condition of the streets proved purely transitory. To counter the frustrations engendered by this seemingly hopeless struggle, the board was quite successful in its continuing drive against slaughterhouses and rendering establishments. By the end of 1868 it had forced them out of the area in Manhattan below 40th Street, and, as the city grew, the board placed even further restrictions upon their activities.

Closely related to the slaughterhouses was the practice of driving herds of animals through the streets. In 1866 the Board of Health assumed the authority to regulate this practice. Its power to do so was confirmed by a specific law in 1867 which also required drovers to keep the cattle off the sidewalks. Although hogs no longer roamed the streets of Manhattan, they still constituted a problem in some of the other areas. On May 19, 1869, the board resolved that neither hogs nor goats could run at large in any city within its jurisdiction, nor could they be kept within 1,000 feet of any residence or business without a permit from the Board of Health. In an effort to solve the perennial problem of strays, a law in 1867 prohibited all unmuzzled dogs from running at large in the streets and established a bounty of 50 cents for each dog brought to the police dog pound. In previous years an open bounty had resulted in gangs of children brutally clubbing and maiming dogs. To prevent this disgraceful situation, only adults could collect the reward. Early in 1869, when several cases of rabies were reported, the Board of Health ordered the metro-

politan police to shoot all suspicious looking dogs or any found in a sickly or emaciated condition.¹

Continuing its program initiated in 1866, the board concentrated on emptying and disinfecting privies and regulating the scavengers responsible for the job. At the end of 1867 the board reported that twice as many privies had been emptied during the current year as had been the case in the past one, and a year later it noted that cesspools were rapidly disappearing from built-up areas. Another indication of a major improvement was a brief statement in the board's *Annual Report* for 1868 that "old fashioned privy vaults are rapidly giving way to water-closets, and to privies with sewer connections and the modern improvements."²

In June a thorough inspection was made of all carts and equipment used by the scavengers. For many years the sanitary ordinances had required tight covers for the wagons carrying night soil, but the law was difficult to enforce. In the first place, the work was done only at nighttime; second, the scavengers realized that jostling and spilling the contents of their wagons into the streets lightened the load and speeded up their work. To reduce this problem, the board revoked all licenses and granted new ones only to those using the proper type of carts and equipment. The contract for the removal of night soil was another perennial source of complaint. After fruitlessly attempting to require the contractor to do his work properly, the board finally nullified the contract and successfully defended itself against a \$300,000 suit.³

Meanwhile the long slow job of constructing an effective sewer system, the ultimate answer to the privy question, was making steady progress. Here the credit goes to the Croton Aqueduct Department. During 1866 it began preparing detailed plans for a comprehensive sewer system. The project was delayed, however, by the start of a proposed subway in lower Manhattan, and by the failure of the city officials to determine the street grades in the upper part of the island. Although the Croton officials repeatedly complained about the Common Council reducing their budget for the construction of sewerage and water lines, more and more buildings were provided with water and sewerage. An indication of this progress can be seen in the revenue from sewer permits. While it had averaged between \$15,000 and \$16,000 per

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year from 1861–65, it rose to \$29,776 in 1866 and to \$46,591 in 1867.⁴

The ineffectiveness of the Brooklyn municipal government, which had led the Metropolitan Board of Health to assume part of the responsibility for street cleaning, compounded that area's difficulties in securing adequate sewers. In the clash between the Brooklyn politicians and the Metropolitan Board of Health, both sides turned to the State Legislature. A state law in April 1867 decreed that, upon notice from the Board of Health, the Brooklyn Board of Sewerage Commissioners was to take immediate steps to remove any nuisances caused by inadequate drains or sewers. The sewerage commissioners were authorized to order property owners to install drains or sewer pipes, or, if necessary, to use general funds for the purpose. Recognizing that maintenance of streets was closely allied with sewerage and drainage, two years later another state law created a four-man Brooklyn Board of Water and Sewerage Commissioners appointed by the mayor, treasurer, and City Counsel. The new agency was given all powers of the former board and, in addition, was given full charge of the streets, including construction, maintenance, and street cleaning. The following year, in what may have been the result of some political infighting, an amendment reduced the board's membership to three and gave the right of appointment to the mayor, subject to the approval of the Board of Aldermen.⁵ The changes, however, do not appear to have brought any major improvement in administration.

Through its sanitary inspectors and complaint books, the Board of Health maintained close checks upon a wide variety of other nuisances. Stables were carefully watched to insure that manure was not allowed to accumulate; basements, cellars, and vacant lots were drained; cesspools were cleaned and disinfected; and the board constantly drew attention to the deplorable condition of the piers and slips. A perennial complaint related to the practice of emptying sewers into the head of slips rather than extending the sewer lines to the end of the piers where the current would carry the sewage away. When the water receded at low tide, the bottom of the slips were often exposed, creating an almost unbearable stench. Moreover, as fecal matter and other

debris poured into the slips, the city was constantly faced with the task of dredging them. Unfortunately the Board of Health had no jurisdiction over the wharves and slips and all it could do was protest.

Although little was known about pathogenic organisms, the doctrine of personal and public hygiene was fully accepted, and the Metropolitan Board of Health was determined to find the most useful disinfectants and the most efficacious ways of applying them. In discussing disinfectants, the 1867 *Annual Report* classified them into three categories: positive ones such as caustic acids and acid metallic salts; antiseptics, defined as agents that arrest or prevent fermentation; and deodorants and absorbents such as quicklime, charcoal, chloride of lime, and carbolic acid. In the case of clothing worn by a patient with a communicable disease, the instructions were to boil for one hour. Rooms occupied by the sick were to be fumigated with sulphurous acid, and all the bedding, clothing, curtains, and other textiles were to be thoroughly disinfected by boiling or other means.⁶ Recognizing that many inhabitants were still relying upon water from shallow and contaminated wells, the board urged residents to boil all drinking water.

In the summer of 1868 the registrar of vital statistics noted early in July that deaths from diarrheal diseases had risen sharply. The Board of Health promptly ordered the publication and distribution of a pamphlet written by Dr. Harris on cleaning and purification, issued strict instructions to the scavengers to be more thorough in their disinfection of privy vaults, and ordered the use of more powerful disinfectants in the streets and gutters. Instead of sprinkling the streets with chloride of lime, the usual summer custom, carbolic acid and copperas were used. This stepped-up sanitary program began late in July, and shortly afterward a marked decrease was observed in the number of deaths attributed to diarrhea. The success of this operation led the board to make extensive use of disinfectants in the tenement districts during the following summers. In addition to the gutters and streets, disinfectants were applied to those sewers discharging their contents into the slips and to "stagnant waters where malarial fevers prevailed."⁷ The latter practice was probably quite successful in killing mosquito larvae.

The gradual expansion of the Croton water system in New York City had proved of inestimable value in reducing typhoid and other waterborne diseases. Yet, as noted earlier, thousands of residents were still relying upon shallow wells. In 1866–67 Dr. C. F. Chandler, at that time a professor of chemistry at Columbia University, conducted a series of tests in some of the uptown areas notorious for cholera and found that the well water contained “putrescent organic matter and a great excess of nitrogenized salts. . . .” In sharp contrast, Croton water was found to be relatively free of extraneous matter. Dr. Harris decided a year later that the Board of Health should institute a regular system for examining the city’s water supply, and that special attention should be paid to it in the event of future outbreaks of typhoid and other “bowel diseases.”⁸

One area in which the Metropolitan Board of Health had virtually no success was in dealing with the public markets. Since the city had failed to erect new markets as its boundaries extended and the existing ones were already overburdened, increasingly they tended to become wholesale centers. As the demand for marketing services increased, a host of stalls and temporary stands literally enclosed the markets. The markets were already dirty and overcrowded, and the addition of these stalls aggravated matters. When the Board of Health urged that they be removed, the State Legislature was pressured into passing a law in 1867 specifically forbidding the board from removing, tearing down, or injuring the stalls in any way. At the end of the year, the Board of Health reported that conditions in the Washington and Fulton markets were a disgrace to the city, but that a new law had removed the two markets from the board’s jurisdiction.⁹

The question of the public markets continued to be debated in the newspapers, the City Council, and in the State Legislature. In criticizing the pressure exerted to exempt stalls in the public markets from the sanitary laws, the *Evening Post* editor declared that these interests were so powerful that “they . . . defy action of grand juries and public sentiment.” The Citizens’ Association argued that the markets should be under private control. The *New York Times* hedged but inclined toward public control. A law was passed in 1867 authorizing a private company, the Metropolitan Market Company, to erect public markets, but it provided

no real solution. At the end of 1869 the Association for Improving the Condition of the Poor (AICP), the most able of all the social reform groups in New York City, described the public markets as hemmed in by wooden stalls and shanties and "defective in cleanliness and sewerage. . . ." Owing to "the effluvia of decomposing vegetables and animal refuse," the buildings were "scarcely less offensive inside than in their surroundings!" Reiterating a point made by the Board of Health two years earlier, the association concluded that the markets were a disgrace to the city.¹⁰

The Board of Health did much better in dealing with other aspects of food control. When reports were received on August 8, 1868, that several carloads of cattle with Texas fever had arrived in the cattle yards of New Jersey, the board investigated and discovered that over 50 percent of the cattle had died during shipment. The president of the board immediately telegraphed the governors of Pennsylvania, New Jersey, and New York asking them to inspect all cattle passing through their states enroute to New York City. In addition, quarantine yards were established in the city to check on all incoming cattle.¹¹

Surprisingly, the milk supply which for many years had been a major source of controversy produced few complaints until 1869-70, when the swill milk issue once again stirred the public.¹² Despite public concern over swill milk, the greatest danger probably arose from the common practice of watering milk. Many of the dairies relied on shallow polluted wells for their water, and it was the use of this water for adulteration which endangered the milk supply. In the prebacteriological days, however, this danger could scarcely be comprehended.

Although as late as 1864 Dr. Cyrus Ramsey, the city's registrar, had proclaimed the inevitability of periodic attacks by highly fatal diseases, the Metropolitan Board of Health demonstrated that major epidemic disorders could be held in check. There was no dearth of epidemic outbreaks after 1866, and their control remained a major part of the Health Department's work. In 1867, for example, the board reported that there had been 4 or 5 cases of yellow fever, 27 deaths from cholera, an explosive outburst of typhoid fever in the Institution for the Deaf and Dumb, and about 34 cases of typhus in the Reformatory for Girls.

The yellow fever cases were attributed to contact with in-

fectured cotton on the docks, a matter beyond the board's control. With respect to the other diseases, decisive measures were taken. Cholera patients were isolated, and the disinfecting corps cleaned and purified their homes and destroyed all clothing that could not be treated either by boiling water or permanganate of potash. When the board learned that about 50 cases of typhoid had developed in the Institution for the Deaf and Dumb, they inspected the building and found it to be in a deplorable sanitary condition. The children were promptly removed and the entire place cleaned and renovated. The physician for the institution, who had failed to report the cases, was prosecuted and fined \$100. With respect to the typhus outbreak in the Reformatory for Girls, no negligence was involved. The board saw to it, however, that all straw beds were burned, the bed ticking was repeatedly boiled, and the rooms were cleaned and fumigated.¹³ The soundness of these measures is all the more remarkable when one considers that nothing was known of insect vectors and that the germ theory was still just a vague concept.

Whatever theories of disease the doctors might hold, the success of the sanitary movement in combating epidemic sicknesses was all too clear by the 1860s. There was, however, a growing awareness of the accumulating evidence pointing to microscopic pathogenic organisms. A newspaper editorial in 1867 discussed at some length the purported discovery by a Viennese physician of a causative germ in the rice-water discharges of cholera patients. Dr. Elisha Harris, in his capacity as registrar of records, declared in this same year that microscopy and chemistry have "shown that some of the worst zymotic maladies are accompanied and, perhaps, caused by minute living organisms that . . . infest particular parts of the human body." Expressing the new spirit of optimism, he asserted: "Pestilences, epidemics, and all kinds of fatal contagion or infection, can no longer be regarded, as they once were supposed to be, the inexorable foes of human life decreed to afflict mankind, regardless of any efforts which man may put forth to mitigate and prevent their fatal operation."¹⁴

The board's power to deal with communicable disease was strengthened by a law passed in 1867, which reaffirmed its right to order the removal of persons with contagious diseases and authorized it to provide hospital facilities and to pay all costs for indigent

patients. This same act placed the coroners of New York and King's counties under the direction of the board and required them to inform the health officials whenever an inquest was to be held. The following summer, 1868, the Board of Health, as mentioned earlier, instituted a sanitary campaign in certain slum areas to reduce the incidence of enteric disorders. The *Annual Report* for 1868 pointed out that in those wards in which special sanitary measures had been taken the number of deaths had declined, while, at the same time, deaths in the other wards were increasing. Citing this as proof of the relationship between dirt and disease, the *Report* asserted that sanitary reform, including better sewerage and drainage, could no longer be delayed.¹⁵

The minor depression which followed the Civil War undoubtedly contributed to a slight rise in the incidence of communicable diseases in the late 1860s. The AICP noted that about 100,000 individuals had been thrown out of work in the winter of 1868-69, a period which coincided with the appearance of smallpox in many parts of the city and a general rise in scarlet fever, measles, and other infantile diseases.¹⁶ The Board of Health reported that scarlet fever and measles had caused many deaths in the tenement areas during the winter of 1868-69 and then spread to the "better" districts in the late spring. The incidence of smallpox, too, increased as spring advanced. In dealing with these diseases, the Board of Health sent the smallpox cases to the Smallpox Hospital, typhus and typhoid cases to the Fever Hospital, and treated the other patients in their homes. Even typhus and typhoid cases, if they were assured of adequate care, were allowed to remain at home. In all instances, the infected residences and the bedding and clothing of the sick were cleaned and fumigated. Attempts to control diseases were often thwarted by the negligence or deliberate failure of physicians to report cases to the Health Department. In exasperation, the Board of Health asserted that it could deal more effectively with contagious disorders among the poor than the wealthy.¹⁷

Under the direction of Dr. Harris, the Bureau of Records greatly improved the collection of vital statistics, and by so doing was able to point up some of the major health problems. Since the disposal of bodies is not too easy, the death reports were reasonably accurate. The same cannot be said, however, for the

reports on the causes of death. Marriage and birth statistics improved, but they were still woefully inadequate. In 1867 the number of births officially recorded was 12,569 for New York City and 4,878 for Brooklyn. Dr. Harris estimated that the actual figures should have been about 31,000 for New York City and 12,000 for Brooklyn. The following year Dr. Harris calculated the city's death rate at 25.45, but he complained that the rapidly increasing population of the metropolitan area made it difficult to achieve any real degree of accuracy. The problem of determining the city's population was further complicated by the fact that in the course of the year over 221,000 immigrants had passed through the city, many of whom remained for several months. By this time New York City had almost a million people and Brooklyn another 400,000, giving the entire metropolitan area a population of close to 1,500,000.¹⁸

Although a state law requiring the registration of marriages had been on the books since 1847, only New York City and Brooklyn had made any attempt to keep marriage records. Their success was exceedingly limited since few clergymen bothered to submit reports. Probably to draw attention to the large number of ministers neglecting their duty, in 1868 Dr. Harris published the names of clergymen along with the number of marriages each one had registered. As already noted, physicians, too, were notably uncooperative in notifying the Bureau of Records of births they had attended or cases of communicable disease they had encountered, and they were not averse to hiding the real cause of death. Over and above the many incorrect diagnoses, a social stigma was attached to venereal diseases and, in some cases, to pulmonary tuberculosis, and doctors often concurred with the family in listing the deceased as the victim of a more respectable disorder. In addition, there were black sheep in the profession who had no compunction about signing false death certificates. One of the worst abuses on this score arose in connection with notorious infant boardinghouses where the annual mortality rate frequently ran as high as 80 or 90 percent. He had been reliably informed, Dr. Harris wrote in 1868, that physicians were submitting false death certificates from certain "houses for the reception and boarding of infants."¹⁹ Educating the public to the need for vital statistics and making the ministers and physicians aware of their

responsibilities was necessarily a long and slow job. Under the Metropolitan Board of Health an excellent start was made; as of 1869, however, the road to success still stretched beyond the horizon.

Since the term "public health" is an exceedingly broad one, the board often, either on its own initiative or by request, involved itself in a wide range of health-related matters. One subject well within its legitimate concern was that of venereal disease and prostitution. Early in 1867 a New York legislator offered a bill to require the registration of prostitutes in New York City. The legislator claimed that within the city there were 2,100 "houses of ill-fame" and 25,000 "courtesans."²⁰ The Board of Health was concerned with prostitution because of its relationship to venereal disease. This same year the health officers estimated that there were at least 20,000 cases of venereal infection in New York City, a figure which sounds rather low, and they blamed this incidence largely upon prostitutes. According to the Board of Health statistics, which were supplied by the police and may also have been low, there were 569 houses of prostitution, 90 houses of assignation, and a total of 2,574 prostitutes.

The board agreed with the principle of registering prostitutes, but, quite correctly, it emphasized the need to deal with venereal disease directly. All hospitals and dispensaries receiving state aid, the board declared, should be required to treat venereal disease cases, and a special hospital should be established to treat prostitutes. In addition to registering prostitutes individually, the board recommended that all brothels be registered with the health authorities and that they be inspected periodically. Since many hospitals and private physicians, no doubt filled with a sense of their own virtue, refused to treat venereal disease cases, the Board of Health was obviously treading on dangerous ground. Anticipating one of the main objections to its proposals, the board asked those who judge venereal disease patients harshly to "reflect that if the Creator had affixed penalties to vices, He has, in his wisdom and goodness, furnished us with remedies to treat the diseases which follow them. . . ." Since even medical societies were reluctant to discuss so delicate a subject, little came of the board's recommendations. Two years later the police superintendent reported a

slight decrease in the number of houses of prostitution but an increase in the number of public prostitutes.²¹

John C. Burnham has shown that the recommendation by the board to register and inspect prostitutes was part of a widespread movement. As venereal disease became better understood, many physicians recognized the need to deal with it as a medical rather than a moral problem, and their chief efforts centered around prostitution. Only one city, St. Louis, actually established an inspection program, but the subject was widely discussed. The efforts of these doctors were set at naught by the moral reformers who were convinced that the solution lay in attacking the basic social evil, prostitution. Prostitution, however, had faced moral outrage on many other occasions, and by diverting attention from the medical aspects, the moral reformers merely insured that little would be done about either prostitution or venereal disease until the twentieth century.²²

The custom of electing coroners traditionally has been—and still is—a public disgrace in many American towns and cities. The incumbents often have few qualifications, and the office itself is frequently completely politicalized. New York in the nineteenth century was no exception, and the *Times* rejoiced in 1867 over the passage of an amendment designed to give the Board of Health complete control over the coroners. This rejoicing was premature, since in its *Annual Report* for 1868 the Board of Health clearly indicated that it had virtually no authority over the coroner's office. The returns from this office were described as being so inaccurate as to defy scientific classification. The coroners were accused of certifying the cause of death without examining the body or with making only the most cursory inspection. If the system of electing coroners was to continue, the board believed it should have some sort of supervision over the office.²³

One aspect of the sanitary movement in the nineteenth century was a revival of personal hygiene. Higher living standards and comprehensive water systems were steadily raising the standard of cleanliness among the middle and upper classes but in so doing they were accentuating the differences between these groups and what was termed "the great unwashed." As the association between cleanliness and health was generally recognized, health re-

formers became concerned over the complete lack of bathing facilities for the majority of tenement dwellers. In reporting a proposal to establish a private bathing company, a newspaper editorial in 1867 asserted "As the matter now stands, the 450,000 persons who herd in the 15,000 tenement houses . . . are as unwashed as, traditionally, they are 'unterrified'—by dirt." The editorial then went on to urge that the city emulate Boston in providing bathing facilities for the poor.²⁴ The Legislature incorporated the Metropolitan Bathing Association in 1867 and the following year authorized the city to lease a slip or basin to it. The original act in 1867 limited the maximum price the association could charge to 25 cents. The following year, the Legislature ordered the city to construct two free-floating baths, one on the East River and another on the Hudson. The Board of Health strongly supported the proposal, but for one reason or another it was not until the summer of 1870 that New York City finally opened the two free public baths.²⁵

Closely allied with—and at least as essential as—public baths was the need for public drinking hydrants and urinals. The gradual elimination of street pumps and the rapid expansion of the city made both of these facilities essential. In June 1868 the Legislature made \$3,500 available to the Board of Health for this purpose. The board subsequently constructed a urinal in Astor Place, which it later described as eminently successful and always "thronged during the entire day." The following year another \$10,000 was appropriated for urinals, and the Board of Health on its own initiative authorized the expenditure of \$5,000 for drinking hydrants.²⁶

Alarmed by the large number of deaths from drowning, which were averaging about one per day, in 1868 the Board of Health appointed a committee to investigate the subject. As might be expected, the committee found the ferry and steamboat landings and bathing places to be the scene of most deaths. For resuscitating unconscious persons, the committee recommended placing the victim on his back and restoring his breath by pulling his arms over his head and returning them with pressure upon the abdomen. While not the best method of resuscitation, it was still fairly effective. In what may have been the first formal instruction in water safety, the board assigned an assistant sanitary inspector to

give a course in rescue and resuscitation to the 92 members of the metropolitan police assigned to precincts on the waterfront.²⁷

The other varied activities of the board included attempts to regulate the gas companies, which were often negligent in processing and in distributing their product, and to control the sale of kerosene or illuminating oil. Part of the difficulty with kerosene lay in the relatively primitive methods of distillation, but much of the blame can be attributed to distributors who deliberately adulterated it with benzine, gasoline, and naphtha, at that time all relatively cheap oils. A sampling of kerosene specimens purchased from 79 different dealers in 1869 showed that 78 of the samples were unsafe. Although the minimum vaporizing point of good kerosene was set at 100 degrees, many of the samples vaporized at temperatures as low as 18 degrees! As casualties from exploding kerosene lamps mounted, the board adopted an ordinance forbidding the sale of lamp oil which ignited at a temperature below 110 degrees or in which explosive vapor appeared at a temperature below 100. Under this ordinance, legal action was taken against some 400 dealers, resulting in a considerable improvement in the quality of kerosene sold in New York City. In this same year the board also investigated the danger arising from the transportation of nitroglycerin through populated areas. This explosive, particularly in the nineteenth century, was a notably unstable compound, and the board was rightfully concerned with its potential hazards.²⁸

One last area into which the Board of Health ventured was that of rapid transit. The growth of the city had made it apparent that some means of transportation other than horses was essential. During the 1860s various projects for subways or elevated railways were proposed and work on both forms of transportation was started. Arguments over which was the better system, technological problems, and political disagreements, however, all combined to prevent either project from being brought to fruition. The Board of Health stressed the need for mass transit for the working classes, arguing that the best solution for the crowded tenement areas was to move the workers out to the clean suburbs. Railways were not only the most feasible method for passenger travel, but, the board added, they offered the most suitable means for removing manure and garbage. An effective city railway system would

thus remove thousands of horses from the streets and at the same time eliminate the necessity for common dumping grounds. An editorial in the *Medical Record*, seconding the board's suggestion, pointed out that horses were responsible for much of the air pollution and agreed that their removal would be of immeasurable help to public health.²⁹ In this, as with many other proposals, the Board of Health was in advance of its time, but its efforts did serve to arouse public interest.

Notes to Chapter 2

1. N.Y. *State Laws*, 90th sess., chap. 700, April 24, 1867, II, pp. 1760-61; *Times and Herald*, June 18, 1867; *Ann. Rep., Met. B. of H.*, 1869, pp. 19, 21.
2. *Ann. Rep., Met. B. of H.*, 1867, p. 22; 1868, pp. 25-26.
3. *Ibid.*, 1869, p. 21; *President Chandler and the New York City Health Department, 1866-1883* (New York, 1883), p. 4 [New York Public Library, pamphlet] (hereinafter cited as *President Chandler and the New York City Health Department*).
4. *Documents of the Board of Aldermen*, no. 2 (January 7, 1867), XXXIV, part 1, pp. 19, 33, 59-60 (hereinafter cited as *Docs. of Bd. of Aldermen*); *Ann. Rep., Met. B. of H.*, 1867, pp. 292-93.
5. N.Y. *State Laws*, 90th sess., chap. 687, April 23, 1867, II pp. 1737-39; 92nd sess., chap. 97, April 2, 1869, I, pp. 168-75; 93rd sess., chap. 652, May 5, 1870, II, pp. 1506-09.
6. *Ann. Rep., Met. B. of H.*, 1867, pp. 278-82.
7. *Ibid.*, 1868, pp. 43-44; 1869, pp. 28-29.
8. *Ibid.*, 1867, pp. 242-43; *Times*, June 15, 1868.
9. N.Y. *State Laws*, 90th sess., chap. 956, May 25, 1867, II, p. 2413; *Ann. Rep., Met. B. of H.*, 1867, pp. 21-22.
10. *Docs. of Bd. of Aldermen*, no. 1 (January 7, 1867) XXXIV, part 1, pp. 27-28; *Times*, January 10, March 13, April 18, June 19, August 6, October 6, 1867; *New York Evening Post*, April 2, 1867; N.Y. *State Laws*, 90th sess., chap. 809, May 8, 1867, II, pp. 2023-26; The Association for Improving the Condition of the Poor, *Twenty-Sixth Annual Report, 1869* (New York, 1870), pp. 72-73 (hereinafter cited as A.I.C.P., *Annual Report*).
11. *Ann. Rep., Met. B. of H.*, 1868, pp. 19, 48-50.
12. *Times*, February 22, 1870.
13. *Ann. Rep., Met. B. of H.*, 1867, pp. 32-35.
14. *Times*, February 20, 1867; *Ann. Rep., Met. B. of H.*, 1867, pp. 85-86.
15. N.Y. *State Laws*, 90th sess., chap. 956, May 25, 1867, II, pp. 2411, 2426; *Ann. Rep., Met. B. of H.*, 1868, pp. 12-13.
16. A.I.C.P., *Twenty-Sixth Annual Report, 1869*, pp. 33-35.

The Fight Continues

17. *Ann. Rep., Met. B. of H.*, 1869, pp. 7-8, 28-29; *Times*, September 26, 1869.
18. *Ann. Rep., Met. B. of H.*, 1867, pp. 26-27; 1868, pp. 402-04.
19. *Ibid.*, 1868, pp. 15, 440, 611-14.
20. *Medical Record*, I (1867), 550; *Ann. Rep., Met. B. of H.*, 1867, p. 31.
21. *Ann. Rep., Met. B. of H.*, 1867, pp. 31, 300-07; *Herald*, March 14, 1869.
22. John C. Burnham, "Medical Inspection of Prostitutes in America in the Nineteenth Century; the St. Louis Experiment and Its Sequel," *Bulletin of the History of Medicine*, XLV (May-June 1971), 203-18 (hereinafter cited as *Bull. Hist. Med.*)
23. *Times*, March 17, 1867; *Ann. Rep., Met. B. of H.*, 1868, pp. 31-32.
24. *Times*, March 14, 1867.
25. N.Y. *State Laws*, 90th sess., chap. 842, May 9, 1867, II, pp. 2107-09; 91st sess., chap. 879, July 22, 1868, II, pp. 2087-88; 93rd sess., chap. 270, April 1870, I, p. 604; *Frank Leslie's Illustrated Newspaper*, July 23, 1870 (hereinafter cited as *Leslie's Illustrated*); *Ann. Rep., Met. B. of H.*, 1868, pp. 33-34.
26. N.Y. *State Laws*, 91st sess., chap. 853, June 3, 1868, II, p. 2013; 92nd sess., chap. 876, May 12, 1869, II, p. 2123; *Ann. Rep., Met. B. of H.*, 1868, pp. 33-34; 1869, pp. 12-13.
27. *Ann. Rep., Met. B. of H.*, 1868, pp. 388-98.
28. *Times*, January 21, 1870; *Ann. Rep., Met. B. of H.*, 1869, pp. 10-11, 17; *President Chandler and the New York City Health Department*, pp. 2-4.
29. Isaac N. Stokes, *The Iconography of Manhattan Island* (New York, 1915-28), vol. V, pp. 1912-41; *Ann. Rep., Met. B. of H.*, 1868, p. 10-11; *Medical Record*, III (1869), 568-70.

3

Launching the New York City Health Department

The Board is “presenting the very unusual spectacle, of late years, of New-York officials seeking simply and solely to do their duty. This phenomenon has been one which some of the other branches of the City Government could not at all comprehend.” [*Times*, November 28, 1873.]

For four years the Metropolitan Board of Health had waged a massive frontal assault upon the immense sanitary and health problems of Greater New York. In this time it had struck deep into the pockets of the owners of nuisance trades, bitterly denounced slum landlords, driven thousands of cellar and shanty dwellers from their miserable abodes, irritated private practitioners by carting their contagious disease patients off to isolation hospitals, and created a set of sanitary regulations affecting a wide range of businesses. Fortunately for the Board of Health, these were years in which Asiatic cholera constantly threatened the city, and, correctly or not, the board was given full credit for averting this plague. Moreover, the board’s honest and efficient operation appealed to the middle and upper classes, and its efforts to improve the tenement and slum districts won strong support from the lower economic groups.

Nonetheless, by 1869 some of the glamor had worn off. Here and there critical voices were raised. More significant, however, was the attitude one senses in the newspapers—a feeling that the main public health work had now been accomplished. When the board required its employees, including physicians, to work eight hours a day, one of the newspapers questioned the need for such measures now that “the hard labor” had been performed. The editor then added: “. . . it may be that physicians are no longer so much needed, and that young men of industry can do the work sufficiently well.”¹

The New York physicians, many of whom resented having to

report contagious disease cases and other vital statistics, were far from unanimous in their support of the health program. In defending the board before the New York Academy of Medicine in February 1869, Dr. John O. Stone declared that it was constantly being troubled by "fault-finders" who were "throwing difficulties in the way of its removal of nuisances, and backing up the rich men who delay its action." Whenever anyone feels his property rights are invaded by the Board of Health, Dr. Stone continued, he immediately "brings forward physicians to testify that there is no nuisance."²

Leslie's Illustrated Weekly, which generally supported sanitary and health reforms, bitterly denounced the Board of Health in February 1870 for warning of a possible smallpox epidemic and urging a general vaccination. The only result of the board's actions, the editor declared, was to create "a panic about smallpox" and make "a small fortune for the doctors. . . ." He charged that the health officials had gone so far as to invent a new disease, "Relapsing Fever . . . simply to magnify the imaginary services of a physician, or the supposed guardians of the public health. . . ." Instead of crediting the board for recognizing the danger from relapsing fever, the editor accused the health officials of giving a new name to the few cases of typhus and typhoid in order to gain control of the street cleaning administration! It seems incredible that *Leslie's* could have levied such charges against a Board of Health which included eminent, conscientious, and able men like Elisha Harris and Stephen Smith, but, even worse, the editorialist appealed for a return to the former policy of leaving health affairs in the hands of a city inspector—an official who had been denounced for years by every newspaper, including *Leslie's*!³ It is clear that by 1870 the very success of the Metropolitan Board of Health was undermining its position. With memories of the terrible Asiatic cholera epidemics fading and some of the worst abuses temporarily held in check, public interest waned, and the economic cost and inconvenience of health measures loomed larger and larger—particularly since the dangers they obviated receded.

Moreover, in the late 1860s local politics became the chief preoccupation of reformers. William M. (Boss) Tweed had emerged as the unquestioned leader of Tammany Hall Democrats by 1869 and had expanded his base of operations to include the state gov-

ernment. Tammany's strength to a large extent rested upon the Irish and German Catholic voters, many of whom were recipients of the private and public welfare programs administered by Tweed and his cohorts. In his role as a state political boss and leader of the city machine, Tweed was able to funnel about \$2,000,000 of state funds into private charities, over 70 percent of which ended up in the hands of Catholic schools and institutions.⁴ During the previous 25 years a torrent of Irish and German immigrants, many of whom were virtually illiterate, had poured into the city. As they were mobilized for voting purposes by Democratic political machines, the Protestant middle and upper classes either withdrew from politics or else looked to the Republican State Legislature for help. The result had been the creation of a series of relatively independent administrative agencies for the city, such as the Metropolitan Police Commissioners, the Metropolitan Board of Health, and the Croton Aqueduct Board, all of which were appointed by the governor. While these agencies undoubtedly provided a more effective administration than had the mayor and aldermen, they did constitute a denial of local self-government—providing the city machine politicians and their constituents with a legitimate grievance.

With the State Legislature firmly under control and his own man, A. Oakey Hall, mayor of New York City, Tweed decided to provide the city with a new charter. On January 4, Mayor Hall sounded the tocsin at the first Common Council meeting when he called for a reorganization of the city government to give the mayor full responsibility for city administration. The immediate reaction of most New York newspapers was to decry what the *Post* called an effort to destroy all vestiges of efficient municipal government. Even the *Times*, which subsequently supported the Tweed charter, at first believed Tammany was attempting to seize control of the city under the guise of local self-government. Early in February the new charter was presented in the State Legislature. In the ensuing weeks, the *World*, *Tribune*, and *Sun* denounced the proposed change, while the *Herald* supported it. The *Times*, which had gradually changed its position, declared the bill was "certainly better than anything that the respectable portions of the citizens of New York had reason to expect. . . ."⁵

Surprisingly, middle- and upper-class citizens who generally

opposed Tammany as a matter of principle were sharply divided on the charter issue. The Union League, with Horace Greeley as its spokesman, was firmly Republican and as such could be counted upon to fight any measure supported by Tweed. On the other hand, the Citizens' Association, originally created by a group of sincere, conscientious business and professional men, urged the Senate to pass the new charter. President Peter Cooper wrote that it would eliminate ward politics and make the mayor responsible for the city administration. Untroubled by the arguments for and against his charter, Tweed pushed the measure through the State Legislature, and on April 5, 1870, New York City was given a new municipal government.⁶

In general the charter provided that the mayor would appoint department heads or commissioners with the approval of the Common Council. Ten departments were established, one of which, the Health Department, replaced the Metropolitan Board of Health. The new Board of Health was to consist of the four police commissioners, the health officer, and four health commissioners. These latter four were to be appointed by the mayor for a term of five years, and two of them were required to have been practicing physicians in New York City for at least five years preceding their appointment. The Health Department was subdivided into four bureaus: Bureau of Sanitary Inspection, Bureau of Records and Inspection, Bureau of Street Cleaning, and a Sanitary Permit Bureau.

The Sanitary Code of the metropolitan board was to be adopted and brought up to date. Violations of the code were to be misdemeanors.⁷ The most drastic change in the 1870 law was the elimination of the metropolitan health district. Under the terms of the new charter, the jurisdiction of the Health Department was restricted to the city proper. Late in April a legislative measure provided for a separate Brooklyn Board of Health, and subsequently health boards were established in the other boroughs.⁸

Tammany leaders were too shrewd not to realize that the Health Department's work was often of direct benefit to their constituents, and they were careful not to interfere too much in departmental affairs. The four health commissioners appointed by Mayor Hall were Drs. Stephen Smith and Giovanni Ceccarini,

and Messrs. Magnus Gross and John Mullaly. At this time the board included five Democrats and three Republicans, giving Tammany clear control. The *Times* blandly explained that the new appointments were designed to equitably represent the adopted citizens, "who have been, to a great extent, jealous of the operation of the Health Department." The editor of the *Medical Record* grumbled that it was a mistake to restore governmental authority to the municipality, since local officials were not too honest. The fears expressed by the *Medical Record* may have been justified, for the AICP declared a few months later that the health board, which had been so invaluable, "has been so manipulated to serve party ends, as to alarm the thoughtful and impair public confidence."⁹ The appointment of Stephen Smith to the board, however, guaranteed that the Health Department would not become completely politicized.

The first election under the new city charter was held in May 1870 and resulted in a tremendous victory for Tweed and his cohorts. The enthusiasm of Tweed's supporters appears to have been boundless, since, according to one of the newspapers, the 80,000 voters in New York City cast 110,000 ballots.¹⁰ Unfortunately for him, Tweed's success proved his undoing, for in the scramble for political spoils, the Tammany machine overreached itself. The wholesale plundering of the city till which ensued became so obvious that outraged New Yorkers of all political persuasions and economic classes finally closed ranks to overthrow the regime.

Regrettably, the political events from 1871 to 1873 are scarcely a shining illustration of outraged virtue defeating the forces of evil. A major factor in Tweed's defeat was his use of public funds to support Catholic schools and charities.¹¹ Anti-Catholicism and resentment of immigrants were decisive factors in New York politics during these years. They are reflected in the newspapers, magazines, and the public utterances of many leading reformers. Even the AICP, by far the best of all groups dedicated to social welfare, consistently displayed a tinge of anti-Catholicism. Moreover, the well-to-do reformers, obsessed with the need for civil service reform, efficiency, and thrift, failed to realize that municipal government was not purely a business operation. Unlike the politicians, who were keenly aware of their constituents' needs,

the reformers did not see that human considerations were paramount, and that it might be better to operate the city at a deficit than permit people to starve.

Whatever the case, Tweed's political power was still intact in the summer of 1871. Early in the spring he had pushed a number of bills affecting the city through the State Legislature and cavalierly dismissed the denunciations which greeted his efforts. At the peak of his power, the *Times*, *Harper's Weekly*, and other publications began a grand exposé of the gross corruption in city affairs which soon led to the arrest of Tweed and some of his henchmen. Under these circumstances the reform candidates generally swept both state and city elections, although Tweed himself was reelected state senator. The most immediate result of this decisive defeat of the Tammany machine was an effort in the spring of 1872 to replace the Tweed charter. A measure to this effect passed both houses in the State Legislature but was vetoed by Governor Hoffman. The leading organization in the fight for a new charter was the Committee of Seventy, a group appointed by the New York City Council for Political Reform.¹² This latter body had taken over from the Citizens' Council, which had been discredited through its involvement with the Tweed ring.

Mayor William F. Havemeyer, a reform candidate, succinctly stated the case for a new charter in his annual message delivered in January 1873. He complained, as had many of his predecessors, that neither the Mayor nor the City Council had much authority over civic affairs. The executive departments, he noted, were almost completely independent, since the heads, although appointed by the Mayor, served for much longer terms of office. Thus Mayor Havemeyer found himself having to deal with many holdovers from the corrupt Tweed regime. To illustrate the weakness of his position, Havemeyer claimed that over \$23,000,000 had been spent in 1872 by executive departments without any reference to the mayor or Council. Although he was nominally a member of the Police Board and the Board of Health, he had "but little opportunity to influence, or to secure the efficient working and administration of either of these departments." In his 1870 reorganization, Tweed had thoughtfully combined the Croton Aqueduct and Street departments, both potentially lucrative sources for graft, into a Department of Public Works. By more

than a coincidence, Mayor Havemeyer particularly condemned the extravagance of the Department of Public Works. Over and above the defects in administration, Mayor Havemeyer noted that the ordinances of the city were "in inextricable confusion," and he urged revision and codification.¹³

The defeat of Governor Hoffman in the 1872 election cleared the way for another charter bill for New York City in the spring of 1873. The major changes included the substitution of a single Common Council for the two Boards of Aldermen and Assistant Aldermen, and the publication of an official City Record. Insofar as the Health Department was concerned, the new charter reduced the number of commissioners from nine to four: two health commissioners, the health officer, and the president of the Police Board. The department was divided into the Bureau of Records and the Bureau of Sanitary Inspection and the old Bureau of Street Cleaning was shifted from the Health Department to the Police Department.¹⁴

While these political matters preoccupied public attention, the Health Department seems to have gone quietly about its business. It could scarcely have been immune to corruption and political pressures, but, as noted earlier, their effects were minimized. The 1870 charter had immensely increased the work of the department by assigning to it the duty of cleaning the streets. On June 1, 1870, the Bureau of Street Cleaning, with an appropriation of over \$500,000, was organized. After first writing to various European cities for information on how they handled the problem, the bureau's officers set about cleaning the city with a great deal of energy and enthusiasm. According to President J. S. Bosworth of the Board of Health, "the streets of New York, during the summer and autumn of the year 1870, presented an appearance of cleanliness unparalleled in the recent history of this city."¹⁵ While one might well discount official reports, which are generally written to present the agency in as good a light as possible, the absence of complaint in the newspapers tends to bear out Bosworth's statement.

As had been the case under the previous charter, the inspection and regulation of tenements remained one of the chief responsibilities of the department. Starting in the fall of 1869 and continuing into the spring of 1870, the Metropolitan Board of Health

had made a systematic sanitary inspection of all tenements in the city. Possibly the best indication of the department's success in its drive to remove the worst tenement abuses is to be found in the mortality statistics. About one-half of New York's population lived in tenements, and in 1868 this group accounted for 76 percent of the total mortality. Within the next two years this figure was reduced to 66 percent.¹⁶ A good part of this reduction can be attributed to the procedures introduced by the Metropolitan Board of Health for identifying, isolating, and treating communicable disease cases. These procedures were gradually improved and rigorously enforced by the Department of Health. Although little was known of the etiology of these disorders, the isolation and disinfection program which was initiated whenever cases were reported undoubtedly limited their spread.

The Department of Health in its first year of operation, 1870, renewed efforts to collect reasonably accurate vital statistics. Vigorous action was taken to enforce the reporting of births, deaths, and marriages, and some limited success was achieved. An important innovation was the appointment of Professor Charles F. Chandler as the department's chemist. Chandler was directed to investigate the city's milk, food, and water supplies, and to examine the quality of kerosene being sold for lighting purposes. Another of his duties was to supervise the disinfecting corps, a body of men responsible for disinfecting the premises where cases of contagious disease had been reported, or any areas which might present a danger to public health.¹⁷

In response to a rising incidence of smallpox, the Health Department collaborated with the Board of Education in providing for a general vaccination of all school children. The Board of Education appointed Dr. R. J. O'Sullivan as school physician and required vaccination as a prerequisite to school attendance. The Health Department, on its part, appointed a group of assistant medical health inspectors whose duty was to visit each school and home in the tenement areas offering free vaccination.¹⁸

On June 1, 1870, the Health Department moved into still another area when an ordinance went into effect prohibiting the discharge of large quantities of smoke. Aimed largely at factories and small plants, the law required the use of mechanical devices to recirculate smoke through the furnaces. The health inspectors



Left: Stephen Smith. From William H. Ridling, "Medical Education in New York." *Harper's Magazine*, LXV (1882), p. 676.

Right: Charles F. Chandler. From C. N. Lunagren, "Progress and Poverty," *Popular Science Monthly*, XVI (1878), p. 721.

offered technical assistance to the owners or managers of offending plants and usually found them to be cooperative.¹⁹

During its first year of operation, the Health Department spent a total of \$169,478.27, exclusive of the costs of street cleaning. It had engaged in a wide range of activities affecting the lives of thousands of New York citizens. Although backed by considerable legal authority, the department had relied largely upon persuasion in seeking to enforce its ordinances and regulations. In the approximately 3,000 instances in which it had resorted to legal action, the department's attorney reported that he had found a "spirit of accommodation and co-operation uniformly manifested by the presiding justices of the courts. . . ." This welcome state of affairs was sharply at variance with the attitude of the courts when the Metropolitan Board of Health had first undertaken to exercise its legal powers in 1866. The work of the Department of Health in the following year, 1871, was marked by one notable change: control of street cleaning contracts was transferred to a Street Cleaning Commission, leaving the work of the Bureau of Street Cleaning largely one of inspection.²⁰

Two major diseases threatened the city in 1871, preoccupying a good deal of the department's attention. The first, smallpox, had been widespread in 1870, leading the department to conduct a house-to-house campaign offering free vaccination. Although this program was successful, the fact that vaccination was not compulsory and that thousands of nonimmunes were constantly arriving in the city provided fuel for still another outbreak in 1871. Altogether some 3,084 cases with 805 deaths were reported before the vaccination drive ended the epidemic in the fall. Landlords and physicians were required to report smallpox cases, but both groups were negligent in this respect. The Health Department ordinarily removed smallpox cases to the isolation hospital, yet 101 of the reported smallpox deaths occurred in homes, and a number of the victims died without receiving any medical attention. Smallpox was one disease that could have been controlled even in the prebacterial days if the health officials had possessed enough authority and if they could have secured the cooperation of all citizens. President Bosworth expressed the sense of frustration that must have characterized all conscientious public health officials when he regretted that his department did not have the

“power to deal with these diseases which science and humanity demands.”²¹

In the spring of 1871 Asiatic cholera once again threatened. The Health Department followed the usual precautions—a crash program of cleaning the streets, alleys, and public places; the widespread application of lime to reduce putrefaction; and a close watch of the tenement population for any increase in diarrheal cases. In the meantime, the health officer was carefully checking all vessels entering the port. The most serious threat came in November when the steamship *Franklin*, which had already lost 41 passengers enroute, arrived in the city with cholera aboard. The rigid quarantine procedures, however, were successful in keeping the disease at bay.²²

The Bureau of Vital Statistics in 1871 took a rueful pride in the exactness of its mortality figures, noting that this success had caused New York's death rate to seem high in comparison with many other cities. Marriage and birth figures, however, were still deficient. For example, only 20,821 births had been recorded, a figure which the bureau believed to be about 10,000 below the correct total.²³

The rising standard of living in New York City during these years was reflected in a steady increase in the number of sewer lines and in the number of buildings connected to them. Despite the popular belief that the current age has a monopoly on shoddy workmanship, unscrupulous contractors of today could learn a great deal from their predecessors. Since by its nature plumbing is largely concealed—as many homeowners have learned to their regret—plumbing and sewer contracts offered a fertile field for enterprising and amoral individuals. A constant flow of complaints were registered with the Health Department, leading one official to deplore “the reckless, unscientific and dishonest manner in which plumbing work” was performed. After criticizing the careless workmanship and use of poor materials, he recommended that the Health Department should have the right to approve the sewage and plumbing facilities for every building designed as a tenement, but another ten years elapsed before this plea was heeded.²⁴

The expenses of the Health Department for the year 1871 increased to \$206,815.80. Included in this sum, however, was ap-

proximately \$75,000 which had been spent on the vaccination program and in providing medical care for smallpox patients. The net effect of this extraordinary expense was to reduce drastically the department's available operating funds. The wide range of its activities and the city's constantly growing population made it exceedingly difficult for the department to provide adequate service.²⁵ Nonetheless, the public seems to have been satisfied with the way in which the Health Department functioned. Surprisingly little comment can be found about its activities in either the newspapers or local journals, which, in view of their gleeful attacks upon nearly all other agencies of the city government, may speak well for the department. In 1871 Charles Nordhoff, managing editor of the *New York Evening Post* and a well-known author and social observer, wrote an article for the *North American Review* in which he asserted that as long as Jackson S. Schultz had remained head of the Board of Health, it had been an effective agency, but since his resignation it "has ever since been a mere political machine." Inasmuch as the title of Nordhoff's article was "The Misgovernment of New York," it is conceivable that he was given to hyperbole. A more kindly view was taken by the Citizens' Association in a pamphlet published this same year. After discussing the city charter, the pamphlet concluded that only time would determine its effectiveness, but that so far the Department of Health had lost none of its efficiency.²⁶

The year 1872 saw a slight upsurge in the total number of deaths, which Health Commissioner Stephen Smith attributed to three causes: a relatively high incidence of diarrheal disorders during the summer months; a continuation of smallpox, which had already plagued the city for several years; and the appearance of cerebrospinal fever, "a disease previously unknown in this city. . . ." Of the three, the familiar—and less terrifying—gastro-intestinal disorders, which took their heaviest toll among infants and children, were responsible for the greatest number of deaths, but smallpox killed 929 and another 782 deaths were attributed to cerebrospinal fever. The recurrence of smallpox led to the re-establishment of the vaccinating corps in the spring of 1872. The corps was disbanded on July 1, when it seemed that smallpox had been held in check, but another outbreak in the winter brought the squad back into action from December 1872 to March 1873.

The members concentrated their efforts on house-to-house checks in the tenement districts. Although they vaccinated free of charge, they could not require vaccination except for those individuals who had been in contact with smallpox cases.²⁷ This factor, plus the influx of immigrants, newcomers from rural areas, and the high mobility of the tenement population, made smallpox exceedingly difficult to eliminate.

In all likelihood, the mortality figures given for smallpox and other communicable diseases were as accurate as the prevailing medical knowledge would permit. Both Dr. Smith and the deputy registrar of records, Dr. John T. Nagle, agreed that the accuracy of the city's mortality statistics compared favorably with those for any other city, although Dr. Nagle expressed dissatisfaction over the marriage and birth figures. The annual marriage returns had increased little during the past three years, Dr. Nagle wrote, and while the number of births reported had increased almost by one-half, both figures were "lamentably deficient" and "almost useless for scientific purposes." Speaking for the Health Department, Dr. Smith said that legal action had been brought against ministers, doctors, and midwives, but that the widespread disregard of the registration laws nullified the Health Department's efforts. Only a change in the laws, he concluded, would make it possible to collect accurate birth or marriage statistics.²⁸

The perennial problem of cleaning the streets came to public attention again in 1872, and a state law enacted on May 14 turned full authority for cleaning the streets, wharves, slips, and so forth over to the Board of Police. The police were ordered to enforce strictly the street cleaning and offal and nuisance removal contracts. If any contractor failed to live up to the terms of his agreement, the police were to abrogate his contract and to do the work themselves. Although some doubts were expressed over this arrangement, according to Dr. Smith the streets were cleaner in 1872 than they had been for some years. The Health Department deserves some credit since its inspectors maintained a steady pressure on the Police Department to eliminate nuisances. Two years later Dr. Chandler echoed Dr. Smith's observation that the streets were relatively clean.²⁹ The common practice of throwing ashes and garbage into the street always compounded the street cleaning problems. The health officials had struggled with this practice

for years and had repeatedly urged the police to enforce the laws against it. The police, however, had their own problems. In the first place, the number of violators was so large that it was difficult to know where to start; in the second, the police had learned from long experience that the municipal courts usually dismissed the charges. For what it was worth, the Health Department adopted a resolution asking the police to enforce the regulations.³⁰

The efforts by the Health Department to deal with nuisances associated with privies illustrates the danger to health reformers of attempting to push ahead too fast. In 1872 a new technique was introduced for cleaning privies which consisted of using a suction pump to draw the contents into an airtight container, thus eliminating much of the odor and mess ordinarily associated with the job. Delighted with an opportunity to solve a chronic nuisance, the department promptly required the use of this new method and instructed its officials to deny licenses to scavengers without the proper equipment. The following April the State Legislature took authority for licensing scavengers away from the Health Department and gave it to the mayor.³¹ The reason for this action is not clear, but, considering the state of New York politics in the 1870s, it is not unlikely that the scavengers and their allies pushed the measure through, since they considered the mayor more responsive to political pressure than the Health Department. Deprived of licensure, its most powerful weapon, the department sought at least to force the scavengers to comply with the Sanitary Code by appointing two special inspectors to oversee their work, a measure which was palliative at best.³²

An evil closely related to the privy question was the careless and negligent way in which night soil was removed from the city. Contracts for this work had always been considered prize political plums, and honest municipal officials were perennially at odds with the contractors. In 1873 the Board of Health negotiated a new contract with Francis Swift. The contract with Swift not only brought a more efficient performance, but reduced the monthly cost for removing night soil from \$900 to \$634.62. Collecting the carcasses of the thousands of dead animals littering the streets was another constant source of trouble. The existing contract was in the hands of the New York Rendering Company, a firm with a notorious disregard for public welfare. At one time,

when the health authorities objected to the storing of dead carcasses on the city wharves, the company simply dumped the bodies into the lower bay, from whence they drifted ashore on Long Island and Staten Island! In August 1873 this contract, too, was given to Francis Swift, with the specification that he was not to dump dead animals in New York waters.³³ Here again, Swift was a marked improvement over his predecessors, and the net effect was a more sanitary city and a reduction in city expenditures.

In the continuing fight against the nuisance trades, the Board of Health forced the removal of a number of slaughterhouses and required the tallow and lard renderers to reduce offensive odors.³⁴ A study of the tobacco and cigar manufacturing establishments, which employed large numbers of female employees, led to the conclusion that working with tobacco generally was not harmful. The report excepted one group, prepubescent girls, whose growth appeared to be stunted by their work. Many of those individuals who read the report undoubtedly consoled themselves with the thought that the damage to the children's health was more than compensated for by the fact that they were engaged in productive work, thus avoiding the even greater moral dangers induced by idleness. A study of businesses in which lead and arsenic were used also showed that handling these substances was "rarely followed by bad effects." This incredibly cheerful report was made despite the fact that the inspectors found sanitary conditions and ventilation in these factories to be poor.³⁵

Complaints about the filthy condition of railway cars led the board on May 15, 1872, to adopt a series of ordinances to correct the situation. In the interest of sanitation, the use of cushions on the seats or backs of seats was forbidden; the cars were to be washed daily; no straw, hay, or other substance was to be placed on the floor of passenger cars; and finally, proper ventilation was to be provided. It was not until the board instituted suits against the railway companies, however, that they agreed to accept the regulations. In the succeeding years the board began to show concern over the rising number of accidents.³⁶

Reflecting the reform spirit which was infusing city politics in 1873, the new board, at its first meeting on May 14 instituted a civil service system and ordered all applicants for positions with

the department to take written examinations. In addition, several professional men were appointed to advisory positions within the department. These latter included a consulting pathologist, a consulting microscopist, and consultants in veterinary medicine, engineering, architecture, and meteorology.³⁷ Ideally the Health Department should have filled the positions with full-time employees, but this was scarcely practical in terms of its limited budget. These appointments, at least, indicate a genuine desire to raise the professional standards of the Health Department.

During this year, the department tackled another perennial nuisance, the accumulated piles of manure. With the city still largely dependent upon horses, manure piles were an essential fact of life, but periodically the authorities compelled the owners or contractors to minimize some of the worst aspects of these noisome heaps. Dairy and stable owners customarily piled up the manure on their own property or on adjacent vacant lots until it became necessary to remove it. The manure contractors in turn established various dumping grounds for collecting manure until it could be removed by barges or other forms of transportation. The manure piles were bad enough in cool weather, but during the summer months the combination of their foul stench and the myriads of flies they spawned made life almost unbearable for those living in the immediate neighborhood. Special inspectors were appointed to investigate complaints, and contractors were forbidden to store manure on wharves and on the banks of the rivers. Carts hauling manure from stables and dairies were required to be emptied into waiting barges. As with all such regulations, the effectiveness of those pertaining to manure depended upon the energy and conscientiousness of the staff of the Health Department.³⁸ In 1873-74 Dr. Chandler and his associates were able to improve matters temporarily, but the problem remained until horses were virtually eliminated by the advent of steam locomotives, electric streetcars, and the internal combustion engine.

In summarizing the Health Department's work, President Chandler noted that the Bureau of Records was continuing its efforts to improve the validity of vital statistics, but that the birth and marriage figures were still inadequate. Relations with the courts had improved for the judges were generally sympathetic to the Board of Health and usually sustained its actions. Despite the

emergence of new health problems and an intensification of old ones as a result of the rising population, the expenditures of the Health Department in 1873-74 were only \$163,381.23.³⁹

Much of the foregoing has been based upon the *Annual Reports of the Health Department*, primarily because the information is more specific and exact. Evidence from outside sources indicates that the departmental *Reports* were essentially correct, and that the department was doing a fairly satisfactory job. As might be expected, the greatest criticism of the Board of Health came during the Tweed regime. Since Tammany appointees sat on the Board of Health, the salaries of the health commissioners were raised from \$5,000 to \$10,000 per year, an action which brought considerable criticism. Probably surprised at the outcry, the commissioners immediately rescinded the salary increase, but the attempted raise, coming at a time when the Health Department was retrenching, helped to discredit the board. Editors of both medical journals and newspapers expressed serious qualms over what they felt was the politicization of the Board of Health. These qualms were shared by the AICP. In reviewing its activities for 1872, the AICP noted that the streets were in a particularly bad condition with the advent of spring and that the Health Department's sanitary program was not nearly as effective as it could have been.⁴⁰

The creation of a new Board of Health and the selection of Dr. Chandler as president in May 1873 signaled a sharp improvement in the quality of work performed by the Health Department. Dr. A. N. Bell, editor of the newly established journal, *The Sanitarian*, declared in June that this appointment, along with the reappointment of Dr. Stephen Smith as health commissioner, promised "well for the future health government of New York." Now that political considerations can no longer influence health matters, he wrote, "the fat melting fraternity, the manure dealers, and the like, will receive the wanted attention." A month later he commended the board for instituting a civil service system for Health Department employees, thus reducing political pressures.⁴¹

The first major success of the board was achieved against the public markets. The condition of the Washington Market in particular, which was overcrowded and notoriously dirty, had long outraged responsible citizens. Aside from the unsanitary condition

of the market itself, over the years private tradesmen had gradually built stalls and stands until the market was completely surrounded by them. The presence of these stalls not only increased the amount of refuse and garbage but virtually precluded the possibility of cleaning either the market or the surrounding areas. On July 18 the board ruled that these booths and stalls were a menace to health and requested the Board of Police to have them removed within three days. This ruling stirred up a hornet's nest, and the mayor intervened on behalf of the stall holders. Mr. Thomas De Voe, the superintendent of markets, offered a compromise proposal by which the size of the stalls would be reduced to facilitate cleaning the market. Refusing to make any concessions, on July 25 the board appointed John V. Gridley as inspector of nuisances and instructed him to take charge of the elimination of the stalls and booths around Washington Market. The opposition was so great that Dr. Chandler decided to take personal charge. One evening shortly thereafter he led a force of 150 carpenters and laborers, 300 policemen, and a corps of surgeons, and by morning every illegal structure adjacent to the Washington Market had been leveled. A New York diarist wrote that the work was done "amid volleys of curses from the ejected squatters, who squirmed like maggots molested in a dunghill. . . ." Almost immediately the owners of the stalls brought suit against the city for \$60,000, but the Board of Health successfully defended itself.⁴²

On July 30 the attorney for the city ruled that the Board of Health had full legal power to move against all city markets. The following day the board gave owners of the booths around Fulton Market until August 2 to have them removed, and at the same time ordered the sanitary superintendent and Inspector Gridley to be ready to do the job. By August 7 Inspector Gridley was able to report the destruction of all illegal booths and stands at both markets. A few days later the board turned its attention to two other markets, the Centre Market and Catherine Market, both of which were found to be in an unsanitary condition. Not content with cleaning up the markets, the Board of Health added a series of amendments to the Sanitary Code dealing with such matters as the sale of food, the transportation of offal, garbage, and so forth, and the noxious trades.⁴³

The strong determined action of Dr. Chandler and his associates did much to restore the waning prestige of the Board of Health. The editor of *The Sanitarian* declared that in winning its battle against the markets, the rendering companies, and the fat-melters, the board had "inspired public confidence." Late in the fall, when the Board of Aldermen recommended drastic cuts in the appropriation for the Health Department, the editor of the *Times* was outraged and suggested that the honest and efficient work of the Board of Health had "excited the wrath of the old politicians." In speaking of Asiatic cholera which had threatened the city in 1873, the AICP credited the board with preventing an epidemic through its "wise sanitary forecast and [its] indomitable energy. . . ."44 The Board of Health's action in this instance infuriated a vested interest with strong political connections, but the board emerged from the fray with renewed prestige.

In 1874 the effects of the depression were gradually making themselves felt in New York City, as can be clearly seen in contemporary writings. Mayor W. F. Havemeyer praised the Health Department in his annual message delivered in January 1874, stating that it had reduced expenses and was "doing all that can be expected." A year later, however, City Comptroller Andrew H. Green denounced what he termed "municipal misrule," specifically citing the Health Department as one of those in which expenses had been increasing and a debt of unsettled claims was accumulating.⁴⁵ The economic crisis, as might be expected, gave an added incentive to those reformers who were desirous of reducing municipal expenditures.

Previously the fiscal year for the Health Department had ended on April 30, but possibly as a part of the city reorganization, the annual reports were made to coincide with the calendar year. The *Fifth* and *Sixth Annual Reports* of the Health Department were combined to cover the period from May 1, 1874, to December 31, 1875. This combined report was the last one for many years to include a relatively detailed discussion of the problems and accomplishments of the department. From 1876 to 1881 the reports were largely statistical compilations, following which no annual reports were published for a ten-year period.

It is interesting to speculate as to why the annual reports diminished in size and then ceased. All evidence indicates that Dr.

Charles F. Chandler, who remained as president of the Board of Health from 1873 to 1881, was a capable and conscientious individual. He was constantly trying to increase his departmental budget, and it may be that financial stringency necessitated reducing the size of the annual reports. There is an indication of this in the minutes of the Board of Health in October 1883. In reply to an inquiry from the State Board of Health about the *Annual Reports*, the city board stated that its weekly and quarterly reports contained all the information called for and all "that this Department has the clerical facilities to furnish." In 1876, however, Dr. Elisha Harris was forced out of his office as Registrar of Vital Statistics through the consolidation of his department into the Sanitary Bureau. The loss of Dr. Harris, the most articulate spokesman for the Health Department, may have removed the chief architect of the annual reports.⁴⁶

There is much more to the question, however, than finances or personalities. During the 1850s and 1860s the sanitary movement was at its peak, and there was a genuine feeling among its leaders that one could build Jerusalem in New York's green and pleasant land. The introduction of relatively pure Croton water into the city had fulfilled one of the major aims of the sanitationists, and the apparent conquest of Asiatic cholera further encouraged the proponents of sanitary reform to feel that their other goals were equally attainable. The marvels of science and technology were visibly changing society, and it did not seem too unrealistic to assume that slums and tenements, poverty and disease, and all the other problems besetting the city would soon fall before the advancing front of social engineering. In part because of this flush of enthusiasm, the Metropolitan Board of Health enjoyed a remarkably good press during its four-year tenure, and the same held true for the early years of the Department of Health. By 1875, however, the Health Department had become a familiar part of the municipal structure, and the fervor of the health reformers had lost much of its vitality and fire. It was clear, too, that there was no easy or simple solution to the city's twin problems of poverty and ill health. The Tammany machine under Tweed, corrupt as it was, had shown some interest in the welfare of its constituents. After Tweed's downfall, Tammany fell into the hands of Honest John Kelly who formed an alliance with the

business interests. To many pragmatic businessmen public health, like public welfare, was an expensive frill whose benefits accrued solely to the lower economic groups. The nature of public health work, which often seems least necessary when most successful, did not encourage those who sought immediate and tangible results for their money. With Asiatic cholera no longer a serious threat, the Health Department, although accepted as a necessary part of the municipal government, was relegated to a minor role.

Notes to Chapter 3

1. *Times*, January 14, 1869.
2. *Bull. of N.Y.A.M.*, III (1869), 396.
3. *Leslie's Illustrated*, February 19, 1870.
4. For a discussion of Tweed's welfare activities see John W. Pratt, "Boss Tweed's Public Welfare Program," *The New-York Historical Society Quarterly*, XLV (1961), 396-411.
5. *Times*, January 4, 7, March 31, 1870; *Evening Post*, January 3-4, 1870; *Herald*, February 8, 14, 1870.
6. *Times*, April 4, 1870; *Memorial of the Citizens' Association of New York, and Petition of Tax-Payers in Favor of the New Charter for that City as Passed by the Assembly* (New York, 1870), p. 7 [New York Public Library, Pamphlet]; N.Y. *State Laws*, 93rd sess., chap. 137, April 5, 1870, I, pp. 366-97.
7. N.Y. *State Laws*, 93rd sess., chap. 137, April 5, 1870, I, pp. 388-89.
8. *Ibid.*, chap. 381, April 26, 1870, I, pp. 873-74.
9. *Times*, April 11, 1870; *Medical Record*, V (1870), 85-86; A.I.C.P., *Twenty-Seventh Annual Report, 1870*, p. 76.
10. Isaac N. Stokes, *The Iconography of Manhattan Island* (New York, 1915-28), vol. V, p. 1940.
11. See William V. Shannon, *The American Irish* (New York, 1963), p. 71.
12. For example, see *Address by the Chairman, Honorable William F. Havemeyer, at the Meeting of the Committee of Seventy in the Rooms of the Chamber of Commerce, September 19, 1872* (New York, 1872) [New York Public Library, pamphlet].
13. *Docs. of Bd. of Aldermen*, no. 1 (January 6, 1873), part 1, pp. 3-31; Stokes, *Iconography*, vol. V, p. 1952.
14. Stokes, *Iconography*, vol. V, pp. 1953-54; *Fourth Annual Report of the Board of Health, 1873-74*, pp. 1-3 (hereinafter cited as *Ann. Rep., Bd. of Health*).
15. *Ann. Rep., Bd. of Health, 1870-71*, pp. 13, 152; N.Y. *State Laws*, 93rd sess., chap. 383, April 26, 1870, I, p. 885.
16. *Ann. Rep., Bd. of Health, 1870-71*, pp. 16-17, 45.
17. *Ibid.*, pp. 24, 37, 42, 73, 301.
18. *Ibid.*, pp. 72-73.

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19. *Ibid.*, pp. 68, 301.
20. *Ibid.*, pp. 46, 300-01; 1871-72, pp. 30, 47.
21. *Ibid.*, 1870-71, pp. 24-26; 1871-72, pp. 23-24.
22. *Ibid.*, 1871-72, pp. 26-27, 325-29.
23. *Ibid.*, pp. 30-31.
24. *Ibid.*, pp. 44-46.
25. *Ibid.*, p. 34.
26. Charles Nordhoff, *The Misgovernment of New York* (New York, n.d.), p. 7 [New York Public Library, pamphlet]. Reprinted from the *North American Review* (October 1871); *Address of the Citizens' Association of New York to the Public* (New York, 1871), p. 6 [New York Public Library, pamphlet].
27. *Ann. Rep., Bd. of Health, 1872-73*, pp. 9-11.
28. *Ibid.*, pp. 10, 90.
29. N.Y. *State Laws*, 95th sess., chap. 677, May 14, 1872, II, pp. 1622-25; *Ann. Rep., Bd. of Health, 1872-73*, pp. 16-17; 1873-74, pp. 8-9.
30. *Ann. Rep., Bd. of Health, 1872-73*, pp. 16-17.
31. *Ibid.*, pp. 20-23.
32. *Ibid.*, pp. 17-19; *The City Record*, I (1873), pp. 189-90 (hereinafter cited as *City Record*).
33. *Ann. Rep., Bd. of Health, 1873-74*, pp. 19-20; *City Record*, I (1873), p. 171; N.Y. *State Laws*, 96th sess., chap. 839, June 26, 1873, p. 1255.
34. *Ann. Rep., Bd. of Health, 1872-73*, pp. 19-20.
35. *Ibid.*, pp. 308-10, 312-14.
36. *Ibid.*, pp. 29-30; 1873-74, p. 23.
37. *Ibid.*, 1873-74, pp. 1-3.
38. *Ibid.*, p. 17.
39. *Ibid.*, pp. 31-36.
40. *Medical Record*, VII (1872), 61-63; *Times*, February 24, 1872; A.I.C.P., *Twenty-Ninth Annual Report, 1872*, pp. 52-55.
41. *The Sanitarian*, I (1873), 127, 177-78 (hereinafter cited as *Sanitarian*).
42. *City Record*, I (1873), pp. 97, 105, 113; *President Chandler and the New York City Health Department*, pp. 9-10; Allan Nevins and Milton H. Thomas, eds., *The Diary of George Templeton Strong: Young Man in New York* (New York, 1952), vol. IV, p. 489.
43. *City Record*, I (1873), pp. 130, 134, 147, 159, 177-78, 219; *Times*, July 31, 1873; *Herald*, July 23, 1873.
44. *Sanitarian*, I (1873), 286-87; *Times*, November 28, 1873; A.I.C.P., *Thirtieth Annual Report, 1873*, p. 48.
45. *Docs. of Bd. of Aldermen*, no. 1 (January 19, 1874), part 1, p. 17; *A Three Years' Struggle with Municipal Misrule*, report of Andrew H. Green, Comptroller (New York, 1875) [New York Public Library, pamphlet].
46. Minutes of the Board of Health, New York City, October 30, 1883, p. 331, New York City Board of Health mss. (hereinafter cited as B. of H., Min.); *Sanitarian*, XII (1884), 283.

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The Quiet Years

There is no question in my mind that some reduction in the expenditures of the Department can be borne without inconvenience, assuming that the Health Laws are intelligently and judiciously administered, an assumption that I am not at present prepared to admit. [James Gallatin, *New York Academy of Medicine, Minutes*, November 19, 1885, pp. 70-71.]

The combined effect of the major depression of 1873 and the long period of relatively inefficient government which followed was scarcely conducive to the development of an effective and innovative Health Department. The depression intensified the strong desire of the business interests, who had a considerable voice in political affairs, to reduce governmental expenditures and activities. President Chandler was honest and able, but he was beset by financial problems on one hand and a growing public apathy on the other. In consequence, the Health Department rocked along, fulfilling its duties and responsibilities as best it could with the limited resources at its command. A few innovations were made in the early years of Dr. Chandler's administration, but for the most part the Health Department was barely able to hold its own. Dr. Chandler's opening drive against the markets in 1873 was consistent with his early concern for the food supply. As a chemist, he had been testing the food and water supply in 1867, and one of his first actions as president of the Board of Health in 1873 was to attempt to improve the city's milk supply. He also made a determined drive to eliminate smallpox, which had been a constant problem for many years. At the urging of the Board of Health, the Legislature authorized the creation of a permanent vaccination corps with the right to maintain records and keep a supply of pure vaccine on hand. The law further provided that the Health Department could sell any excess supply of vaccine and use the funds for the vaccination program.¹ This latter provision was important, since it established a precedent which in later years greatly benefited the Health Department's laboratory.

On September 29, 1874, the Board of Health appointed Dr. James B. Taylor as inspector of vaccination and 11 other physicians to serve as assistant inspectors. In the first year of operation this group performed 126,003 vaccinations, sold \$1,231.54 worth of virus, and distributed 13,826 quill points (for vaccinating) to charitable institutions. In addition to the 12-man permanent staff, extra vaccinators were on duty on a year-round basis.² In the summer of 1875 smallpox was once again widely prevalent, and the department posted circulars printed in English and German in all tenement houses stressing the advantages of vaccination and advertising that it was freely available. It asked the Board of Education to enforce the regulation requiring vaccination for any children designated by the health officers. The education authorities not only complied with this request but also passed a regulation on December 15, 1875, requiring vaccination of school janitors and their families.³

The Smallpox Hospital on Blackwell's Island, like the pest-houses of earlier years, had such an unsavory reputation that fear of being sent there was a major factor in leading city residents to attempt to conceal cases of smallpox among their families and friends. In 1874 the Legislature sought to remedy matters by transferring responsibility for the hospital to the Health Department. Under Dr. Chandler's direction, the name was changed to the Riverside Hospital, a staff of competent physicians was employed, nursing was placed in charge of the Sisters of Charity, and the hospital facilities were renovated. These changes greatly improved the hospital's public image, and in so doing encouraged the reporting of smallpox cases.⁴

One of Chandler's most successful contributions was the establishment of the summer corps. Beginning in the summer of 1876 a special appropriation of \$5,000 permitted the Health Department to employ approximately 50 physicians during the month of August. Each man was assigned a special tenement district and instructed to visit every domicile in his area. The duties of the physicians were to treat sick children, advise mothers on child care, check on sanitary conditions, and to look for any violations of the sanitary or health laws. Although the intrusion of these health inspectors was at first resented, the tenement dwellers gradually learned the value of the services offered by them.⁵ Aside

from providing medical care, the inspectors performed a notable job of health education among the poorer citizens. Their reports on sanitary conditions led the Health Department to remove many abuses and served to draw public attention to the miserable living standards of the lower economic groups. In 1882 newspaper reporters accompanied several of the summer physicians on their rounds. The deplorable conditions they found resulted in a major exposé of tenement conditions.⁶

Throughout his ten years in office, Dr. Chandler was constantly pleading for an adequate budget. In testifying before the appropriations committee in February 1876, Chandler reported that with only 125 full-time employees he was expected to keep a close watch on every building in the city, maintain a register of vital statistics, inspect food supplies, perform thousands of vaccinations, and check on stables, dairies, nuisance trades, and sanitary conditions. Unimpressed, the committee slashed his request from \$328,000 to \$220,000.⁷ Two years later, still struggling with an inadequate budget, Chandler told the Board of Apportionment that his absolute minimum need was \$232,000 and that another \$100,000 would bring the city a tenfold return. City consumers were spending \$10,000 per day for bad milk because the department had only one milk inspector to watch over a city with a population of more than one million. The following year *Leslie's Illustrated Newspaper* emphasized this same point when it complained that there were only 14 health inspectors to visit every house in the city.⁸

One of the worst aspects of the retrenchment program was the loss of Elisha Harris as bureau chief. In 1876 Dr. Chandler was forced to consolidate the Bureau of Vital Statistics with the Sanitary Bureau. This action may have been motivated solely by financial considerations, but more than likely it was aimed at Harris, an energetic and conscientious health official, who undoubtedly had irritated the politicians.

With street cleaning turned over to the police, a heavy load was taken from the Health Department, although its inspectors were still responsible for reporting nuisances and unsanitary conditions. There was no relief, however, from the tenement house problem, which continued to be a major preoccupation of the

health officials. Aside from the sheer magnitude of the task of inspecting the thousands of warrenlike structures, the handful of inspectors had to contend with the tenants themselves, and, even worse, risk a fight with the owners, a powerful vested interest. In its annual report for 1878 the AICP credited the Health Department with having "labored earnestly" to improve the tenements, but it added that the tenement owners were "a large wealthy class who exert considerable political influence," and who could not be assailed without the backing of a strong public opinion.⁹

The complex and diffuse nature of the city government further complicated the Health Department's work. The building department often failed to cooperate with the health officers, and not infrequently approved the construction of tenements which were in direct violation of the sanitary laws. Mayor Smith Ely, Jr., illustrated the tangled nature of the municipal organization when he declared that in order to dispose of street dirt it was necessary to gain the assent of three city and two state departments, not one of whom "seemed to be in sympathy with any of the others."¹⁰

The Health Department was particularly dependent upon cooperation from the Police Department. In the first place, the latter department had charge of all street cleaning after 1872, and in the second, the policemen enforced the orders of the health officials. In view of this need for close cooperation, a small imbroglio which developed between the two departments takes on added significance. In January 1876 the Police Department presented the Board of Health with a bill covering the rent for some rooms which had been used by the vaccination inspectors since 1872. The police had been ordered by an 1866 law to make these rooms available to the Health Department. For the first five years the Board of Health paid an annual rent, but it had stopped the payments in 1872. When the Health Department returned the bill to the Police Department stating that it had no funds for this purpose, the police ordered that the rooms be vacated. Before a temporary injunction obtained by the Health Department could be served, the police moved out the vaccination corps. In the subsequent legal action, the court supported the position of the Health Department and ordered the rooms returned. The police then retaliated by withdrawing seven policemen who had been assigned

to the use of the Health Department.¹¹ Shorthanded as was the Health Department, the loss of these sanitary police was a serious blow.

The police commissioners could ill afford the bad publicity which resulted from this incident. The disheartening and almost hopeless job of attempting to keep the streets clean rarely brought credit to any agency involved, and the years during which the Police Department was responsible for the task were no exception. In 1877 a furor arose when the police proposed to empty the garbage scows into Long Island Sound. Previously much of the garbage and refuse had simply been dumped in the rivers off the shores of Manhattan. One of the newspapers indignantly referred to the Police Commission as the "Commission for the General Dissemination of Garbage and Offal."¹² After much consultation, a compromise was reached whereby the garbage was to be deposited in the water only at ebb tide (garbage deposited at flood tide tended to end up on the beaches of Coney Island and Rockaway). Three years later, in 1880, the garbage scows were required to sail beyond a buoy placed in a bay off Coney Island. To prevent the scow operators from shortening their voyages, a police officer was assigned to each tow. Private individuals and businesses continued to use the harbor as a dumping ground, however, and the ever increasing mass of garbage from New York City soon required the garbage scows to go further out to sea. By 1887 a medical society committee lamented the injury to the harbor and "the notable defilement of our waters and the shores of our beautiful islands."¹³ The failure of the Board of Health to deal with the problem of the garbage scows is easily understandable in terms of the immensity of its task and the small number of its employees.

The health of school children was another area into which the Health Department occasionally ventured but rarely took action. Two of its inspectors made a sanitary survey of the schools in 1872-73 and found them to be in a deplorable condition. The report was passed on to the Board of Education which quietly pigeonholed it. Judging from descriptions of the schools, the pervasive corruption of the age did not leave the Board of Education untouched, and it is clear that the education officials had no desire

to have professional "do-gooders" from the Health Department snooping into their affairs. Added to this factor was the natural reluctance of any bureaucracy to surrender part of its authority. The *Medical Record* declared in 1877 that the Board of Education had defied all attempts by the health inspectors to examine schools on the grounds that it was capable of looking after its own affairs.¹⁴ Nonetheless, the Board of Health continued to assert its jurisdiction in this area. Periodically its health inspectors would visit the schools and report on conditions, but no effort was taken to enforce the existing sanitary regulations. With so many glaring sanitary and health problems desperately needing attention, the Board of Health was understandably reluctant to tangle with the Board of Education.

To add to the Health Department's problems, in the spring of 1878 a New York grand jury indicted the Board of Health for tolerating nuisances and for giving permits to rendering establishments. In his defense President Chandler claimed that all of the nuisances mentioned in the indictment had been either corrected or were in the process of correction. Chandler's assertions were borne out by the editor of *The Sanitarian* who a few months earlier had praised health officials for their persistent efforts to restrict slaughtering to certain specified areas. A newspaper correspondent who signed himself "Fair Play" also came to Chandler's defense, declaring that in spite of its reduced appropriation, small work force, and limited public support, the board had done a good job.¹⁵

Not all comments about the Health Department were so favorable. A "Citizens' Committee" accused the Health Department of tolerating a great many gross abuses. The editor of *The Sanitarian* declared, however, that the real trouble arose from the dumps where the garbage and manure was piled awaiting transportation out of the city. He also demanded to know why the Board of Health had done nothing about Hunter's Point, a notoriously filthy center for nuisance industries. A year later, 1879, the editor of the *Times*, while admitting that the board was taking a few slow steps, asserted that in view of the immensity of the task, a "little more audacity and peremptory authority is what is needed." In dealing with another aspect of the department's work,

supervision of the tenements, the AICP this same year made the identical point; the health authorities had ample powers, "they only need nerve to enforce the laws. . . ."¹⁶

The creation of a new Department of Street Cleaning in May 1881 marked the encroachment of politics into health affairs. For the previous nine years this work had been done under the supervision of the Police Department, but, as had been the case with every other system for handling street cleaning, it had not proved very successful. Technically the Board of Health had some voice in selecting the street commissioner, but since he controlled the hiring and firing of a great many employees and was subject to the corrupting influence of handing out contracts, it was not long before trouble developed.¹⁷ Ironically, the establishment of the new Street Cleaning Department was the result of a strong public demand for reform. As was always the case, the new broom temporarily swept the streets clean, but within a year or so filth, dirt, and debris were once again accumulating in the public thoroughfares.

In the meantime, the Health Department was struggling along on its meager appropriation. It asked for about \$250,000 for 1881, a sum by no means excessive in view of the demands of the growing city.¹⁸ The following year a leading member of the AICP spoke of its "inadequate staff," and Mayor Edson in his annual message in January 1882 pleaded for larger and better accommodations for the Health Department. The department's financial problems, however, moved into the background in May 1883, when a more serious situation arose. The Board of Aldermen met on May 9 and rejected Mayor Edson's renomination of Dr. Chandler as health commissioner. Despite a petition signed by 3,000 leading citizens, the aldermen refused to reconsider. The editor of the *Times* quoted one alderman as stating that Chandler had not been enough of a party man. The *New York Medical Journal* blamed much of the opposition to Chandler on the butchers who resented his having forbidden them to drive cattle through the streets. Dr. A. N. Bell, editor of *The Sanitarian*, pointed out that Dr. Chandler had taken a firm stand against the entrance of politics into the Health Department and thereby irritated the city aldermen.¹⁹ Although Chandler had not been the most forceful and effective of health commissioners, his departure symbolized

the emerging political influences which were being brought to bear on the Health Department. For the next four years the Health Department steadily lost ground.

With the beginning of President Chandler's tenure of office in 1873 the Health Department had entered a period during which it functioned fairly effectively, but in which it was constantly handicapped by a shortage of funds and personnel. Chandler was obviously a capable individual, but he was not aggressive enough to prevent public health from being relegated to a minor role. Confronted by strong vested interests, he was almost too reasonable an individual to put up the kind of fight his department needed. He sought to apply constant and gentle pressure rather than direct force. Although legal action was instituted against a great many individuals, the occasions when offenders were convicted and sentenced were exceedingly rare. Yet, considering the depressed state of the economy, the powerful vested interests, and the politicians who eyed the Health Department as a potential source of patronage, Dr. Chandler may have been just the man for the job. A lesser man could not have held his own, and a stronger personality might have united the opposition and thus brought on his own downfall. Altogether Dr. Chandler served as president for about ten years, 1873-83, and his removal from office signaled the advent of politicization.

The appointment of Chandler's successor caused a furor among the aldermen. Although the city administration was firmly Democratic, both the mayor and John Kelly, the political boss of Tammany, supported General Alexander Shaler, a Republican, for the position. Conscious of the relatively large amount of patronage at stake, the aldermen rebelled, but Kelly finally whipped them into line, and on June 13, 1883, they confirmed Shaler's appointment. According to one aldermen, Shaler obtained the appointment through a package deal, part of which involved making the mayor's son, Dr. Cyrus Edson, the chief sanitary inspector. The *Times*, which would normally have rejoiced at the selection of a Republican, cynically noted that Kelly's support for Shaler automatically made him suspect. Dr. A. N. Bell, a staunch public health reformer, praised Shaler highly. While regretting that a "mere mischance in political strife" had caused Dr. Chandler to lose office, Bell strongly approved of his successor.²⁰

General Shaler's administration brought no immediate changes, but, despite Dr. Bell's optimistic assessment, it appears fairly clear that a subtle deterioration in the handling of departmental affairs soon began. For example, early in July it was rumored that appointments to the summer medical corps were to be based on political influence rather than ability.²¹ The following year a number of administrative changes were made in the Health Department, one of which divided the Sanitary Bureau into seven divisions: Sanitary Inspection, Adulteration and Offensive Trades, Public Nuisances, Vaccination and Inspection, Care and Maintenance of Contagious Disease Hospitals, Plumbing and Ventilation, and Vital Statistics. *The Sanitarian*, in reporting the reorganization, declared that the chiefs of the several divisions were all able men. Despite *The Sanitarian's* sanguine view, the changes were not all to the good, since the net result was more chiefs and fewer Indians. In December 1883 the Board of Health protested a budgetary cut which reduced the number of sanitary inspectors from 17 to 10 and it urged the Board of Estimate to provide for at least 15 inspectors.²² These inspectors were the key personnel in enforcing the health laws, and the number in the field was already too small for the growing city.

As 1884 drew on, a rising tide of complaints was registered against General Shaler and the Health Department. When the newspapers began a campaign against the accumulating piles of manure, General Shaler did not help his cause. He informed a reporter from the *Herald* that there were differences of opinion as to the healthfulness of manure. The Health Department, he said, considered it inoffensive in winter, and for this reason had permitted the piles to accumulate. Two months later the department was accused of suppressing reports of the presence of contagious diseases.²³ In April 1885 the perennial charges that the Health Department was negligent in enforcing the Sanitary Code led to a conference of city officials in which it was agreed that henceforth the laws would be adhered to rigidly. Unfortunately, high-level policy statements are always easier to issue than to implement. The truth of this latter statement was borne out late the following May when a grand jury charged the Board of Health with permitting tenement house nuisances to exist for long periods without taking legal action and with failing to collect fines in those cases where

action had been initiated. Despite having won the right to collect \$50 fines from almost 300 offenders in the past year, the grand jury report asserted, the board had recovered only \$150.²⁴

Even more serious charges were made in November 1885 by James Gallatin, the president of the New York Sanitary Reform Association. In a letter addressed to the Board of Estimate and Apportionment he accused the Health Department of wastefulness and negligence. He opposed the Board of Health's request for 20 additional inspectors on the grounds that nothing was being done about the abuses uncovered by those inspectors already on the payroll. The present inspectors, he declared, were wasting their time by repeatedly inspecting nuisances which the board could have and should have corrected. He was outraged that the Health Department was allowing \$2,000 for paying the court charges incident to prosecuting guilty offenders. He was also shocked at the sum of \$12,200 allocated to the legal division of the Health Department, arguing that a young lawyer at \$1,200 a year could handle all the work.

Gallatin's main complaint was against the failure of the Health Department to enforce the laws. He asserted that delinquent property owners had little reason to comply with summonses in view of the long delays in instituting proceedings, in prosecuting cases, and in bringing them to a conclusion. Furthermore the department rarely instituted criminal proceedings but instead relied almost entirely on civil suits which involved a nominal penalty of only \$50. Even in these cases, the department seldom bothered to collect the fine. Irrespective of the disastrous impact upon the city's health, Gallatin was concerned with the effect of the department's negligence upon its able medical inspectors, asking: "With what spirit can an earnest man work if he feels that through the negligence, ignorance, or worse, of his superiors, so many inspections become mere matters of form, serving to swell the figures of the Department Reports, but barren of all useful results?"²⁵

Gallatin followed up his blast at the Health Department by appealing to the New York Academy of Medicine to use its influence on behalf of a more effective Health Department. The proposed \$75,000 reduction in the department's budget by the Board of Estimate and Apportionment he felt would seriously

impair its activities. He conceded that an intelligent and judicious administration of the department might effect some economies, but he was afraid that in actual practice its medical personnel, these "old and well tried members of the force," would bear the brunt of the move. Let the financial stringencies be met, Gallatin added, "by lopping off the holders of sinecures and by causing chronic cases of delinquent property owners to understand that they can no longer waste the time of the present painstaking inspectors by managing to require a half dozen or more inspections before they stir themselves to comply with the orders of the Board of Health."²⁶

In response to Gallatin's appeal, the academy sent two resolutions to the Board of Health. The first stated that the strength of the Department of Health depended "largely upon the presence therein of competent medical men," and the second warned that it would be false economy to dismiss "any of the competent and experienced physicians" or to reduce "their salaries below a fair and equitable rate."²⁷

When the Board of Estimate and Apportionment released its figures early in January 1886, the Health Department, which had asked for \$487,500, was given only \$319,800, an actual reduction of \$150,000 from the \$469,000 it had received in 1885. General Shaler warned that this drastic cut would cripple the Health Department. The action would eliminate the summer physicians and inspectors, force a reduction in the regular staff, and would necessitate a 12½ percent slash in all salaries. He also suggested that the sharp cut was the work of a member of the Board of Estimate who had been brought to court for refusing to eliminate nuisances in his tenements. James Gallatin then came to the defense of the Board of Estimate by citing instances of extravagance and mismanagement by the Health Department. As an example, he asserted that the municipal hospitals operated by the Health Department were costing an average of almost \$7 per patient per day compared with the 35 cents per day in the New York hospitals run by the federal government.²⁸

Although it was not mentioned at the time, it is clear that the reduction in the Health Department budget was a direct attack upon General Shaler. The growing criticism of his department and the suspicion of corruption seemed fully justified when on De-

cember 1, 1885, General Shaler was placed under arrest on charges of accepting a \$9,000 bribe.²⁹ The accusations arose from General Shaler's membership on the New York City Armory Board. One of that board's duties was the selection of regimental armory sites in the city, and because of General Shaler's military background, the other members on the board usually deferred to him. In 1884 Monmouth B. Wilson, an old friend, approached Shaler and made a deal whereby Shaler would recommend sites in which Wilson had an interest and Wilson, in return, would pay off a \$9,000 mortgage which Shaler owed on some property in New Jersey. Word of the arrangement apparently leaked, and in the fall of 1885 a select state Senate committee (the Gibbs Committee) began an investigation. Wilson at first denied any connection with Shaler, but when the committee handed down an indictment against him, Wilson decided to turn state's evidence.

The trial was held late in January 1886 and resulted in a hung jury, with ten jurors voting for conviction and two for acquittal. The *Times* excoriated one of the jurors for refusing to accept the evidence. While admitting that the case rested largely upon the testimony of one man, Wilson, the *Times* pointed out that the circumstances relating to the bank mortgages strongly corroborated his evidence.³⁰ The second trial proved to be a repetition of the first, except that on this occasion Shaler was defended by a battery of lawyers which included Elihu Root and John Graham, one of the chief defense lawyers in the Tweed trial. A number of his friends, including ex-Mayor Edson, were also on hand to testify on his behalf. Once again a hung jury ended the trial, although this time only four jurors voted for a conviction.³¹ The political climate in New York City at this time was not likely to encourage honesty in political officials. Shortly before General Shaler's second trial began in the middle of April, the district attorney brought indictments against nearly every member of the Board of Aldermen. Two of them were charged with receiving stolen silverware, and the rest were accused of accepting \$20,000 bribes in connection with the Broadway Surface Railway franchise.

Although there was a great outcry demanding that Shaler resign his public offices on the Board of Health and the Armory Board, he stoutly refused to do so. In June Mayor William R. Grace gave Shaler a chance to defend himself at a public hearing.

When Shaler refused to attend the hearing, Grace sent an order to Governor David B. Hill removing Shaler from his office as president of the Board of Health. In turn Governor Hill ordered a hearing on the case. Shaler's attorney, Elihu Root, argued on this occasion that since the bribery charge against his client did not relate to the Health Department, he could not be removed from office. Whatever the legal merits of this claim, it was not likely to have improved Shaler's public image. The governor deferred action by requesting both sides to supply him with briefs. No further step was taken until March 4, 1887, when Governor Hill officially signed Mayor Grace's order removing Shaler from office. According to the newspapers, the order was signed soon after the governor received word that the indictment against Shaler had been dismissed by the district attorney's office.³²

Late in 1886 the AICP, along with the commissioner of accounts, launched an investigation into the methods and operations of the Health Department. The evidence of negligence and inefficiency was so clear that the commissioner's report, the association hoped, would lead to a thorough reorganization of the department and a "wholesome change" in its methods of work. The AICP on its own part strongly urged that a single commissioner of health be substituted for the present board and suggested that the forthcoming session of the Legislature would be an opportune time for submitting such a proposal. Aside from his incompetence as an administrator, the widespread suspicion of General Shaler seriously hurt the Health Department. The *Times* was probably correct in December 1886 when it grumbled that the Board of Estimate was not willing to give the Health Department much money largely because of General Shaler's reputation.³³ Whether or not General Shaler was guilty of the specific charges made against him—and the weight of the evidence seems to bear them out—he was obviously no asset to the Health Department.

In one sense the Shaler affair may have been beneficial, since it did focus attention on the Health Department and lead to some needed changes. The first one was the appointment of an honest and able individual to succeed Shaler. Abram Hewitt, who had succeeded Mayor Grace, selected James C. Bayles of Orange, New Jersey, as the new president. Bayles, the editor of a trade journal, who was keenly interested in public health, was characterized by

the *New York Medical Journal* as a "public-spirited" man whose appointment had been "received with disfavor by the politicians."³⁴ Although the efforts of the AICP to replace the Board of Health with a single commissioner were unsuccessful, the renewed confidence in the Health Department resulting from Bayles's appointment was responsible for a state law authorizing the department to increase to 40 the number of sanitary inspectors.³⁵ The death of Dr. Woolsey Johnson, who had served as one of the two health commissioners for several years, enabled Mayor Hewitt in the late spring of 1887 to make his second excellent choice, that of Dr. Joseph D. Bryant. Bryant, a graduate of Bellevue Hospital Medical College, had served as a sanitary inspector for six years before resigning to accept a professorship in his old school. His appointment was hailed by both the newspapers and medical journals.

President Bayles, recognizing Dr. Bryant's professional knowledge and ability, gave him a free hand in selecting personnel and administering departmental affairs, and the complaints about political appointees which had plagued Shaler's administration were no longer heard. The editor of *The Sanitarian* commended Bryant for his choice of physicians for the summer corps, and the editor of the *Times* in July spoke of the "gratifying evidences of new vigor in the administration of the Health Department of this city."³⁶ Recognizing the need for full cooperation from the medical profession, on November 3, 1887, Dr. Bryant went before the New York Academy of Medicine and appealed for help. He summarized the many changes and the measures taken to streamline the administration, and he declared that the attempts to upgrade salaries and improve morale had brought a "renewed esprit de corps."

Dr. Bryant reported that the department employed 42 lay inspectors and 15 police sanitary inspectors. The police inspectors checked on the tenements, while the lay sanitary inspectors, all chosen for their "education, intelligence, or experience," handled citizens' complaints or problems too difficult for the police inspectors. The medical sanitary inspectors were detailed to the Division of Contagious Diseases and were responsible for visiting all reported cases. Dr. Bryant assured the members of the medical profession that no individual was arbitrarily removed to the con-

tagious disease hospital unless two expert diagnosticians had given their approval. He noted that the profession was still laggard in reporting both births and cases of contagious diseases, and he urged physicians to visit the excellent facilities at the department's contagious disease hospitals. The Willard Parker Hospital at the foot of East 16th Street was a brick institution which could easily handle 75 to 100 diphtheria or scarlet fever patients. In addition, the department operated a smallpox hospital and five small pavilion-type hospitals, each of which could treat 25 to 30 patients. To guard against smallpox, the department maintained a vaccinating corps of eight physicians. Although there was no law requiring vaccination, Dr. Bryant admitted that the vaccinators often used an "active semblance of authority" in the tenement districts.

Dr. Bryant then requested physicians to comply with the health regulations and to serve as unofficial health inspectors by reporting all potential dangers to community health. His final request was that the academy appoint a five-man conference committee to work with the Department of Health. Favorably impressed by his talk, the academy voted unanimously to establish a "Committee on Conference" to cooperate with the Health Department whenever requested to do so.³⁷

In the mayoral election in the fall of 1888, the *Daily Tribune* bitterly attacked both Mayor Hewitt and the Health Department. Although the mayor professes to have reorganized the Health Department, the *Tribune* editor declared, the number of smallpox deaths is increasing and over 600 children have died from diphtheria since July 1. The figures cited by the *Tribune* were probably correct, but in 1888 health officials and the medical profession at large could do little about epidemic flare-ups of these disorders. With the massive influx of deprived immigrants, only a compulsory vaccination program could have prevented occasional smallpox outbreaks, and diphtheria was still of unknown etiology. James Gallatin, one of the outstanding reformers of his day, came to Hewitt's defense. The two health commissioners appointed by Hewitt, he declared, had reorganized the Health Department, weeded out the incompetents, and created an effective health agency. Denouncing Mayor Hewitt's opponents, he appealed to the voters for their health's sake to vote for Hewitt: "You may be willing to trust unscrupulous politicians with the custody of your

purses, but do you intend to turn over to them the care of the health and lives of yourselves, your wives, and your little ones? God forbid!"³⁸

Apparently motivated by other factors, the electorate voted for Hugh J. Grant. Shortly after assuming office, Mayor Grant announced that he had appointed Charles George Wilson to be president of the Board of Health. The news of Wilson's appointment brought a mixed reception. The *Times*, which described Wilson as a Baltimore speculator responsible for heavy losses to investors, pronounced him a bad choice, a view, it claimed, which was also held by the New York Academy of Medicine. Dr. A. N. Bell, on the other hand, took a more sanguine view of the situation. While Dr. Bell, as a stout public health advocate, could usually be found on the side of the angels, he was the same editor who had been so cheerful about General Shaler's appointment. On this occasion Bell contented himself by describing Wilson as a business executive well qualified for the job and devoted most of his comment to praising the work of ex-President Bayles and Health Commissioner Joseph D. Bryant.³⁹

Despite the qualms of the *Times*, Wilson proved to be an able president. He allowed Health Commissioner Bryant to continue his major role in departmental affairs, and his administration was responsible for the appearance at the end of 1889 of the first annual report in 14 years. While the 1889 *Report* consisted largely of a short statistical survey and gave little general information about the department's activities, it inaugurated a series of annual reports which soon began to include a general summary of activities as a prelude to detailed surveys of divisional and bureau accomplishments. Other than the appointment of Wilson, the most significant personnel change in 1889 was the appointment of Dr. William A. Ewing as sanitary superintendent in place of Dr. Walter F. de Forrest Day.⁴⁰ The latter had done a satisfactory job considering the difficulties under which the department operated during his 13 years of employment, but Ewing represented the growing trend toward professionalization of the Health Department.

In the 14 years which had elapsed since the last annual report in 1875, health conditions in New York City had definitely improved. The general rise in the standard of living and the work of

the many voluntary health and welfare agencies were partly responsible, but the Health Department, particularly through the efforts of its summer corps, deserves major credit. During these years, the city's crude death rate dropped from around 27 to about 25, and infant mortality was reduced by at least one-sixth. Yet the year 1889 was only in the early transitional period of the bacteriological revolution and fatal epidemic diseases were still rampant. For example, with a population slightly in excess of 1,500,000, there were 1,242 deaths from scarlet fever, 1,686 from diphtheria, 647 from whooping cough, 470 from measles, and another 1,589 ascribed to "cholera infantum." Tuberculosis, the great killer disease of the day, swept away 5,179 New Yorkers. Within another 20 years, most of these disorders would be well under control. As the Health Department had continued and extended its activities, its annual budget had generally followed an upward trend, reflecting both the growth of the city and a recognition that public health was a municipal responsibility. The appropriation for 1889—\$413,600—was no princely sum, but it was adequate for its day.⁴¹

The year 1890 was a relatively uneventful one. A minor scandal developed in connection with milk inspection in which charges and countercharges of bribery were hurled. A matter which aroused far more concern in the department was the official United States census of 1890. The departmental statisticians felt that the official census figure was well below the true count, thus causing the department's mortality and morbidity figures to appear much higher than they should have been.⁴² The large transient population of New York and the multiplicity of tenement warrens made the task of the census takers a difficult one at best. The accuracy of population statistics, however, was of vital concern to the Health Department.

As of 1890 the Health Department was divided into two bureaus, the Sanitary Bureau and the Bureau of Records. The Sanitary Bureau, which was responsible for the major portion of the department's work, was subdivided into four divisions: Contagious Diseases, General and Special Sanitary Inspection, Plumbing and Ventilation, and Offensive Trades and Food Inspection. This bureau also had charge of the three hospitals run by the Board of Health: the Riverside Hospital, the Reception Hospital,

and Willard Parker Hospital. The evolution in administrative structure can be seen in the Division of Contagious Diseases. In 1890 the division partitioned the city into 11 districts, placing each one in the charge of a medical sanitary inspector. These physicians were responsible for general sanitary conditions in their districts and for inspecting the residences of all patients with infectious diseases. To facilitate the inspector's work, the division provided a corps of summer physicians, disinfection, ambulance, and vaccination squads. The eight-man vaccinating corps operated on a year-round basis, with extra physicians hired each spring and fall. One member of the corps was in charge of the department's vaccine laboratory at 326 East 44th Street, while the others were constantly out in the schools and tenement areas offering free vaccination. In 1890 the squad performed over 90,000 vaccinations.

The 12-man disinfection unit was responsible for disinfecting the premises in which individuals with communicable diseases had been found. One man was assigned to each of eight districts, and it was his duty to fumigate sick rooms with sulphur dioxide and to provide occupants of the premises with disinfectants and instructions as to their use. During summertime, two of the men were assigned to disinfect with bromine any excavations emitting offensive odors. One other duty of the disinfecting squad was to serve as an ambulance corps in removing sick poor to the hospitals for contagious diseases. A veterinarian was also employed by the division to visit slaughterhouses and prevent the slaughtering of sick animals.

The summer corps, a group of 40 to 50 physicians who worked in the tenement areas each summer, was financed by a special appropriation known as the Tenement House Fund which had been established by the State Legislature in 1879. On June 30, 1890, for example, some 48 physicians were given a two-month appointment, and each was assigned to a special district. These physicians worked through July and August, visiting each house in their district, prescribing for the sick, giving advice on health and sanitation, distributing pamphlets on the care of infants and children, and helping in any way they could. Aside from providing immediate and practical help, these men were tangible evidence of the Health Department's interest in the poor, and they

did much to win public support for the department's health measures. While other factors played a role, the summer corps deserves a large share of the credit for reducing the mortality of children under five years from 48.35 percent of the total deaths in 1875 to 40.66 percent in 1890.⁴³

Paralleling the department's interest in small children was a growing recognition of the need to provide some type of health care for the school-age group. The real beginnings of an effective school health program were still in the future, but a start was made with the appointment in 1886 of an inspector of schools and institutions for children. His primary duty was to examine school buildings for unsanitary conditions, but he was also responsible for investigating outbreaks of contagious diseases and for seeing to the isolation of sick children. During the summertime the inspector worked with the summer corps. An ordinance this same year required that all reports of contagious disease cases were to be forwarded daily to the Board of Education and to the district medical inspector. The latter was expected to keep them under surveillance and report on the final disposition. While these reports were often lost in the bureaucratic mazes of both departments, the ordinance at least was a step in the right direction.

The second major division within the Sanitary Bureau in 1890 was the Division of General Sanitary Inspection. For inspection purposes, the city was partitioned into 25 districts and one inspector was assigned to each. The district inspector was expected to know his own section thoroughly and to be particularly watchful of those areas where violations of the Sanitary Code were most likely to occur.⁴⁴ By this date the problem of food adulteration was beginning to occupy the attention of the Health Department. Its chief efforts, however, were devoted to securing a good milk supply.

The year 1891 was also a quiet one for the Health Department. A minor reorganization affected the Division of Plumbing and Ventilation and the Division of Contagious Diseases, but otherwise the department continued with its routine activities. The summer corps, under the direction of Dr. Moreau Morris, visited 39,000 tenements, saw 335,000 families, and treated 19,777 patients.⁴⁵ It was precisely this type of activity, as noted earlier, which had been winning public respect for the Health Department, and at

the same time had made politicians somewhat reluctant to interfere with its activities. In general the newspapers and medical journals seem to have been satisfied with the department's work, or at least had no major complaints. While the Health Department was gradually building up its administrative machinery and professionalizing its staff, fundamental discoveries in science and technology were paving the way for new and revolutionary approaches to public health. Almost overnight scientists in laboratories were to supplant sanitary engineers as the leading figures in public health. As a consequence of this revolutionary change, the New York City Health Department, within the next few years, was to emerge as the preeminent American center for bacteriological research and for its application to public health problems.

Notes to Chapter 4

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2. *Ann. Rep., Bd. of Health, 1874-75*, pp. 111-17.
3. *Ibid.*, pp. 123-27, 142-48.
4. *President Chandler and the New York City Health Department*, pp. 10-11; *Docs. of Bd. of Aldermen*, no. 1 (January 3, 1876), part 1, pp. 44-45.
5. *President Chandler and the New York City Health Department*, pp. 11-12; *Leslie's Illustrated*, June 29, 1882.
6. A.I.C.P., *Thirty-Ninth Annual Report, 1882*, pp. 7-8.
7. *Sanitarian*, IV (1876), 60-62, 85-86; *President Chandler and the New York City Health Department*, p. 15.
8. *Sanitarian*, VI (1878), 42; *Leslie's Illustrated*, July 12, 1879.
9. A.I.C.P., *Thirty-Fifth Annual Report, 1878*, pp. 35-36.
10. *Ibid.*, pp. 37-38; *Docs. of Bd. of Aldermen*, no. 1 (January 7, 1878), pp. 3-4.
11. *Times*, April 26, May 16, June 4, August 2, 1876; *New York World*, April 26, 1876 (hereinafter cited as *World*).
12. *Times*, May 22, 1877.
13. *Ibid.*, August 23, 1877; July 2, 1880; December 22, 1885; *Sanitarian*, XVIII (1887), 141.
14. *Sanitarian*, VI (1878), 5-6; *Medical Record*, XII (1877), 137-38.
15. *Medical Record*, XIII (1878), 432, 460; *Sanitarian*, V (1877), 320; *Times*, May 25, 27, 1878; *Tribune*, May 25, June 1, 1878.
16. *Sanitarian*, VI (1878), 283, 321-22; *Times*, July 20, 1879; A.I.C.P., *Thirty-Sixth Annual Report, 1879*, p. 51.
17. N.Y. *State Laws*, 104th sess., chap. 367, May 26, 1881, pp. 491-95.

18. Board of Aldermen, *Proceedings*, CLX (October 1880-January 3, 1881), pp. 35-40 (hereinafter cited as Bd. of Ald., *Proceedings*).
19. *Sanitarian*, X (1882), 606; XI (1883), 330; Isaac N. Stokes, *The Iconography of Manhattan Island* (New York, 1915-28), vol. V, p. 1980; *Times*, May 10, 17, 1883; *Herald*, May 10, 18, 29, June 6, 13, 15-16, 1883; *N.Y. Med. Jnl.*, XXXVII (1883), 547-48.
20. *Times*, June 7, 8, 14, 1883; *Sanitarian*, XI (1883), 428-29.
21. *Times*, July 8, 1883.
22. *Sanitarian*, XII (1884), 166-67; B. of H., Min., December 29, 1883, p. 380; *N.Y. Med. Jnl.*, XXXIX (1884), 19.
23. *Times*, November 30, 1884; January 22, 23, 1885; *Herald*, November 29, December 2, 1884; January 21, May 15, 1885.
24. *Times*, April 12, May 30, 1885.
25. James Gallatin, *A Protest Against Certain Proposed Expenditures of the Health Department for the Year 1886* (n.p., November 1885), pp. 1-8 [New York Historical Society, pamphlet].
26. N.Y.A.M., Minutes, November 19, 1885, pp. 70-71.
27. *Ibid.*, p. 71.
28. *Times*, January 4-5, 1886.
29. *Herald*, December 1, 1885; *Times*, December 1, 1885.
30. *Times*, January 26-29, 1886.
31. *Herald*, January 26, 1886-March 5, 1887; see also *Times*, April 3, 7, 14, 16-17, 20, 22, 1886.
32. *Times*, June 8, 20, July 2, 1886; March 5, 1887; *Herald*, June 8, 1886, March 5, 1887; *N.Y. Med. Jnl.*, XLIV (1886), 46-47; XLV (1887), 299.
33. A.I.C.P., *Forty-Third Annual Report, 1886*, p. 10; *Times*, December 21, 1886.
34. *N.Y. Med. Jnl.*, XLV (1887), 325.
35. James Gallatin, *Memorandum Concerning "An Act in Regard to the Health Department of the City of New York," as Amended* (n.p., February 23, 1887), pp. 1-2 [New York Historical Society, pamphlet]; *N.Y. Med. Jnl.*, XLV (1887), 132; *N.Y. State Laws*, 110th sess., chap. 84, March 25, 1887, pp. 94-101; chap. 489, June 1, 1887, p. 620.
36. *Sanitarian*, XIX (1887), 78; *Times*, July 12, 1887.
37. N.Y.A.M., Minutes, November 3, 1887, p. 135; *Sanitarian*, XIX (1887), 531-41.
38. *Daily Tribune*, October 31, 1888; *Times*, November 3, 1888.
39. *Times*, November 7, 1888; May 13, 16, June 27, 1889; *Herald*, November 7, 1888; May 18, June 27, 1889; *Sanitarian*, XXII (1889), 546-47
40. *Sanitarian*, XXIII (1889), 163.
41. *Ann. Rep., Bd. of Health, 1889*, pp. 30-32, 73.
42. *Daily Tribune*, May 21, 1890; *Times*, September 10, 1890.
43. *Ann. Rep., Bd. of Health, 1890*, pp. 11, 14-17, 29, 34-37, 41, 43-46.
44. *Ibid.*, p. 17.
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The Bacteriological Revolution

It is not too much to say that the work performed by Biggs and Prudden and Park in New York in these early years not only established American public health forever upon the firm basis of laboratory research, but exercised a profound influence on the development of the whole science of medicine in the United States. [Charles-Edward Amory Winslow, *The Contributions of Hermann Biggs to Public Health* (New York, 1928), pp. 8-9.]

For centuries medicine had operated from a base consisting of a mixture of theories, empirical discoveries, and folk remedies. On the face of it, the theories were largely attempts to rationalize traditional practices of bleeding, purging, vomiting, and others, a good part of which defied all rationalization. For the past 300 years, however, knowledge had been accumulating in the basic sciences, particularly in those areas related to medicine. To the average practitioner, concerned with the immediate problem of sick and dying patients, abstract discoveries in such esoteric areas as physiology, biology, and chemistry seemed of little relevance, but, as the nineteenth century drew on, the accumulation of knowledge finally reached a point where its application to medicine became self-evident. The discovery of specific pathogenic organisms enabled public health workers to understand for the first time precisely what they were fighting. Already they had made great strides in community health through the sanitary movement, a movement based on the empirical observation that dirt and crowding were invariably associated with communicable diseases. By the 1890s it became clear why this correlation existed, and why it was, too, that diseases did not restrict themselves to slum dwellers. For the next generation, the bacteriological laboratories were to be the chief instruments in bringing the recurrent epidemic and endemic disorders under control. They made possible quick and accurate diagnoses, provided serums for the sick, and they rapidly devised the means for preventing many of the great killer diseases.

New York, by virtue of its preeminent position as a port of entry, was America's leading city. Its Health Department, despite having suffered a slight eclipse in the 1880s, was still one of the best health agencies in the United States. It is not surprising, then, that the department should be among the first to use the new scientific techniques. By a fortunate happenstance, several first-rate pioneer scientists were available, and to President Wilson's credit, he backed Dr. Bryant in choosing the two most able men to head the new laboratory facilities, Dr. Hermann M. Biggs as director and Dr. William H. Park as assistant.

Rather interestingly, this new development came at a time when Wilson was under attack from the newspapers and medical journals for supposedly handing over the Health Department to Tammany Hall. In April 1892 a number of personnel changes in the department were announced. Dr. Ewing was replaced by Dr. Cyrus Edson, a new registrar of records was appointed, and Colonel W. P. Prentice, who had served as attorney to the Board of Health for 19 years, was replaced by Henry Steinert, a man described by the *Daily Tribune* as a Tammany politician. These changes were explained on the grounds that for the first time in its history the Board of Health was composed entirely of Democrats, three of whom were Tammany men. According to the *Times*, Dr. Ewing was told by President Wilson that he must resign immediately or else his (Wilson's) resignation would "be demanded by the powers that be." Ewing also implied that his own appointment originally had been made to stop political criticism of Wilson's selection as president.¹

Whether or not these reports were true, President Wilson obviously made some political concessions. Late in June Drs. A. Jacobi and T. Mitchell Prudden resigned as consultants to the Board of Health, with Dr. Jacobi declaring that the board had lost its independence and become a "refuge for political place hunters." A few days later Dr. Stephen Smith resigned from the Consulting Medical Board of the Willard Parker Hospital, but it is not clear whether his decision was influenced by the political events of the day. In speculating upon the rash of resignations affecting the Health Department, the *Times* warned: "The Board of Health cannot be used as a political machine in the service of

Tammany Hall, or managed under the sway or dictation of politicians, without driving from its assistance all physicians of high standing in the community." The *Daily Tribune* stated on July 7 that virtually all the doctors on the board's consulting committee had resigned since Tammany had taken control of the Health Department. President Wilson did nothing to assuage the feelings of the newspaper editors nor the members of the New York Academy of Medicine when he observed of the physicians who had resigned: "We passed through the typhus and smallpox epidemics without calling on them for assistance, and can do very well without them."²

In all of these exchanges, it is difficult to know precisely where the truth lies. While Dr. Edson may have been the politicians' choice—his father was a former mayor—he was obviously a capable individual. The *Times* itself had spoken admiringly of his work as head of the Bureau of Contagious Diseases, declaring that "no process of law can prevent him from ordering" contagious disease cases to the municipal isolation hospitals. Moreover, when Edson became health commissioner a year later, Dr. A. N. Bell praised him highly, and asserted that his appointment "cannot fail to give great satisfaction to the public and the profession."³

Dr. Bell also commended Dr. R. S. Tracy and other high-level appointees in the department. While the furor over the new appointments was going on, in July the editor of the *Medical Record* drew Mr. Wilson's ire by misusing statistics from the department's *Annual Report* for 1891 to accuse the Board of Health of indifference and its head of being "a mere politician." Wilson, in an open letter, clearly demonstrated the editor's complete misinterpretation of the statistical data. In publishing Wilson's letter, the editor admitted his errors and grudgingly conceded that President Wilson had shown his "special fitness for dealing with sanitary statistics, whether he is considered a politician or not."⁴

The concessions which Wilson made may have been justified. It is well to bear in mind that a health commissioner necessarily serves as a liaison between the professionals in his department and the politicians who allocate appropriations. While an occasional forceful individual with a flair for public relations can maintain a cavalier attitude, a good commissioner must first see that his

agency gets an adequate appropriation. A mediocre agency with ample funds can accomplish far more than an efficient one short of facilities and woefully understaffed.

There are still other possibilities to explain Wilson's poor relationship with the New York physicians. The American medical profession was just beginning to achieve professional status, and it was desperately fighting to improve its public image. Speaker after speaker in addressing the New York Academy of Medicine in the second half of the nineteenth century deplored the fact that the Health Department in New York City, as was true elsewhere, was still run largely by laymen. What particularly incensed physicians was the state law requiring the president of the Board of Health to be a layman. In consequence, President Wilson may well have symbolized the frustration of the medical profession. One other factor deserves mention: precisely at a time when the income of physicians was beginning to rise, the emergence of professionalized public health workers dedicated to raising the general level of medical care seemed to present a threat to private practice. And if there is any lesson to be learned from history, nothing is more outrageous to man's moral sensitivities than threatening his pocketbook.

To return to Dr. Biggs and the bacteriological laboratory: the story goes back to the fall of 1887 when Drs. Hermann M. Biggs and T. Mitchell Prudden managed to isolate cholera vibrio from steerage passengers on an immigrant vessel. This notable accomplishment, the first time that bacteriology had been put to practical use in connection with cholera since Koch's work in 1884, had convinced Biggs and Prudden of the possibilities inherent in this new field.⁵ It was not, however, until the summer of 1892 that they were able to gain support from the Health Department. The threat of Asiatic cholera, the same scourge which provided the final impetus to pushing the Metropolitan Health Act through the New York Legislature in 1866, once again served a useful purpose by enabling Commissioner Bryant to carry out the program which Biggs had been urging since 1889. On September 9, 1892, the Board of Health created the Division of Pathology, Bacteriology, and Disinfection, and four days later placed it under the charge of Dr. Biggs. In addition to the former disinfection duties, the new division was to study the efficacy of disinfectants, devise

new methods of disinfection, and conduct research in bacteriology.⁶ Immediately upon the formation of his division, Dr. Biggs began subjecting each suspected case of cholera to a bacteriological examination and was able to identify cholera vibrio in 11 cases. As C-E. A. Winslow has pointed out, New York City was not first in developing a bacteriological laboratory. Laboratories had been established in Lawrence, Massachusetts, and Ann Arbor, Michigan, in 1887 and at Providence, Rhode Island, in 1888. These laboratories had been devoted primarily to water and food analyses. New York's claim to fame lies in the establishment of the first bacteriological laboratory used for the routine diagnosis of disease.⁷

The cholera epidemic which had precipitated the formation of the bacteriological laboratory had swept first through Persia and Russia. When it appeared in Hamburg in the spring of 1892, it created consternation in every major port in the Western world. The city of New York swung into action immediately. A group of public-spirited men put up almost \$200,000 as an emergency fund; the Chamber of Commerce appointed an advisory committee; special funds were appropriated for the Health Department; and Commissioner Bryant undertook a crash sanitation program. In connection with the latter, the commissioner of public works began a thorough inspection of the Croton watershed and the reservoirs; the streets, vacant lots, and other public places were thoroughly cleaned; house-to-house inspections were made in the tenement districts; and every branch of the city administration was alerted.

To facilitate the Health Department's work, the summer corps of 50 physicians, which was normally employed only in July and August, was kept on the payroll until the danger was averted at the end of November. On August 30 a circular entitled, "Prevention of Cholera Easier than Cure," was published in six languages and distributed widely. Two days later the department, to supplement its own limited hospital facilities, accepted the proffered St. John's "Floating Hospital," a vessel capable of handling 150 patients. The first ship with cholera aboard arrived on September 1 and the first cholera case in New York occurred on September 5. Due largely to the excellent work of the Health Department and the health officer, only ten cases were reported

before the crisis passed. The knowledge that the fatality rate among these ten cases had been 90 percent only accentuated the feeling of relief which swept through the city when the danger was over.⁸

Early in February 1893 a group of newly arrived Russian Jews were responsible for introducing what was to be New York's last serious outbreak of typhus. Within two months there were 189 cases and 30 deaths, and by the time the epidemic was over, the number of cases had climbed to 241. In March, as the number of hospital admissions rose, the Board of Health rushed construction of additional pavilions for typhus patients on North Brother Island. During the outbreak 13 of the Health Department's employees were infected and 4 died. This personnel loss, by emphasizing the dangers confronting Health Department employees, was directly responsible for the inauguration of a pension system the following year.⁹

While struggling with typhus and cholera, the Health Department was compelled to take on another old adversary, smallpox. In fighting this pestilence, the work of the vaccinating corps was hindered by the absence of a compulsory vaccination law, for many immigrants refused to vaccinate their children. The outbreak in 1892, which resulted in 378 cases and 81 deaths, brought an intensive vaccination campaign during which almost 140,000 people were vaccinated.¹⁰

In both the typhus and smallpox outbreaks the Health Department acted with energy and speed. While it did not, as was the case with cholera, keep the disease at bay, it did at least hold the outbreaks to minor proportions. The prompt and successful reaction of the department to these dangers further enhanced its public image. At the end of 1893 Sanitary Superintendent Charles F. Roberts spoke of the "marked and most gratifying increase in the attention paid to and the interest taken in health matters by the citizens of New York." The Board of Health's wise cooperation with the newspapers had ensured the support of the press in the health education campaigns, and private individuals were now asking the department to make sanitary inspections, whereas formerly the inspectors had been compelled to seek out violations.¹¹

The auspicious events of 1892 were but a prelude to further

rapid strides by the Health Department. In March of the following year the department lost one of its most able commissioners, Dr. Joseph Bryant, who resigned his office as health commissioner to become the personal physician to President Grover Cleveland. Fortunately, Bryant had built a fine professional staff, and the sound progressive work he had started continued unabated. His successor, Dr. Cyrus Edson, had spent many years in the Health Department, and his appointment was greeted with general approval.¹²

The most significant events in the department during 1893 were the concentrated drives against two of the great killer disorders, diphtheria and tuberculosis. In noting that the number of diphtheria deaths in 1893 had increased by over 500 from the previous year, President Wilson drew attention to what seemed to be a six-year cycle, for diphtheria deaths had peaked in 1875, 1881, 1887, and again in 1893. Whatever the reason for the sharp rise in 1893, it enabled Dr. Biggs to institute new laboratory procedures. He reported to the Board of Health that Dr. William H. Park had been making bacteriological examinations of cultures taken from the throats of patients at the Willard Parker Hospital for some time and had discovered that up to 50 percent of the cases were pseudo or false diphtheria. Dr. Biggs cannily pointed out that a systematic bacteriological examination of suspected cases would not only furnish a positive diagnosis but would also save money unnecessarily expended under the old system for inspection and disinfection. Acting upon Dr. Biggs's suggestion, in May the board authorized bacteriological examinations in all diphtheria cases, and on Biggs's further recommendation, placed Dr. Park in charge of the work with the title of "bacteriological diagnostician and inspector of diphtheria." In the succeeding months, from May 4 to the end of the year, 2,603 cultures were examined, leading to 1,801 positive diagnoses, 613 diagnoses of pseudo diphtheria, and 209 undetermined. To facilitate the examinations and to encourage private physicians to take advantage of the service, some 40 pharmacies were established as depots for the diphtheria culture kits.¹³

While Dr. Biggs was inaugurating his diphtheria program, he was pushing for action on yet another front. Biggs had long been concerned with the ravages of tuberculosis, consistently a top-

ranking cause of death in every major city. In 1889, he, Dr. Prudden, and Dr. Alfred Loomis, in their capacity as consulting pathologists to the Board of Health, were asked by Commissioner Bryant to investigate the subject of tuberculosis. The resulting "Report on the Prevention of Pulmonary Tuberculosis" is a classic study of the disease. The three authors clearly stated that the disorder was communicable and preventable. The dissemination of knowledge in regard to the dangers from human contact, and the disinfection of premises occupied by tuberculous patients were urged. Recognizing that tuberculous cows were a source of infection, they recommended the inspection of cattle. When Commissioner Bryant sounded out the medical profession about these recommendations, he found them "distinctly hostile to any vigorous action" along these lines. Nonetheless, in July 1889 the Board of Health issued a circular printed in several languages entitled, "Rules to Be Observed for the Prevention and Spread of Consumption," the first popular leaflet ever issued on the subject.¹⁴

No further action was taken until 1893 when, at the board's request, Dr. Biggs submitted a second report on tuberculosis late in November. After pointing out that the disorder had caused more than 6,000 deaths in 1892, Biggs wrote that the time has now arrived "when it becomes the duty of all sanitary authorities to assume a more aggressive attitude toward this, the most widely prevalent and fatal disease to which the human race is subject. . . ." He recommended a systematic campaign of public education, the reporting of cases by public institutions, the assignment of special inspectors to investigate the disease, routine bacteriological examinations for diagnostic purposes, and the provision of proper hospital facilities for tuberculous patients. The duties of the special inspectors were to include the responsibility for special disinfection measures and the education of affected families in the control and management of the disease. As a concession to the conservatism of the medical profession, Dr. Biggs merely suggested that private physicians be requested to report any cases coming under their care.¹⁵

The Board of Health accepted the Biggs report virtually *in toto* on December 13, 1893, and immediately began to implement the proposals. A circular, "Information for Consumptives and Those Living with Them," was printed in English, German, Ital-

ian, and Hebrew and sent to every tenement in the city. Stressing its pioneering work in tuberculosis control, the Health Department appealed to private physicians for cooperation in educating the public.¹⁶ The appeal was not very successful.

The concentrated drive to combat diphtheria and tuberculosis did not prevent the Health Department from steadily improving the quality of its services in all areas. As a result of better cooperation from owners and tenants, the sanitary inspectors were now removing more nuisances, and bringing more violators into court. Improvement in the perennially inaccurate birth records was obtained by requiring the sanitary police to ask about births during their house-to-house inspections. These reports were then checked against the registrar's records, and in cases where the physicians had been negligent, legal proceedings were instituted. Within six months after this procedure was established, the number of reported births increased by over 5,000. Despite the improvement, the year's count was thought to be an estimated 7,000 below the actual figure.¹⁷

By 1894 Drs. Biggs, Prudden, and Park were rapidly expanding their bacteriological work. At their request the Board of Health issued an order in January notifying physicians that diphtheria cases could not be released until a bacteriological examination showed negative results. Although the order outraged many physicians, its implication, that a relatively healthy individual could serve as a carrier for diphtheria, was one which had profound significance for the control of all communicable diseases. As Winslow points out, this demonstration of the carrier state by the New York City laboratory was a major contribution in itself. To relieve Dr. Biggs of part of his routine activities, the disinfection corps was transferred to the Division of Contagious Diseases. As director of the bacteriological laboratory, however, he still retained control of the methods of disinfection.¹⁸

Although many private practitioners had been dubious about the new laboratory technique for diagnosing diphtheria, an increasing number of them began taking advantage of the service. The resultant rapid expansion of the culture stations increased the laboratory work. In October the laboratory moved from its two small crowded rooms at No. 42 Bleecker Street into new quarters in the Criminal Court Building. Meanwhile Dr. Biggs, attempting

to keep up with the latest developments, was visiting research centers in Europe. When he learned of Émile Roux's technique for producing large quantities of diphtheria antitoxin in horses, Biggs immediately cabled Dr. Park to start work on a similar project. Health Commissioner Edson promptly backed up the project by asking for a substantial city appropriation. Dr. Biggs was so determined to get the project underway that when he discovered municipal funds would not be available until January he used his personal resources to buy horses and laboratory equipment.¹⁹

Thanks to the good relations between the Health Department and the newspapers, in December the *New York Herald* initiated a drive to secure additional money for the project by contributing \$1,000. The Health Department happily agreed to cooperate, and the production of antitoxin moved rapidly ahead. In the meantime the Board of Estimate and Apportionment approved the department's request for \$30,500. Altogether the *New York Herald* Antitoxin Fund produced \$7,496.82, a considerable sum in those days, and one which greatly speeded up the work. Supplementing Dr. Biggs's effort, this fund made it possible to administer the first serum to two cases in the Willard Parker Hospital on January 1, 1895. In the succeeding months the production of antitoxin steadily increased and its quality improved. In April the department began giving it to those patients unable to pay. Shortly thereafter production reached a point where the serum was placed on sale at the culture stations, and a circular was issued notifying all physicians of its availability. In October it was offered free of charge to physicians for cases where payment would work a hardship on the patient. In return, the physicians were asked to fill out a form giving full information about the case to the Health Department.²⁰

So rapidly was the work of Dr. Biggs's division expanding that within less than a year it had outgrown the facilities in the Criminal Court Building. In February 1895 the staff was increased by the addition of an assistant pathologist, an assistant chemist, four assistant bacteriologists, and several laboratory assistants. With the cramped laboratory quarters literally bursting at the seams, in October 1895 the laboratory was divided into two sections: the hospital laboratory and the diagnosis laboratory. The former was established in the upper stories of the disinfecting station at the

foot of East 16th Street and was devoted to the production of antitoxins and other specialized work. The diagnostic laboratory, which remained in the Criminal Court Building, was used for routine diagnosis in connection with diphtheria and tuberculosis.²¹

When the Health Department first established a vaccine laboratory in 1874 and started large-scale production of this smallpox preventative, it had gained the right to sell its surplus vaccine and use the money for the laboratory. In March 1895 Dr. Biggs and his associates were able to amend the original law to include diphtheria antitoxin and other biologicals.²² As the work of the New York City laboratory gained national and international fame, the income derived from the sale of biologicals became a significant factor in assuring ample funds for continued research and experimental work.

Despite the huge success of the diphtheria program, it still encountered criticism. In April 1894 Dr. Biggs read a paper in which he cited a study of 164 hospital cases of diphtheria in which the case fatality rate was 32 percent before the use of antitoxin and 27 percent afterward. Parenthetically, Dr. Haven Emerson later pointed out that in the early days the dosage of antitoxin was often too small to be effective. In any event, Dr. Joseph E. Winters, a leading New York medical man and a forceful personality, publicly denounced the use of antitoxin and argued that it was positively harmful. In May 1895 he presented his thesis in a debate with Dr. W. J. Brannan before the New York Academy of Medicine. Fortunately, by this time evidence of the success of diphtheria antitoxin, both as a cure and as a preventative, was rapidly accumulating, and Dr. Winters' views were rejected by the majority of his colleagues.²³

Having demonstrated the therapeutic value of diphtheria antitoxin, Biggs next proved its usefulness as a preventative. An outbreak in the New York Infant Asylum in January and February of 1895 gave him a chance to test his hypothesis. Diphtheria antitoxin was given to all the children, and, to Biggs's delight, the epidemic was halted.²⁴ Thus, by the end of 1895 the value of diphtheria antitoxin was clearly established; large-scale production was underway; the laboratories were firmly established as an integral part of the Health Department; and New York City had shown its leadership by introducing scientific techniques into pub-

lic health work. A steady stream of medical researchers and public health workers were visiting the department's laboratories, and requests for vaccine matter and diphtheria antitoxin were coming from all parts of the country.

The following years saw the Division of Laboratories steadily expanding. In 1896 six additional bacteriologists and two more laboratory attendants were added to the staff. Through constant experimentation and by refining existing processes, the quantity and quality of diphtheria antitoxin was improved and production costs reduced. Whereas in January 1895 the original cost had been around 80 cents per 100 units, by the end of 1896 the cost was down to 10 cents per 100 units. Even more important was the drastic reduction in the case fatality rate for diphtheria. The introduction of more effective antitoxin and better methods of administration reduced the mortality rate by 50 percent within a space of six months, and by the end of 1897 the Health Department was well on its way to controlling diphtheria.²⁵

While the campaign against tuberculosis did not bring the immediate and dramatic results of the diphtheria drive, remarkable progress was made. As mentioned earlier, in December 1893 the Health Department had accepted all of Dr. Biggs's recommendations with respect to tuberculosis. Starting on March 1, 1894, a systematic record was made of the cases of tuberculosis reported by institutions and private physicians. In addition, the register was supplemented by a listing of all deaths from the disorder. These records were maintained in card indices, one by name and another by street. Different colored slips were used to differentiate between active cases and deaths. To make the register more valuable, a series of detailed maps showed the precise location of all reported deaths and active cases.

The usefulness of the department's registration system was impaired by the failure of private physicians to report their cases. These same physicians also made it difficult to get an accurate record of deaths from tuberculosis. In this instance they may have been influenced by their patients, since many life insurance companies inserted clauses in their policies negating them in the event of death by tuberculosis. One company operating largely in the New York area issued almost 400,000 policies of this type. Under these circumstances, patients put considerable pressure upon

their physicians to attribute death to some other type of respiratory disorder. The physicians, in turn, recognized that payment of their bills was often dependent upon the deceased's insurance.²⁶

Throughout 1895-96 the Health Department continued to gather statistical evidence on tuberculosis and to push its educational campaign among both laymen and physicians. A measure of its success is found in the steady increase in the number of cases reported. In 1894 institutions reported 3,985 cases and physicians recorded 278. In the same period, the daily average of sputum specimens examined by the laboratory made even larger gains, jumping from 1.7 in 1894 to 5.1 in 1896. In January 1896 Drs. Biggs and Prudden submitted a memorandum on the danger from expectoration in public places which led the Board of Health to pass an antispitting ordinance the following May. This same year a systematic examination of all milk cows within the city limits was undertaken. The results of this survey led Mayor Strong, prompted by the Health Department, to call for the slaughter of all animals suffering from tuberculosis.²⁷

The department was gradually moving toward making tuberculosis a reportable disease, when a study by Dr. Arthur R. Guerard, an assistant bacteriologist, showed there was need for immediate action. The mapping of tuberculosis in the city had already demonstrated a heavy grouping in the fourth and sixth wards. Illustrating his findings with detailed maps and statistical charts, Dr. Guerard graphically depicted the concentration of cases on certain streets and in specific buildings. Tuberculosis in the fourth ward, which had the largest number of cases in the city, was confined to 21 streets, and, even more significantly, four-fifths of the cases in the ward were found in 9 streets. Moreover, the disease was centered in old, dilapidated, dirty, and crowded tenements. Having demonstrated that tuberculosis was a communicable disorder, Dr. Guerard pointed out that proper treatment, isolation of cases, and adequate disinfection measures could bring it under control. Foreshadowing an even more decisive step, in its *Annual Report* for 1896 the Board of Health announced that the time was rapidly approaching when stronger measures would have to be taken to combat the disease.²⁸

Although the board had gone to some lengths to placate the medical profession, physicians generally were resentful of what

they considered to be an interference with the physician-patient relationship. Consequently when the board, at the instigation of Dr. Biggs and his cohorts in the laboratories, passed an ordinance on January 19, 1897, declaring pulmonary tuberculosis an infectious and communicable disease and requiring physicians to report all cases, the action required a great deal of courage. Almost without exception, the medical societies and journals denounced the decision. The editor of the *Medical Record* conceded that tuberculosis may be contagious "in a very limited degree," but called the ordinance "dictatorial and defiantly compulsory." The medical board of a city dispensary declared there was considerable doubt about the communicability of the disease and that in any case physicians could handle tuberculosis without the advice of the Board of Health. The Medical Society of the County of New York unanimously resolved that the board's edict was "unnecessary, inexpedient, and unwise." The New York Academy of Medicine joined in the general condemnation and urged a delay in the enforcement of the new regulation. According to Winslow, only the influence of two of Dr. Biggs's friends on the committee prevented an even stronger condemnation. Failing to cow the Board of Health, the medical societies turned to the State Legislature in an attempt to strip the board of its powers. For the next two years Dr. Biggs spent much of his time in Albany successfully blocking these attempts. It was not until 1900 that the New York medical profession finally recognized the wisdom of the Health Department's policy.²⁹

In addition to its strenuous efforts to combat diphtheria and tuberculosis, the Division of Pathology, Bacteriology, and Disinfection was rapidly expanding into other areas. The excellent work of the vaccination squad during the smallpox outbreak in 1892 has already been detailed. The next three years saw a number of smallpox epidemics, particularly among the Italian immigrants. Altogether 425 cases of smallpox were reported in 1893, 752 in 1894, and 40 in 1895. Throughout this period the case fatality rate consistently ran almost 20 percent.³⁰ Early in 1895 the production of vaccine virus was assigned to Dr. Biggs's division. Immediately he and his assistants began a thorough investigation into the making of vaccine, including visits to the best laboratories in Europe. By the end of the year Dr. Biggs had formulated plans

for new and well-equipped facilities, and in 1896 began production of a glycerinated vaccine pulp under a strictly controlled process. At the same time \$50,000 was appropriated to build a new vaccine laboratory and ambulance station at the foot of East 17th Street.³¹

In 1895 the laboratory also started producing an antitoxin for the treatment of tetanus. By the following year the department was supplying all city institutions and had made the serum available to physicians. At the end of 1896 the department conceded, however, that the tetanus program was still in an experimental stage. Under Dr. Park's direction, considerable research was done with typhoid fever. After studying 200 cases of typhoid in which the Widal test had been applied, Dr. Park concluded that while it had value as a diagnostic aid, it should be used with caution. With the intention of producing attenuated virus for treating rabies cases, Dr. Anna W. Williams, an assistant bacteriologist, was sent to Paris for special training in the Pasteur Institute. On her return in the fall, the division began experimental work in this field. Other members of the division were tackling the pathogenic agents causing such ailments as pneumonia, cholera, and enteric disorders, and at the same time were applying the latest bacteriological discoveries made in Europe and America.³²

To the credit of the New York City Health Department, the remarkable application of bacteriological science to public health was only one of its pioneering accomplishments. With the widening of the Health Department's scope of activities, the need for accurate vital statistics became imperative. As indicated earlier, the reported total of annual deaths correlated closely with the actual figures, but the validity of the statistics as to the cause of death is another matter. In 1880 Dr. John Shaw Billings pointed up the difficulty; addressing the American Public Health Association, he questioned whether any three physicians could agree upon the cause of death even in 50 percent of cases. He had been told by a leading physician that in 60 percent of all deaths the certifying physician often was undecided between two or three causes and was "as likely to insert the one as the other."³³

The reporting of births and marriages had always lagged behind that of deaths, and it was here that the most serious deficiencies existed. To exert pressure upon ministers and priests, who

were often negligent about reporting marriages, the Board of Health in 1888 passed a resolution stating that the city clergymen should be reminded of their legal obligations. Whatever results the resolution may have had, as of 1890 the marriage and birth totals showed little improvement. In this year the number of births recorded was less than 40 percent of the total deaths. By 1895, when the Health Department had tightened down on reporting, the number of births reported exceeded the deaths by almost 23 percent and the number of marriages had increased by about 19 percent over those reported for 1890.³⁴ Granting the crudeness of these figures and conceding some demographic changes within the five-year period, it is clear that the department's drive to improve the collection of vital statistics was proving successful.

The head of the Bureau of Vital Statistics, Dr. Roger S. Tracy, deserves much of the credit for improving the accuracy of the figures and for making the statistics more meaningful. At his urging, the Board of Health pushed a bill through the State Legislature in 1894 increasing the penalty for failure to report a birth, marriage, or death to \$100. In 1893 he divided the city into sanitary districts, and three years later he began tabulating by wards. This made it possible to correlate vital statistics with the race, nationality, economic status, and density of the population.³⁵ Commenting upon the relatively low birth rate in wealthier neighborhoods, Tracy attributed it in part to the failure of private physicians to record births. Ironically, the poor, who were compelled to rely upon dispensaries, clinics, and public health workers, were more likely to have valid birth records.

The 1890 United States census was strongly criticized by many New Yorkers. This criticism came at a time when the Health Department was becoming aware of the need for accurate census statistics. In consequence, the municipal government in April 1895 ordered the Police Department to take a special census and directed the Health Department to compile and evaluate the statistics.³⁶ The resulting house-to-house survey provided a wealth of information, including a complete breakdown by wards showing the sex, age, population density, average number of persons living in each house, and so forth. Armed with this information, the department was in a better position to determine the focuses

of disease and to decide which were the most pressing health problems. It was aided in the task by a Bureau of Vital Statistics which by this time was operating at a relatively high level of efficiency.

The venturesome spirit which led the Health Department into the fields of bacteriology and vital statistics was by no means exhausted by these endeavors. In 1896 the department carved out a new sphere for itself when it embarked upon a school health program. The health of school children had aroused some interest in the preceding years, but the major concern had been with vaccination and the sanitary condition of school buildings. As the role of pathogenic agents was recognized, the department's concept of school health was broadened to include the children's diseases. The details will be discussed in Chapter 10, and it is enough to note that a Division of School Medical Inspection was created in 1897. In these same years the long struggle to improve conditions in tenement areas brought major gains. Since the department had been fighting for tenement reform from its inception, the drive in the 1890s was in no sense a new venture. Its importance lies in the large measure of success which was achieved. As in the case with school health, this subject will be covered in a subsequent chapter.

In the agitation to improve living conditions in slum areas, the plight of infants and children had always struck a responsive chord among social reformers. This rising concern for infant welfare in the 1890s was responsible for the development of pure milk stations which provided free or low cost milk to needy infants and children. Nathan Straus, a New York philanthropist, established the first one in 1893, and, possibly as a result of the ensuing depression, he rapidly increased their number. As other charitable groups joined Straus in this movement, it inevitably pointed up the need for pure, good quality milk. Once again the impetus for reform came from the bacteriologists, who had demonstrated that tubercular cows were a potential source of human infection. The State Board of Health had already been moving toward a statewide inspection of dairy cows, but opposition from the rural-controlled Legislature delayed setting up its program. In 1895 the City Health Department, in cooperation with certain

local authorities, began inspecting a number of suburban dairies and was able to bring about a sharp improvement in the milk supply from these sources.³⁷

The year 1896 also saw the Health Department extend its jurisdiction into still another important social area: labor conditions. Two laws were enacted in 1896 dealing with women and children working in mercantile establishments. The laws contained detailed provisions with respect to working hours, toilet facilities, and general sanitary conditions. Children between the ages of 14 and 16 were required to obtain work certificates from the Health Department, and males below the age of 16 and females below the age of 21 were not allowed to work more than 60 hours per week. Responsibility for enforcing the laws rested with the Health Department, which divided the city into 38 districts and assigned inspectors to visit each store and business. Business establishments found in violation of the new laws were first given an opportunity to correct conditions and, if they failed to do so, were reported to the attorney for prosecution.³⁸

Although the Health Department did not consider the home manufacturing of items such as clothes and cigars to be deleterious to the workers' health, it did recognize that goods manufactured in homes where contagious diseases were present represented a potential danger to the community. Prior to this time, the limited facilities for disinfection had made it impracticable to attempt disinfecting goods such as furs and velvet, but in the course of his travels, Dr. Biggs had learned of new processes and was able to design a much more effective disinfection plant in 1896. In discussing its disinfection procedures, the department noted that great care was taken to avoid interfering with the workers' means of livelihood. If quarantining premises for a period of time proved too much of an economic hardship, the department would remove the sick person and disinfect the premises and goods, or, if necessary, take the work materials to the plant for disinfection.³⁹ This concern for the welfare of workers was one of the reasons why the Health Department was successful in its health educational program.

The steady expansion of health services from 1894 to 1897 was made possible in part by the success of a civic reform movement. This movement, spearheaded by the Committee of Seventy, de-

feated the Tammany candidate in 1894 and elected Mayor William L. Strong.⁴⁰ One of Strong's first acts was to appoint Colonel George Waring as street commissioner. Street cleaning was no longer a direct responsibility of the Health Department, but its officials were concerned about the accumulating filth. They commented upon the vast improvement in the streets in the years 1895-96 and attributed a decrease in diarrheal deaths specifically to this fact.⁴¹ There can be little question that cleaner streets and an improved tone and morale in the Street Cleaning Department was bound to encourage the Health Department's inspectors in their work of ferreting out nuisances and violations of the Sanitary Code. The work of the offal contractor in removing the thousands of dead horses, dogs, and cats was also facilitated by the energetic actions of Commissioner Waring and his department, and the Health Department tackled the nuisances created by stables and manure piles with renewed vigor. According to a census in December 1896, New York City had 4,649 stables and 73,746 horses, more than enough to jar the esthetic and olfactory sensibilities of a good share of the population—as well as creating a potential health hazard.⁴²

The year 1897 was a significant one in New York City's history, for on May 4 a charter for "Greater New York" was enacted. Starting on January 1, 1898, the City Health Department once again found itself responsible for the health of the entire five-borough metropolitan area.⁴³ Under the able leadership of its president, Mr. Charles G. Wilson, the Board of Health for the past ten years had made excellent appointments, demonstrated considerable courage in pushing through its policies, and created an effective Health Department. While the medical profession was unhappy about a layman serving as president of the Board of Health, there was little criticism of Wilson personally. The *New York Medical Times* observed that President Wilson had cooperated fully with voluntary sanitary groups and often checked personally on nuisances, "many times leaving his bed at night to trace odors and investigate causes." The editor of the *Sun* undoubtedly spoke for most New Yorkers when he wrote in January 1897: "Take it all in all, there is probably no more thoroughly well managed and more useful concern in any city of the world than our Health Department."⁴⁴ The new city charter opened a much

wider vista to the Health Department and provided it with new and greater challenges. In the years to follow, the department amply fulfilled the promise it had already shown.

Notes to Chapter 5

1. *Daily Tribune*, April 20, 1892; *Herald*, April 20, June 25-26, 1892; *Times*, June 25-26, 1892.
2. *Times*, June 25, 29, July 3, 1892; *Daily Tribune*, July 7, 1892.
3. *Times*, April 20, 1891; *Sanitarian*, XXX (1893), 466.
4. *Sanitarian*, XXX (1893), 466; *N.Y. Med. Jnl.*, LVI (1892), 128, 186-87.
5. Charles-Edward Amory Winslow, *The Contributions of Hermann Biggs to Public Health* (New York, 1928), pp. 7-8.
6. B. of H., Min., September 9, 13, 14, 1892, pp. 158-59.
7. *Ann. Rep., Bd. of Health, 1892*, p. 48; James J. Walsh, *History of Medicine in New York: Three Centuries of Medical Progress* (New York, 1919), vol. I, p. 287; Winslow, *Contributions of Hermann Biggs*, pp. 7-8.
8. *Ann. Rep., Bd. of Health, 1892*, pp. 34-39; N.Y.A.M., Minutes, September 20, 1892, p. 45.
9. *Herald and Times*, February 13, 1892; *Ann. Rep., Bd. of Health, 1892*, pp. 30-31; *Sanitarian*, XXVIII (1892), 272-73, 451; *Ordinances, Resolutions, Etc., Passed by the Common Council of the City of New York, and Approved by the Mayor, 1892*, LX, pp. 21-22 (hereinafter cited as *Ordinances, Resolutions, Etc., Passed by the Common Council*); Walsh, *History of Medicine in New York*, vol. I, p. 107.
10. *Ann. Rep., Bd. of Health, 1892*, pp. 31-32.
11. *Ibid.*, 1893, p. 35.
12. *Daily Tribune*, March 30, 1893; *Times*, March 31, 1893.
13. *Ann. Rep., Bd. of Health, 1893*, pp. 8-11, 65.
14. Winslow, *Contributions of Hermann Biggs*, pp. 12-13; *Ann. Rep., Bd. of Health, 1893*, pp. 24-25.
15. *Ann. Rep., Bd. of Health, 1893*, pp. 24-26.
16. *Ibid.*, pp. 27-28.
17. *Ibid.*, pp. 17-18, 32-33.
18. Charles-Edward Amory Winslow, *The Life of Hermann M. Biggs, Physician and Statesman of the Public Health* (Philadelphia, 1929), p. 107; Winslow, *Contributions of Hermann Biggs*, pp. 8-9; *Ann. Rep., Bd. of Health, 1898*, p. 14.
19. *Ann. Rep., Bd. of Health, 1894*, pp. 16-17; Winslow, *Life of Hermann M. Biggs*, pp. 110-12; Winslow, *Contributions of Hermann Biggs*, p. 11.
20. Winslow, *Life of Hermann M. Biggs*, pp. 113-15; *Ann. Rep., Bd. of Health, 1894*, p. 17; 1895, pp. 37-38; *Herald*, December 3, 10-29, 1894.
21. *Ann. Rep., Bd. of Health, 1895*, pp. 37, 39.
22. N.Y. State Laws, 118th sess., chap. 165, March 26, 1895, pp. 197-98; B. of H., Min., January 9, 1885, p. 93.

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23. Winslow, *Life of Hermann M. Biggs*, pp. 117-18; Winslow, *Contributions of Hermann Biggs*, pp. 11-12.
24. Winslow, *Life of Hermann M. Biggs*, pp. 122-23.
25. *Ann. Rep., Bd. of Health, 1896*, pp. 312-58.
26. *Ibid.*, 1894, pp. 95-99.
27. *Ibid.*, 1896, pp. 29, 221, 242-44; Isaac N. Stokes, *The Iconography of Manhattan Island* (New York, 1915-28), vol. V, p. 2027.
28. *Ann. Rep., Bd. of Health, 1896*, pp. 28-29, 244-56.
29. Winslow, *Contributions of Hermann Biggs*, pp. 13-15; *Medical Record*, LI (1897), 126-27, 431-32, 450, 454, 461-62.
30. *Ann. Rep., Bd. of Health, 1895*, p. 63.
31. *Ibid.*, pp. 38-39; 1896, pp. 25-26; N.Y. *State Laws*, 119th sess., chap. 721, May 19, 1896, pp. 876-79.
32. *Ann. Rep., Bd. of Health, 1896*, pp. 29-31, 216-17, 231-33.
33. *Sanitarian*, IX (1881), 11.
34. N.Y. *Med. Jnl.*, XLVIII (1888), 613; *Ann. Rep., Bd. of Health, 1890*, p. 29; 1891, pp. 11-12; 1895, p. 79.
35. Israel Weinstein, "Eighty Years of Public Health in New York City," *Bull. of N.Y.A.M.*, XXIII (1947), 221-37; N.Y. *State Laws*, 117th sess., chap. 530, May 8, 1894, pp. 1127-28; *Ann. Rep., Bd. of Health, 1896*, p. 404.
36. *Ann. Rep., Bd. of Health, 1895*, pp. 125-29.
37. *Ibid.*, 1896, p. 42; *Times*, June 2, July 30, 1893; May 16, July 7, 1894; *Herald*, July 2, 1894.
38. *Ann. Rep., Bd. of Health, 1896*, pp. 183-86.
39. *Ibid.*, pp. 32-33, 85.
40. *Campaign Book of the Citizens' Union, September-October, 1897* (New York, 1897), p. 22 [New York Public Library, pamphlet]; *Annual Report of the City Club of New York, 1895* (New York 1895), pp. 30-31 [New York Public Library, pamphlet]; *Herald*, November 7-8, 1894; *Times*, November 7, 1894.
41. *Ann. Rep., Bd. of Health, 1896*, pp. 397, 401-03.
42. *Ibid.*, pp. 51-52, 72-73, 75-76.
43. Stokes, *Iconography*, vol. V, p. 2028; David M. Ellis et al., *A Short History of New York State* (Ithaca, N.Y., 1957), p. 379.
44. *New York Medical Times*, XXIV (1896), 258; Winslow, *Life of Hermann M. Biggs*, pp. 129-30.

6

Sanitary Conditions: The Fight to Eliminate the Foul Miasmas

Of all the reformers now working in the midst of us, the Sanitary reformers are most entitled to public encouragement and support. [*Frank Leslie's Illustrated Newspaper*, XLI (November 27, 1875), 182.]

By the time the New York City Health Department was established at the end of the Civil War, the sanitary movement had been in full swing for some years. The Croton Aqueduct had already taken care of one of its chief objectives, assuring a good water supply, and the New York City Health Department was free to turn its attention to a broad range of sanitary problems. In 1873 the first public health journal in America appeared in the city, *The Sanitarian*, published by Dr. A. N. Bell of Brooklyn. In his introductory editorial Dr. Bell declared his intention to keep the readers abreast of all developments in sanitary science and to keep them informed of practical advances in civic cleanliness, water supply, drainage, sewerage, ventilation, and so forth. He quoted Professor C. R. Agnew of the College of Physicians and Surgeons on the way in which sanitary reform in Great Britain had reduced the death rate, and he urged his medical readers to support similar steps in the United States. Two years later *Frank Leslie's Illustrated Newspaper* editorialized in the same vein, stressing the fact that mortality tended to decrease in direct ratio to the care and attention paid to drainage, ventilation, and water supply.¹

Throughout these years, the miasmatic theory was still the rationale for the sanitary movement. The thesis that noxious or poisonous gases emanating from sewage and other putrefying substances were the root of all contagious diseases was expressed repeatedly. A *Times* editorial in 1875 declared that the better parts of the city cannot escape "the diffusion of poisonous gases from the worst parts." After pointing out that sewer gas occa-

sionally escaped through traps, the editor recommended the elimination of all water drains from bedrooms and a return to the use of the bowl and pitcher.² Disturbing the earth during summer months was also considered a likely source of miasma. When the telegraph company proposed a major construction project in the summer of 1885, the Board of Health, prompted by several of the leading physicians, resolved that "the laying of all telegraph wires under ground in one season . . . would prove highly detrimental to the health of the city . . . through the exposure to the atmosphere of so much subsoil, saturated, as most of it is, with noxious gases. . . ." In this same year, the undrained and swampy Harlem Flats were described as a "great laboratory of fever-producing gases" containing "a sufficient supply of rotting filth to generate fetid gases adequate to the poisoning of half the population."³

Although these obnoxious gases were more of an esthetic outrage than a danger to health, the fear of them produced a great deal of good. For example, since shoddy plumbing, which might permit the entrance of sewer gas into homes, represented a threat to the middle and upper classes, the newspapers and medical journals devoted considerable attention to it. The upshot was that by the end of the nineteenth century, closely watched by the Health Department, plumbing was probably the best regulated of all the building trades.⁴ Health authorities were equally concerned with the danger arising from poor ventilation, since fetid air was assumed to contain miasma. Repeatedly the sanitary inspectors drew attention to poor ventilation in public buildings, schoolrooms, and the crowded tenements. One of the major efforts to improve tenement buildings was directed toward providing sufficient windows and air shafts.

Waters and Sewers

Above all, sanitarians were concerned with the sewage problem, since this was considered the major source of miasma. By the second half of the nineteenth century New York had a fairly well-developed sewerage system. For the system to work properly, an adequate supply of water was essential. Historically, in recent times at least, water supplies have usually outrun the ca-

capacity of the sewer systems. For example, Croton water was brought into New York in 1842 with little thought having been given to its impact upon the overtaxed sewer system. The late nineteenth century, however, saw the city's population and sewerage system steadily expanding while the water supply was increased only slightly. The drought year of 1876 created serious water shortages and made sanitarians apprehensive about the condition of the sewers. Dr. J. M. Toner, a well-known medical writer in his day, in 1877 pointed out the importance of water in cleansing the city and in flushing the sewers. His solution, one which was scarcely practical, was to flush the sewers with water pumped out of the New York harbor.⁵

The saga of New York's water supply is a fascinating one, and the reactions of New Yorkers to the recent drought gives the city historian an overwhelming sense of *déjà vu*. The introduction of Croton water had led to the establishment of a separate agency to deal with the water supply, and the Health Department was only indirectly concerned with its operation. Nonetheless, persistent water shortages and the problem of contamination kept the water supply a live political issue. As the 1860s drew to a close, it became evident that the growing demands upon the Croton water supply were reaching a critical point. A new reservoir serving upper Manhattan was built in 1866-67, placing a further drain on the Croton supply. In 1869, the Board of Health mentioned that a water shortage had occurred during the summer months and suggested investigating the feasibility of using river water for flushing the streets, fighting fires, and for supplying water for public baths.⁶ The problem had to become much more acute, however, before remedial action was taken.

Minor droughts in the early 1870s and a major one in 1876 led to a slight increase in the capacity of the Croton reservoirs, accompanied by a chorus of charges of corruption and graft. If a correspondent to the *Times* was correct, Boss Tweed first acquired the site for a dam and then managed to have a law passed arranging for the Croton Aqueduct Board to buy it at a high price. The drought in 1876 was accompanied by the usual appeals to the public to save water, and by even so drastic a step as to prohibit the constant running of water in saloons and urinals.⁷ As a result of this 1876 water shortage, a few farsighted individ-

uals realized that the Croton water supply was inadequate, but the fight to enlarge the system did not get underway until the early 1880s. Even then the familiar arguments were used that the shortage could be solved by metering to prevent needless waste and through the elimination of the many leaks in the pipes and fittings.⁸

The water supply became a major political issue in the early 1880s. Aside from the customary charges of political graft, the question was whether to enlarge the Croton system or to look elsewhere for water. It was resolved in favor of the former, and in 1884 construction of a new Croton Aqueduct was started.⁹ By this time, the water shortage was so acute that during the daytime in the summer months no water could be obtained from taps on the upper floors of tenements. Despite a series of political wrangles, work on the new aqueduct pushed ahead, and early in July 1890 it began supplying water to the city.¹⁰

While the fight to solve the water shortage was underway, a much graver threat to the city's water supply was recognized. As the population density increased in the Croton watershed, human and industrial wastes began to pollute the much vaunted purity of its water. This pollution, which was first described in 1868, slowly increased in the succeeding years. A survey in 1884 by the New York State Board of Health showed that villages, farmhouses, and mills in the Croton Valley were draining their sewage directly into the river and its tributaries. In discussing the report, one of the New York newspapers warned that the time was coming when the city would have to protect itself from this pollution. Responding to the survey, the Legislature gave extensive powers to the State Board of Health to protect all water supplies. These early laws to control pollution invariably contained loopholes which made enforcement difficult. The first law was virtually negated by a provision that the Board of Health regulations could not be enforced in any county until approved by the local judge.¹¹ A second survey years later showed an increasing amount of pollution and led to an 1890 law, but it, too, was hedged with so many restrictions as to be virtually meaningless. In 1892 still another legislative act tried to correct conditions by giving the State Board of Health power to bring suit against towns or villages guilty of dumping raw sewage into any source

of drinking water.¹² While the latter measure was a step forward, the legal process was always a slow one, and many New Yorkers felt that the amount of pollution was becoming critical.

Early in 1893 the Webster Bill was introduced. It proposed to eliminate the sources of pollution by giving the city authority to acquire land along all streams in the Croton watershed. About this time the New York Academy of Medicine belatedly joined the cause for better water. It strongly opposed the Webster Bill, on the grounds that it was simply a raid on the city treasury and did nothing about the basic cause of pollution.¹³ Considering the general state of municipal politics, the academy's arguments probably had some merit, but the Webster Bill, which was enacted, did enable the city to deal with some of the worst abuses. Nonetheless, the department's chemist in July 1893 described Croton water as "very turbid, of a yellowish brown color and a strong marshy odor." Despite its appearance and taste the new bacteriological laboratory reassured the public in both 1893 and 1894 that the microorganisms in the water were nonpathogenic.¹⁴

Throughout most of these years the Health Department was concerned more with the quantity of water than with the quality, since an ample supply was essential to flushing out the drains and sewers. These twin problems, drainage and sewerage, were ones which preoccupied all health reformers in the late nineteenth century. In journals and newspapers, articles by physicians, engineers, and informed citizens discussed sewer systems, drainage problems, sewage disposal, plumbing methods and materials, and a host of related questions. Running through many of the articles was the recurrent theme of the relationship between poor sanitation and epidemic diseases. One writer declared in 1874 that both diphtheria and typhoid were "peculiarly dependent for transmission, if not for origin, on excremental pollution of the air. . . ." Dr. Moreau Morris attributed New York's high death rate to its "want of foresight in respect to its drainage and sewerage systems." Both the American Medical Association and the American Public Health Association in the 1870s appointed committees to investigate the subject and devoted many sessions to it. Dr. Fordyce Barker, president of the New York Academy of Medicine, blamed much of disease upon bad plumbing, foul soil, and unclean cellars. A *Times* editorial in 1883 condemned the city

for permitting marsh land to be filled in with refuse and garbage, which blocked stream beds and natural channels and created a "subterranean source of disease and death. . . ."15

Through the years a series of laws were enacted authorizing the Health Department of New York City to supervise the draining of areas considered dangerous to health. The first one in 1875 granted authority to the Health Department but failed to specify who should pay for the work. Five years passed before the department was permitted to assess the expense of draining against the property owners. The piecemeal method of building sewer and drainage lines, which had characterized construction throughout the nineteenth century, was not conducive to an effective system, particularly when a good part of the work was shoddily performed. As the need for an integrated system became apparent, a law in 1888 instructed the commissioner of public works to draw up a plan of sewerage and drainage for the entire city. The city was to be divided into sewer districts, and, with the aid of engineers and surveyors, detailed maps were to be drawn showing the size, location, course, and grade of every proposed sewer or drain. The work apparently moved slowly, for another law was passed four years later urging the commissioner of public works to push ahead with sewerage and drainage plans. A beginning was made on yet another aspect of the sewage problems in 1893 when the Common Council authorized the Health Department to spend up to \$6,000 for a plant and apparatus to disinfect sewage.¹⁶ Considering the millions of gallons of sewage pouring into the rivers and harbors of New York City, this small pittance for sewage treatment could scarcely have had much impact, yet it was a harbinger of things to come.

Complaints about sewers emptying their contents into the city's slips had begun early in New York's history, but it was not until the end of the nineteenth century that pollution from this source was considered a serious threat to public health. Long before this time, however, there was considerable alarm over the large number of animal carcasses, garnished with garbage, to be found floating in the rivers and harbors or else lying on the beaches. When the Health Department in 1870 ordered the New York Rendering Company to cease operations within the city, the company, which had the contract to remove dead animals from

the street, simply dumped them into the bay. In hot weather, the odor from the putrefying bodies at times drove many residents from their homes on the shores of the lower bay. At first the Board of Health thought it had no jurisdiction beyond the city limits, but after consulting with its legal counsel, the board ordered the company to cease and desist.¹⁷

In a day when disease was thought to be carried by fomites, minute particles of contagion which adhered to cloth and other goods, the practice of throwing the clothes and bedding of disease victims from vessels in the harbor aroused apprehension. To prevent this practice, an act in 1871 established the office of shore inspector and prohibited the casting of carrion, offal, and other objects into the rivers and harbors of New York City. Four years later, a new law increased the appropriation for the shore inspector's office and specified that the inspector's permission must be obtained before any refuse could be dumped into the waters. The law also made the shore inspector responsible for removing any materials or objects washed up on the shores of King's County. In 1881 a more comprehensive law widened the list of prohibited objects and extended the jurisdiction of the shore inspector. Interestingly, it specifically exempted the discharge of sewers.¹⁸ To help enforce the harbor pollution laws, a series of amendments in the 1880s steadily increased the appropriation for the shore inspector, raising it from the original \$2,000 to \$27,000 by 1890. One of the amendments also authorized the inspector to appoint deputies to assist him in his work.¹⁹ While the shore inspector was able to exercise some control over the gross pollution from offal, carrion, and garbage, he could do nothing about the ever growing flood of industrial, commercial, and human wastes which were gradually making the entire harbor area an open sewer.

The Condition of the Streets

As anyone knows who has picked his way around dog dirt, broken glass, cans, boxes, and piles of garbage and refuse dumped on the sidewalks in the slum and low-income neighborhoods of New York, clean streets of necessity must be a community effort. From the eighteenth century to the present influx of southern blacks and Puerto Ricans, the background of most immigrants

arriving in New York has been predominantly rural and their economic and cultural levels have been relatively low. Moreover, since a democratic government reflects the quality of the electorate, the city's sanitary problems were compounded by a relatively inefficient municipal system. Probably no subject aroused such acrimonious debates in newspapers, magazines, and political campaigns as the condition of the streets. On several occasions in the post-Civil War years it was a leading political issue, and it was always one of the campaign issues. With the exception of a brief period in the early 1870s, street cleaning was never a direct responsibility of the Health Department, but, in terms of the contemporary sanitary movement, it was always a concern.

Street cleaning and garbage removal in nineteenth-century American cities involved far more than a simple business or economic operation to remove wastes and debris. The contracts provided jobs for constituents, cash for political slush funds, a supplementary source of income for politicians, and political favors for their friends. The employees of the contractors, many of whom came from the slum areas, were completely unconcerned with the economics of padded payrolls—they were only too delighted to share in the city's obvious wealth. Under these conditions, the best the health officials could hope for was to win occasional battles against the system. Periodically a strong reform mayor, aided by the Health Department and the threat of a major epidemic disease, could temporarily improve the situation, but the new brooms quickly wore down.

In the first flush of enthusiasm, and apprehensive over Asiatic cholera, the city officials on August 1, 1866, transferred the street cleaning contract to a former Tammany judge, James R. Whiting. This contract paid \$498,500 per year. Closely watched and pressured by the health inspectors, Whiting performed fairly creditably for the first few months. In the late winter of 1866–67, the usual complaints began to appear. A satirical newspaper article in March discussed the purported discovery “under the tertiary formation in the lower part of Broadway of a singular stratum of rock,” leading scientists to believe that this pavement indicated the presence of a long-lost civilization!²⁰ Throughout the rest of 1867–68 Whiting's performance continued to be well above average except during the winter and spring months. Brooklyn was

another matter. There the aldermen dispensed the contracts for their own wards. Conditions were so bad in some Brooklyn streets that public outrage had forced the municipal authorities in some instances to withhold contract payments, and in others the contractors had been arrested on the complaints of the sanitary inspectors.²¹

A major defect in the street cleaning contract was that it called for the streets in the tenement districts to be cleaned only once a week. Although the sanitary superintendent had a small fund to help out, the service was always inadequate, since these streets in particular needed to be cleaned every day. A state law enacted on May 6, 1868, provided that the street cleaning contract for Brooklyn, Williamsburgh, and Bushwick was to be let out to the lowest bidder by the Brooklyn Common Council.²² There is little evidence that transferring the authority from individual aldermen to the Council made any appreciable change for the better. A revision in the New York City Government Act of June 3, 1868, authorized city officials, a group which included the president of the Board of Health, to annul any existing street cleaning contracts and to make new ones. With an eye to improving the service and/or raising the political pickings, the maximum annual payment was raised from \$500,000 to \$750,000. In reporting this change, a medical editor glumly noted that the president of the Board of Health, although a member of the contracting commission, constituted so small a minority that he had virtually no power over the contracts.²³

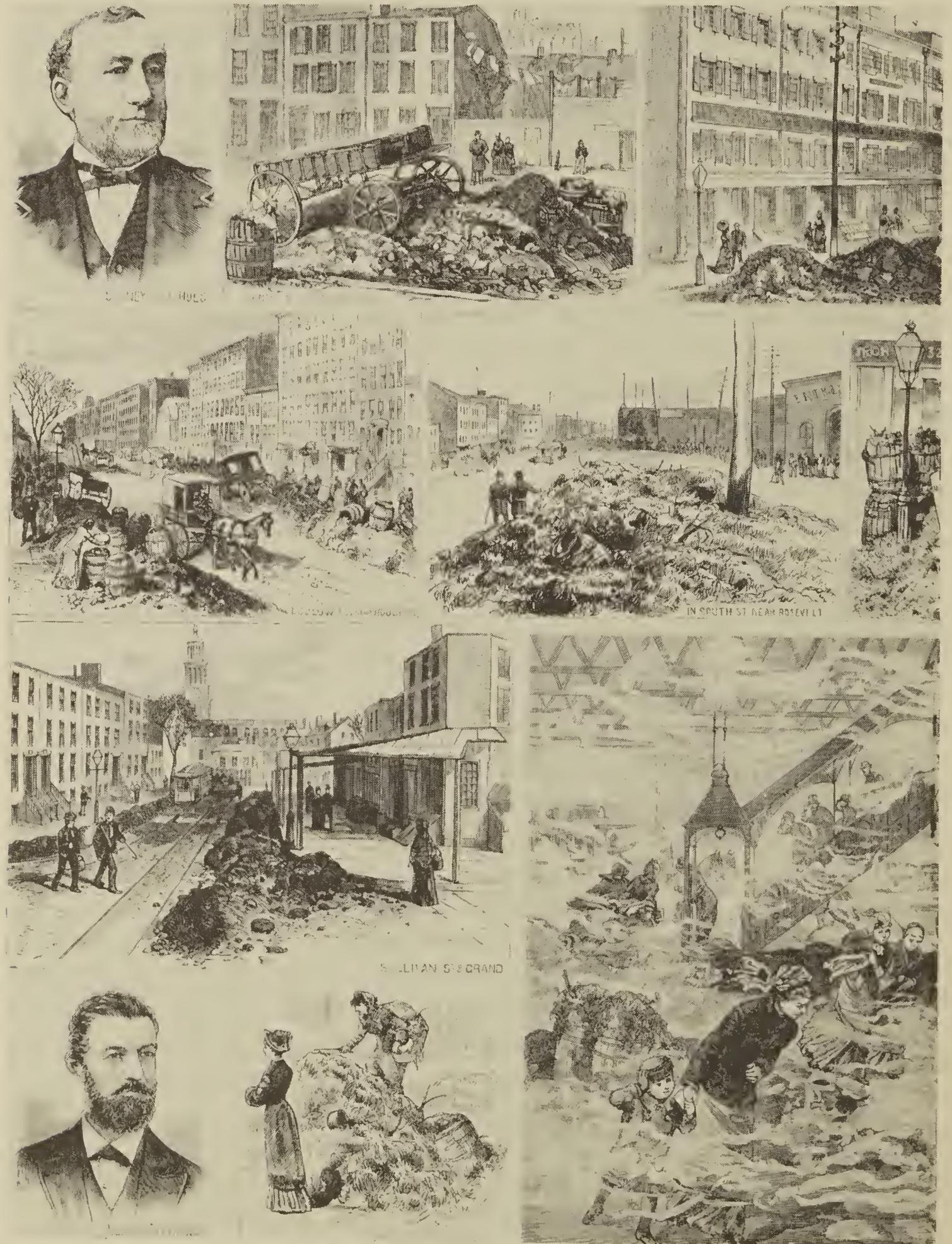
The following year brought a change in contractors and a general deterioration in street conditions. In May 1869 a Mr. John L. Brown took over the street contract from Judge Whiting. According to one of the newspapers, Brown bought the contract for \$200,000 expecting to double his investment. Judging by Brown's complaints he was disappointed. Early in January he complained that he had to sweep the tenement areas several times a week for which he received no extra pay. With justification, he blamed much of his difficulties upon the common practice of tossing garbage and ashes into the streets and demanded that legal proceedings be instituted against the guilty parties. He also urged that the city provide funds for more frequent street sweeping. The justice of Brown's latter complaint is substantiated by the re-

ports of the board's sanitary inspectors.²⁴ As conditions worsened, Dr. Elisha Harris declared that at least 60 miles of streets below Central Park needed cleaning. The editor of the *Times* sharply criticized both Contractor Brown and the street commissioners and warned that the Board of Health would probably ask for money to do the job.²⁵

Judging by the crescendo of complaints, each successive year had witnessed a slow accumulation of dirt and garbage in the streets. Part of the problem lay in the inefficiency of the contract system, but much of it can be attributed to the growing population and the tendency to use the streets as a common dumping ground. The contractors were corrupt and inefficient, but even a conscientious one, assuming purely hypothetically that he could have obtained the contract, could scarcely have coped with the growing mass of garbage, manure, and rubbish.

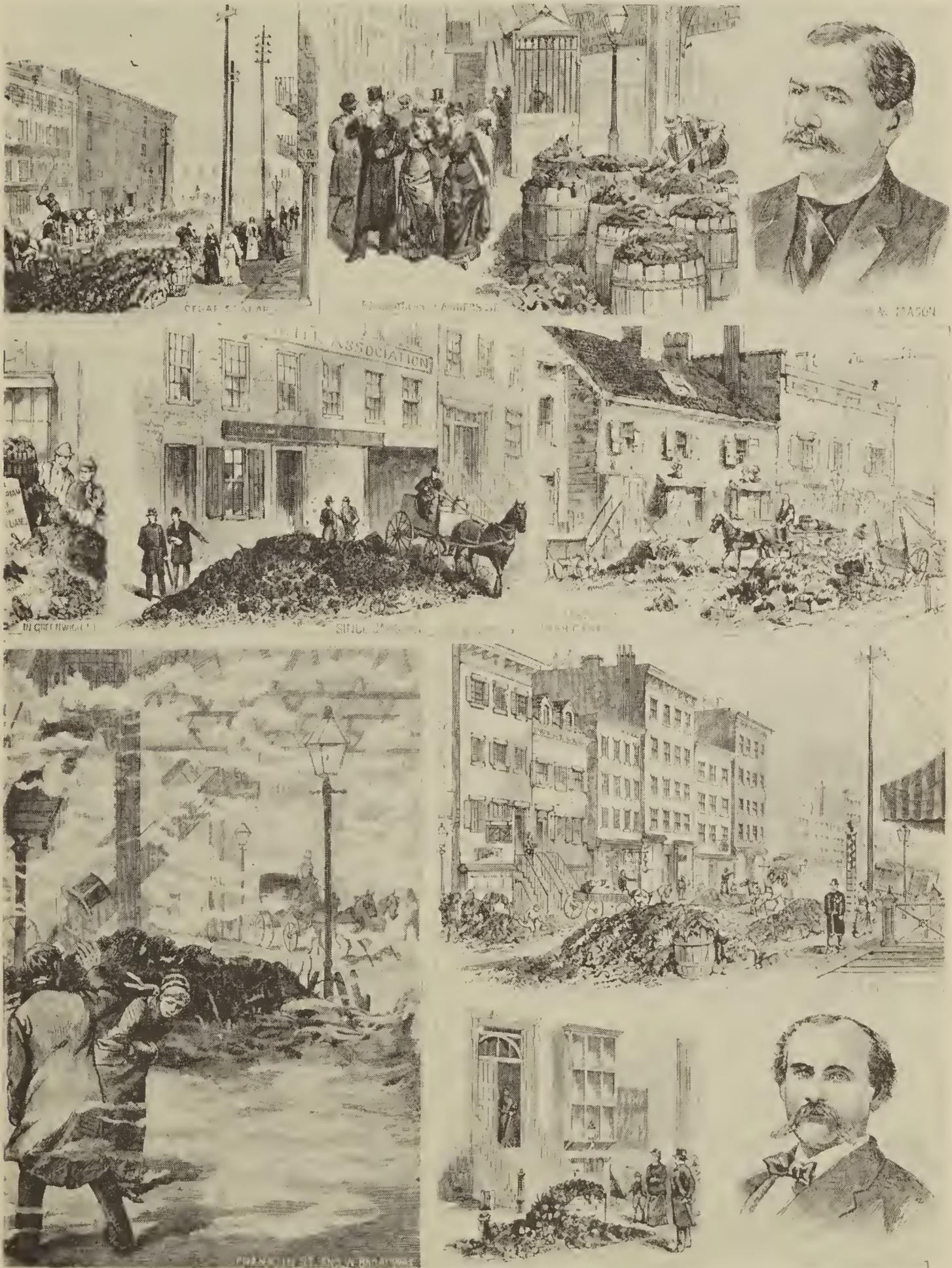
By 1871 the situation had grown so bad that many of the streets were cleaned and policed privately through voluntary contributions, their residents having despaired of the service provided by the city.²⁶ In the ensuing years, almost every form of administration for cleaning the streets was tried, but nothing seemed to work. In 1872 responsibility was shifted from the Health Department to the police, but the perennial malfeasance of the private contractors undermined all attempts to achieve efficiency. The blame should not be placed entirely upon the contractors, however, since they were selected by the mayor and aldermen. For any system to work, honesty and intelligence were required at all levels, from the chief municipal officials on downward. Zealous work by sanitary police and sanitary inspectors was meaningless unless their work was supported by the local courts. The judges, however, were elected by the same citizens who were cheerfully tossing their garbage into the streets and flagrantly violating the sanitary laws. Moreover, part of the graft and patronage was filtering down through the political machines to the slum dwellers, to whom a small amount of actual cash was infinitely preferable to some abstract principle of sanitation or morality. In the meantime, the newspapers, health journals, and reformers continued to fulminate about the dust, dirt, and rotting garbage accumulating in the streets.²⁷

The Police Department, as indicated, was no more successful



How the Metropolis Invites Disease and Epidemics—Appearance of the Streets under the Control of the Police Commissioners. From sketches by

Sanitary Conditions: The Fight to Eliminate the Foul Miasmas



Local Artists in *Frank Leslie's Illustrated Newspaper*, April 23, 1881. Courtesy of the New York Public Library.

in managing the streets than the Health Department. More in truth than in jest, the *Daily Tribune* editorialized in 1880: "In the days of 'Hank' Smith New York had to wait for the funeral of a Police Commissioner to see Broadway well cleaned. The people will cheerfully spare any or all of the members of the present Police Board, and even throw in the head of the Street-Cleaning Department, if the resulting funerals will make it possible to get about the city in comfort." By that year the crescendo of criticism led to an investigation of street conditions by the State Assembly Committee on Cities. At the same time, a group of private citizens organized themselves into a Sanitary Reform Society and drew up a bill to establish a Department of Street Cleaning under a commissioner appointed by and responsible to the mayor. The AICP and every reform body in the city supported the drive. A mass meeting in the Cooper Union on March 18 led to the establishment of a Committee of 21 to organize the movement. Even the medical profession, which had taken relatively little part in the fight for sanitary reform, met on April 13 in Chickering Hall and gave its support, arguing that the filthy streets were a direct cause of the increasing mortality. The Legislature responded by passing the Sanitary Reform Society's bill, modifying it slightly by requiring the Board of Health to pass on the mayor's choice for commissioner of streets.²⁸

As might be expected, the reform wave temporarily brought results, but by 1883 the old complaints were again being sounded. The man appointed in 1881 to head the new department, James S. Coleman, seems to have been a fairly capable individual, but the task he faced was virtually insurmountable. In 1887 a Ladies' Health Protective Association was organized to cooperate with the department, and it apparently maintained good relations with Commissioner Coleman. Nonetheless, criticism over street conditions steadily increased until December 1889 when Coleman gave up the struggle and resigned.²⁹

The following year, under the leadership of Charles Wingate, a group called the Sanitary Protective League launched still another drive for cleaner streets. As pressure for reform developed, in January 1891 Mayor Hugh J. Grant appointed a special committee to investigate the Street Cleaning Department. The committee soon became convinced that nothing short of a complete overhaul

would bring about any improvement. They found that the department's employees were selected solely on a political basis and that they worked only two-thirds of the time. There was a woeful shortage of tools and equipment, and the entire city was served by only one stable, with the result that the crews spent one-fifth or more of their time traveling to and from work. Valuable manure and other fertilizer was simply given away, although there was a ready market for it. In light of these findings, the committee concluded that a reorganized department with the workers under civil service was absolutely essential. It also recommended a higher operating budget and an appropriation to buy new and better equipment.³⁰

In the spring of 1892, two laws were enacted which incorporated the major recommendations of the mayor's committee. The street employees were divided into two general classes, a clerical force and a uniformed force.³¹ While street conditions improved somewhat, the dissatisfaction was not allayed. Two successive commissioners struggled to bring efficiency into the department, but no significant results were achieved until the appointment of Colonel George E. Waring in 1894. Outstanding political reformers, able health authorities, and forceful mayors had all tilted with the formidable street cleaning problem, and only the best of them had achieved even temporary victories. Waring, a man of intelligence, strength, and courage, was completely untroubled by political considerations. He promptly reorganized the department, appointed able administrators and conscientious workers, and in short order created an unprecedented departmental esprit de corps. In addition to placing his men under civil service, Waring authorized the sanitation workers to elect a 41-man grievance committee to discuss labor problems with his office. One of his first orders was to require sanitation workers to wear white duck uniforms. He explained to the newspapers that these uniforms would make his men readily distinguishable and enable the public to see them at work. In 1896 the white-uniformed sanitary workers held a parade, and the pride with which the celebrated "white wings" marched symbolized the new spirit with which Waring had infused the department.³²

In the process of overhauling the street cleaning system, Waring not only disregarded political pressure groups but openly

denounced them for interfering with his department. When pressed too hard to appoint incompetent veterans, he characterized the Grand Army of the Republic (GAR) as "a damned lot of drunken bums." When he was asked about his comment, he compounded matters by explaining that he had really called them a bunch of "pension bummers," who were costing the country \$100,000,000 more a year in pensions than was necessary. The outraged GAR demanded his resignation and sought to have him fired via the State Legislature. The latter body did pass a resolution censuring Waring, but Mayor William L. Strong lived up to his name and left Waring free to continue his work.³³ Reforms, like reformers, come and go, and it was not to be expected that the high level of honesty and efficiency introduced by Colonel Waring would last forever. Yet his far-reaching changes and the standards he set for sanitation workers left a permanent impress upon the Street Cleaning Department.

By the time Waring took office technological changes were beginning to aid the Street Cleaning Department in its task. In the first place, new and improved street cleaning machines were slowly coming into use. Far more important, however, was the introduction of electric streetcar systems. In 1894 the Board of Health reported that three street railway companies had eliminated the use of some 4,700 horses during the past two years, a change which had brought a notable improvement in the city's main thoroughfares. Aside from the constant factor of manure, dead horses, like abandoned automobiles today, were simply left on the streets for the city authorities to remove. In the 1890s the offal contractors were still removing around 8,000 dead horses each year from the streets.³⁴ Regrettably, almost at the same time that the relatively clean electric motive power was supplanting horses and mules, the gasoline engine was starting its climb to ascendancy as vehicular power. The net effect was to substitute the fumes of burning gasoline and oil for the odor and flies arising from manure, an exchange which was scarcely for the better.

Manure Piles and Garbage Dumps

Over and above the impact of thousands of horses urinating and defecating in the streets, the atmosphere of New York City was

profoundly affected by the odors wafting from the hundreds of stables and accumulated manure piles. To nineteenth-century New Yorkers, the stench or miasma arising from manure piles and stables was considered far more of a threat to health than the myriads of flies they attracted. Acting upon this assumption, the Metropolitan Board of Health in 1866 required stable owners to remove manure daily and to keep their premises clean. In the succeeding years a series of Health Code amendments first restricted the removal of manure to the night hours and then gradually brought the stables under strict regulation. An amendment in 1884 authorized the Board of Health to designate places on the waterfront for the temporary deposit of manure. Another in 1887 stated that whenever a cartload of manure had accumulated on the premises it was to be removed immediately unless pressed or baled. In 1890 the board appointed a committee to study the entire stable question. The result was a further tightening of regulations. Manure had to be pressed and baled before it could be removed, and the carts had to be loaded on the premises. Unbaled manure could only be removed by special permit and all carts employed in the work had to meet Board of Health specifications.³⁵

Despite these regulations, stables continued to be trouble spots. In 1894 some 60 stables were declared public nuisances. These were the so-called shanty stables, old dilapidated buildings which had been converted into stables. No efforts were made to redesign the buildings for this purpose, and the owners or tenants seldom made provision for drainage or for handling manure. Aroused by this situation, in 1895 the Board of Health further strengthened the stable regulations, once again requiring the daily removal of manure, specifying how manure should be baled, and in general clearly defining the sanitary regulations. At the end of the year the board reported that the enforcement of the new regulations had caused considerable friction, but that at the present time they were being "very generally observed."³⁶

Since manure was a valuable fertilizer, its ultimate disposal was no problem. Garbage was a different matter. For many years the city had simply dumped it into the rivers and harbors or else used it as fill. As the daily accumulation increased in size and objections were raised to polluting the adjacent waters, garbage scows extended their trips into Long Island Sound and the Atlantic. Dr.

A. N. Bell complained as early as 1877 that the city had no effective or sanitary method for disposing of garbage, and he recommended the use of large incinerators.³⁷ The city continued its even tenor, and a few years later acquired Riker's Island as a garbage dump. It served as a handy depository for awhile, but the sickening odors from several years accumulated garbage eventually made the adjacent shores almost uninhabitable. The best solution the Sanitary Department could offer was to spray the area with disinfectants. In the 1890s the Section on Public Health of the New York Academy of Medicine held a series of meetings in which the disposal of waste from major cities was discussed. While several possible methods for eliminating garbage were offered, the consensus favored incineration. Whatever may have been the theoretical advantages of this method, the city found it simpler and cheaper to continue to use garbage dumps and ocean waters for disposal purposes. The one major concession was an ordinance in 1895 which forbade the use of garbage and offal as fill in any lands in New York County.³⁸

Slaughterhouses and the Nuisance Trades

Since the sanitary movement of the nineteenth century equated esthetic insults in the form of dirt and filth with threats to health, the Health Department necessarily devoted much of its time to inspecting and regulating two of the most noisome industries, slaughtering and rendering. The Metropolitan Board of Health moved decisively against the worst offenders as soon as it took office. Butchers and other tradesmen, aided and abetted by the City Council and the courts, strongly resisted, but the nuisance they created was too patent to be defended. They did win a temporary victory in 1867, but the Court of Appeals in the summer of 1868 upheld the authority of the Board of Health, and the slaughterers reluctantly conceded defeat. The Board of Health wisely gave the butchers until January 1, 1869, to remove their slaughterhouses from the area below 40th Street. The board in its report for 1868 also mentioned that the presence of diseased viscera in the slaughterhouses was a commentary upon the quality of meat in the butcher shops, and it suggested that a system of municipal abattoirs was a prerequisite for effective meat inspec-

tion.³⁹ Untouched by these decisions were the hog pens and slaughterhouses of the meat packers. Possibly as a result of the large number of jobs involved and the strong financial interests, the board was reluctant to move against them at this date.

When the Department of Health replaced the metropolitan board in 1870, it continued the drive against the nuisance industries. The first important action taken against the slaughterers was an ordinance in 1870 prohibiting slaughtering between Second and Tenth avenues. In the succeeding years the board gradually forced the slaughtering establishments to concentrate in certain areas on the east and west side.⁴⁰ Although there had long been agitation to replace the many small slaughterhouses, as of 1877 only three large abattoirs existed. The best one was located in what had formerly been a public market on the Hudson River at the foot of West 34th Street. It was well designed and had complete facilities for handling the tallow, blood, and offal. An underground tunnel to the cattle pens made it unnecessary for the cattle to be driven through the streets. The abattoir was capable of handling about 6,000 animals per week, although in 1877 only about 1,000 beefs were slaughtered. The Butchers' Hide and Melting Association, which had been incorporated in 1865, operated another large abattoir on the East River at the foot of East 44th Street. It, too, had a capacity of about 5,000 to 6,000 beefs per week but usually operated well below capacity. Its sanitary condition was good and an adjacent rendering plant was available for processing the tallow. Unfortunately, it had no facilities for treating offal and blood. The Union Stock Yard Abattoir, the third major establishment, slaughtered primarily for the export trade. Like the other two, it was a well-conducted business, although no provision had been made for handling the tallow, offal, and blood.⁴¹

In addition to the three abattoirs, there were 52 private slaughterhouses. Most of these, as a result of pressure from the Health Department, were concentrated on the East River in an area bounded by First Avenue, 43rd, and 47th streets, and on the Hudson River between Tenth Avenue, 40th and 41st streets. The remainder were scattered along the river banks. Sanitary conditions in the private slaughterhouses were generally bad and few of them were properly equipped. The Health Department's

inspectors were constantly checking and rechecking them, a job which was complicated by their dispersion along the waterfront. Aside from this fact, there were other disadvantages to these slaughterhouses: the cattle had to be driven through the streets; the tallow, blood, and offal could not be treated on the premises; and their small size prevented the use of the most efficient machinery.⁴²

In 1885 the Health Department's efforts to regulate slaughtering were given a strong impetus by the Ladies' Health Protective Association. This latter group made an investigation of the city's slaughterhouses in the winter of 1884-85 and presented its findings to the Board of Health. On the basis of this report, the board persuaded the Legislature to pass an amendment in June 1885 restricting slaughterhouses in New York City to an area bounded by the Hudson River and Eleventh Avenue between 39th and 40th streets. Constant pressure by Health Department inspectors and the gradual strengthening of the slaughterhouse regulations did bring some improvement, but as late as 1894 the sanitary superintendent was complaining of the necessity for "incessant inspection." He noted, however, that the work was tending to concentrate in the hands of the larger establishments.⁴³ Even as he was writing, mass production, improved technology, and the rise of big business was eliminating the main abuses which characterized nineteenth-century slaughterhouses.

The influx of orthodox Jews in these years created another nuisance problem for the Health Department. Traditionally the ritual killing of chickens by the rabbis was performed at the time of sale, a custom which required dealers to keep live chickens. In the 1870s when the problem was not acute, the Health Department, as a concession to the Jews, relaxed its slaughtering regulations to permit this ritual killing. Within a few years, as the Jewish population increased, the presence of live chickens in the crowded tenement districts added still another unsavory note to the already fetid atmosphere, and the Health Department began a policy of reducing the number of permits to keep live fowl. This policy met with strong opposition, and, as Jacob Riis noted, it took over ten years of persistent effort before the practice was stopped. The incident which led to the virtual banishment of live fowl was the discovery in 1894 that the upper floor of the Essex

Market, one of the places in which live fowl were sold, was used as a school. When the teachers and students complained of the smell, the board revoked all permits in the market. Henceforth, live fowl could be sold only in the Washington and Union markets, and they had to be taken to approved slaughterhouses for killing.⁴⁴

The rendering companies represented an even worse threat to the nostrils and sensitivities of the public than the slaughterers. The offal, fat, and bones were trucked through the streets in open carts. In the process the overflowing loads often spilled, befouling the already dirty streets. The raw material was often in a state of putrefaction when removed since it had been piled in and around the slaughterer's place of business for several days. Even when collected fresh, it was heaped up in the yards of the rendering companies before processing. The rendering itself, even under the best of conditions, produced odors that in no way could be confused with the attar of roses. The Health Department was under steady pressure from the newspapers and aroused citizens to minimize the effect of the most offensive of trades.

The Metropolitan Board of Health tackled the fat-boiling plants soon after its establishment and forced many of them to close. In most cases the offending businesses were warned to eliminate open kettles and substitute enclosed steam boilers or else face legal action. In 1866-67 a concerted drive was made which involved a thorough inspection of each individual business. Those establishments unable to keep odors to a reasonable level were served with legal notices. In addition, the board refused to issue any new permits unless the operators were prepared to use the new and more efficient types of machinery. Like the butchers, the rendering companies put up a strong fight for their God-given right to pollute the atmosphere, but the health commissioners made slow but steady headway against these particular nuisances.⁴⁵

Typical of the opposition encountered by the Board of Health was its struggle with the New York Rendering Company. This company, which had a contract with the city to remove all offal and dead animals beyond the city limits, found it more profitable to render the material at its establishment on West 38th Street. When the board closed this place, the company then loaded the offal into scows and simply dumped it into the bay from whence

most of it floated back ashore. After due warning, the board canceled the contract. A long legal battle ensued, but the board eventually confirmed its authority by winning a \$100,000 judgment against the company. In another instance, the owners of an old vessel anchored at the foot of West 39th Street, which was used for rendering, refused to acknowledge a health order to cease and desist, whereupon the board simply had the vessel towed over to Barren Island at the owner's expense.⁴⁶

In the following years the Department of Health was fairly successful in keeping the fat-boiling companies under control, but rendering was a profitable business and the slightest relaxation soon led to abuses. In 1894 the Health Department undertook a major survey of the rendering companies and discovered that many of the old practices had reappeared. Despite a city ordinance prohibiting the importation of fat or tallow for rendering purposes, the companies were bringing large quantities into the city. Although technological improvements had eliminated much of the odors associated with processing, offal, carrion, and tallow were still being transported through the streets in open carts and wagons, leaving chunks of decaying matter and a trail of outraged citizens in their wake. The upshot was a new health law requiring that all such material must be transported in enclosed vessels.⁴⁷ The survey also led to renewed vigilance on the part of the sanitary inspectors, and conditions greatly improved in the succeeding years. Significantly, in 1895 the Health Department gave special thanks to the Ladies' Health Protective Association for its support, noting that the officers and members had been zealous in inspecting establishments engaged in the offensive trades and in reporting unsanitary conditions. This concerted drive enabled the department to report at the end of 1896 that there had been no major complaints.⁴⁸

Milk and Food Inspection

New York City had been concerned with its food supply even from the earliest colonial days, and throughout the nineteenth century some attention was given to perishable foods. In the last two decades of the century, the Health Department, reflecting public concern, concentrated its main food inspection efforts on

improving the supply of milk and dairy products. Once before, during the 1850s and 1860s, the public became aroused over the production and sale of so-called swill milk. The Board of Health, happy to find public support, responded by driving these producers out of business, and by the time the Health Department took over from the Metropolitan Board of Health in 1870 the milk situation appeared to be well in hand. The chief complaint during these years pertained to watered milk, but following Dr. Chandler's appointment as a chemist in 1867, the Health Department instituted tests to determine the ratio of water to milk solids. The milk issue remained quiescent during the 1870s, but the scientific and technological revolutions of the late nineteenth century once again brought it into the foreground. Large-scale milk processors and distributors, aided by new developments in chemistry, discovered that the increase in profits from adding more subtle adulterants and large quantities of water to their milk far outweighed the penalties prescribed by law. At the same time, as the role of bacteria gradually became clear, public interest in the milk supply increased greatly.

The drive for better milk in America during the late nineteenth century was conducted at two levels, state and municipal. In the state legislatures there appears to have been a three-way fight between the honest and conscientious farmers and processors, the more unscrupulous ones, and the outside interests represented by the oleomargarine manufacturers who posed a threat to the entire dairy industry. Beginning in 1878 the New York State Legislature passed a series of laws with respect to the adulteration of dairy products. Although designated as laws to preserve the public health, it is clear that many of them were pushed through by farmers who feared competition from unscrupulous processors and from dairy substitutes. For example, the New York City Common Council in 1881 discussed the work of the State Assembly's Committee on Public Health which at that time was investigating food adulteration. The Council observed that the only witnesses testifying before the committee on oleomargarine were butter dealers, and it requested the Board of Health to seek both "medical and chemical aid" in determining the value of this product. Not surprisingly, the State Legislature prohibited the manufacture of oleomargarine.⁴⁹

A state law in 1887 had required milk inspectors to work in pairs, but it was amended in 1890 to provide for one milk inspector and one sanitary officer. At this time the city was divided into seven milk inspection districts. The inspectors, who as a further precaution against bribery shifted to a different district every three weeks, were required to work from 4:00 to 8:30 each morning inspecting the milk delivered to householders. Twice a month they inspected milk coming into the cities at the ferries and railroad terminals. Probably as a result of the new spirit of professionalization infusing the Health Department, by 1890 the amount of adulterated milk dropped sharply and fewer milk dealers were arrested.⁵⁰

A more useful law was passed in 1892 as the role of tuberculous cows in spreading the disease among humans became clear. It proposed to give the State Board of Health strict powers to inspect dairy cows and to eliminate diseased animals.⁵¹ On the basis of this and the other state laws dealing with dairy products, New York City should have had little trouble with its milk supply. The chemical and bacteriological tests made by the Health Department's laboratory told an entirely different story.

The City Health Department first showed its renewed concern with the milk supply in 1883 when the Sanitary Code was amended to permit its inspectors to seize and destroy any adulterated milk brought into the city. The following year the department established a Division of Food Inspection with three inspectors to check on milk and food supplies. By 1890 the department had seven inspectors working exclusively on the milk supply, and, in accordance with the state law mentioned earlier, each of them was accompanied by a sanitary officer to serve as a witness. Ordinarily, health inspectors sought to use persuasion and gentle threats, but they were not averse to making arrests.⁵²

The ineffectiveness of the state dairy laws is clearly shown by the report of the City Health Department's chemist in 1894. He pointed out that while the department had authority over milk within the city, it had no control over the production of milk nor of its handling while it was in transit. Theoretically the State Board of Health was responsible for eliminating diseased cows from dairy herds, but state authorities were singularly ineffective. To avert the danger of having the City Health Department ex-

clude their milk, farmers who knew their herd was infected had only to avoid sending cows to New York City for slaughtering.⁵³

The department chemist indicated that all was not well even within the city. The major problem originated with the wholesalers, for whom the profits from watering milk far exceeded the nominal fines of \$25 to \$50. Adding water had become such a common practice that retailers refused to buy milk from any wholesaler unless the latter assumed responsibility for fines assessed by the Health Department. To rectify this situation, the chemist proposed a license system for milk retailers with an added proviso that dealers found guilty of selling adulterated milk would automatically lose their permits. As the pure milk movement gained public support, the ethical milk dealers, recognizing the need for public confidence, formed a milk association to help raise standards in the industry. One of the association's rules stated that any member convicted of selling adulterated milk would face expulsion.⁵⁴

Fortunately the Health Department's emphasis upon improving the milk supply came at a time when Mayor Strong was providing effective reform leadership in municipal affairs. The first step toward milk reform was taken by the judges of the newly created Court of Special Sessions in 1895. After noting the ineffectiveness of the trivial fines levied against milk dealers, the judges "created consternation in the ranks of the offenders by adding imprisonment as a penalty." Encouraged by this action, the Health Department appealed to Mayor Strong for a larger force of inspectors. He immediately arranged for five additional milk inspectors (plus the required five sanitary policemen). By the end of the year the Health Department reported great success in its drive against the sale of adulterated milk. This same year, 1895, the Sanitary Code was amended to make the definition of adulterated milk more specific and an ordinance was passed requiring milk dealers to obtain a permit or license from the Board of Health.⁵⁵

These factors, along with a gradual strengthening of the milk regulations, encouraged the Board of Health to take a much stronger step in 1896 by providing for the systematic examination of dairy cows within the city limits to determine if any were tubercular. Under the new system health inspectors investigated the general sanitary condition of dairies, observed the handling of

milk, and examined each cow for tuberculosis or other diseases. Diseased animals were immediately separated and slaughtered, and a metallic numbered tag was affixed to each remaining animal. Thereafter no unexamined animal could be added to the herd. During the first few months of operation approximately one-half of the 2,200 cows in the city's dairy herds were examined and over 16 percent were found to be tubercular.⁵⁶

This same year, 1896, the department further strengthened its control over milk by adding still another section to the Sanitary Code requiring every individual or business handling milk to obtain a permit from the Health Department. Two types of permits or licenses were granted, one for stores and another for wagons. Before a milk dealer was issued a permit, he was required to supply the department with a detailed description of the source of his milk, the way in which it was handled, and the amount of sales. These permits were not transferable and, significantly, they could be revoked at any time by the Board of Health.⁵⁷ Although a great deal still remained to be done before New York City could be assured of a pure milk supply, the program initiated in 1895-96 removed many of the worst evils. The chief problem still remaining arose from the fact that only about 10 percent of the city's milk supply came from local dairy herds, which meant that there was no supervision over the cows and dairies producing 90 percent of the milk. The principle of Health Department supervision over milk production and distribution was established, and the time would soon come when the department's inspection program would encompass the city's entire milkshed.

Insofar as the rest of the city's food supply was concerned, for most of the nineteenth century the major emphasis had been placed upon preventing the sale of spoiled meat and fish and over-ripe fruit and vegetables. For example, when the deaths from diarrheal diseases began to increase in the summer of 1873, the Sanitary Committee of the Health Department, headed by Dr. Stephen Smith, drew attention to "the large quantities of unripe and decaying vegetables and fruit exposed for sale . . . especially in the poorer districts." The committee then recommended that the sanitary superintendent make a special inspection and confiscate all such foods.⁵⁸

In the 1880s the focus shifted to the problem of adulteration, a

concomitant of the application of science and technology to the food industry. As was the case with milk, action was taken first at the state level where laws designed to prevent the adulteration of food and drugs were enacted. One food law in 1885 required complete labeling of canned food, showing the firm's name, location, and the quality and grade of the contents. Two other measures dealt with brewing and wine making: the first required the use of pure hops in beer, and the second regulated the manufacturing of wines and prohibited the sale of adulterated wine.⁵⁹ Judging by New York City's problem with its milk supply, these laws were of doubtful value, but they do indicate a rising interest in the quality of food.

The City Health Department showed its awareness of the specialized nature of food inspection by creating a Division of Food Inspection and Offensive Trades in 1884. The number of inspectors was gradually increased, and by the early 1890s, as the Health Department generally became more effective, the worst abuses were remedied. The concern of Dr. Biggs and his cohorts with tuberculosis in this period led to a more careful inspection of slaughterhouses and butcher shops, and indirectly stimulated interest in general food inspection. In what may well have been a burst of unwarranted optimism, the sanitary superintendent declared at the end of 1893: "Systematic adulteration of food, common a few years ago, is a thing of the past." While this remark can scarcely be taken at face value, the Health Department was doing a creditable job. During 1894 the 19 food inspectors were responsible for condemning and seizing over 6,900,000 pounds of food.⁶⁰

In 1895 the Health Department struck at the practice of hauling meat through the streets in open carts and wagons and the custom of hanging it in front of butcher and poultry shops. The department's ordinance prohibiting the exposure of meat, poultry, or game aroused considerable opposition, and it was not until a number of offenders were arrested and fined that the law was reluctantly accepted. Considering the huge quantity of food pouring into New York each day and the relatively few inspectors available, the Health Department had an enormous job on its hands. The Division of Food Inspection and Offensive Trades, however, was an effective unit, and its inspectors were known for

their ability and zeal. After discussing the problem of diseased meat arriving from the Chicago stockyards, the editor of the *Times* expressed the general sentiment when he asserted: "Fortunately, the citizens of New-York can rely with confidence upon their Health Department in matters of this kind."⁶¹

Because of the small size of its staff, the Health Department necessarily concentrated its efforts upon the main distribution centers for the city's food. By 1896 the situation was so improved that more attention was given to the crowded lower east side. Jacob Riis's description of a public market in this section scarcely accords with the Health Department's cheerful reports about the food situation:

Along the curb women sit in rows . . . haggling over baskets of frowsy weeds, some sort of salad probably, stale tomatoes, and oranges not above suspicion. Ash-barrels serve them as counters, and not infrequently does the arrival of the official cart en route for the dump cause a temporary suspension of trade until the barrels have been emptied and restored.⁶²

Yet the fault did not lie entirely with the Health Department, but arose from street vendors who often appropriated condemned food stuffs and offered them for sale at relatively low prices. The limited number of food inspectors available for the lower east side forced them to concentrate their attention upon the wholesalers, but, at the same time, the inspectors tried to prevent condemned food from filtering back into the retail trade.

Consonant with the medical thought of the period, the Health Department reported on several occasions that it had taken "great pains" to prevent the sale of unripe fruits in early summer.⁶³ In view of the limited diet of the tenement dwellers, any fruit, ripe or unripe, must have been a welcome addition. For generations the advent of summer had brought with it the inevitable summer diarrheas, and the coincidence of these disorders with the first fruits of summer seemed too logical to be dismissed.

By the end of the nineteenth century New York was beginning to assume the attributes of a well-ordered modern city. A good start had been made toward developing an effective building code, plumbing was fairly well regulated, the city had an ample supply

of good water, the sewer system was operating fairly well, and there was a dawning recognition of the need to treat sewerage. Under the leadership of Mayor Strong and Colonel Waring, an effective Street Cleaning Department had been established, and the worst abuses arising from stables and the nuisance trades had been remedied. Although little had been accomplished on the score of water and air pollution, health officials were beginning to recognize their responsibilities in these areas. Finally, the small but efficient force of food inspectors had greatly improved the quality of milk and food offered for sale in the city.

Notes to Chapter 6

1. *Sanitarian*, I (1873), 1-17; *Leslie's Illustrated*, November 27, 1875.
2. *Times*, November 3, 1875; see also, *Herald*, February 22, 1872; February 3, 1873.
3. B. of H., Min., April 3, 1885, p. 390; *Times*, June 8, 1875; for other examples see the *Herald*, February 23, 1872; December 20, 1875.
4. For example, see *Sanitarian*, VI (1878), 130-32.
5. J. M. Toner, "Water Supply of Cities," *Sanitarian*, V (1877), 255-57.
6. *Docs. of Bd. of Aldermen*, no. 1 (January 7, 1867), XXXIV, pp. 26-28; *Herald*, September 29, October 2, 1869; *Times*, June 21, 1869; *Ann. Rep., Met. B. of H.*, 1869, pp. 25-26.
7. *Times*, February 16, 1871; August 21, 26, 1876; *World*, August 29, 1876.
8. For example, see *Leslie's Illustrated*, May 15, 1880.
9. N.Y. State Laws, 106th sess., chap. 490, June 1, 1883, pp. 666-78; 107th sess., chap. 292, May 13, 1884, pp. 359-60.
10. A.I.C.P., *Fortieth Annual Report*, 1883, p. 23; *Times*, July 13, 1890; *N.Y. Med. Jnl.*, LII (1890), 73; Isaac N. Stokes, *The Iconography of Manhattan Island* (New York, 1915-28), vol. III, pp. 809-10; Charles Barnard, "The New Croton Aqueduct," *The Century*, n. ser., XVII (1889), 205-24.
11. *Times*, June 21, 1869; December 6, 1884; *Herald*, June 21, 23, 25, 1869; August 20, 1870; N. Y. State Laws, 108th sess., chap. 543, June 13, 1885, pp. 920-21.
12. *Sanitarian*, XXVII (1891), 272-75; N. Y. State Laws, 113th sess., chap. 468, June 2, 1890, pp. 839-40; 115th sess., chap. 235, April 6, 1892, I, pp. 486-87.
13. *Sanitarian*, XXX (1893), 165, 385-91; N. Y. State Laws, 116th sess., chap. 189, March 23, 1893, I, pp. 317-34; New York Academy of Medicine, "Minutes of the Section on Public Health and Legal Medicine, Etc." [New York, 1891-1911, mss.], March 1, 1893, pp. 73, 75 (hereinafter cited as N.Y.A.M., "Min. . . . Section on Pub. Health"); New York Academy of Medicine Library, *Clippings Relating to the Croton Watershed Bill*, 1893.

14. *Ann. Rep., Bd. of Health*, 1893, p. 29; 1894, pp. 16-17; *Herald*, July 11-15, 1893.
15. *Sanitarian*, I (1873-74), 49-57, 459-65; X (1882), 175; *Times*, November 12, 1874; November 25, 1883.
16. *N. Y. State Laws*, 98th sess., chap. 549, June 9, 1875, p. 620; 103rd sess., chap. 360, May 22, 1880, I, pp. 537-39; 111th sess., chap. 423, May 28, 1888, p. 698; 115th sess., chap. 31, February 15, 1892, I, pp. 48-50; *Ordinances, Resolutions, Etc., Passed by the Common Council, 1893*, LXI, p. 223.
17. *Times*, August 22, 26, 1870; *Herald*, August 20, 24, 1870.
18. *Times*, May 24, 1871; *N. Y. State Laws*, 94th sess., chap. 715, April 26, 1871, II, p. 1573; 98th sess., chap. 604, June 18, 1875, pp. 735-37; 100th sess., chap. 275, May 16, 1877, I, p. 293; 104th sess., chap. 346, May 25, 1881, I, pp. 47-72.
19. *N. Y. State Laws*, 108th sess., chap. 414, June 6, 1885, pp. 718-21; 109th sess., chap. 630, June 14, 1886, pp. 899-901; 113th sess., chap. 84, March 31, 1890, p. 251.
20. *Docs. of Bd. of Aldermen*, no. 22 (January 2, 1867), XXXIII, pp. 101-102; *Times*, March 12, 1867.
21. *Ann. Rep., Met. B. of H.*, 1867, p. 24.
22. *Ibid.*, 1868, pp. 41-43; *N. Y. State Laws*, 91st sess., chap. 635, May 6, 1868, II, p. 1357.
23. *N. Y. State Laws*, 91st sess., chap. 853, June 3, 1868, II, pp. 2024-25; *Medical Register of New York City, Brooklyn and Vicinity, for the Year Commencing June 1, 1869*, VII, p. 205 (hereinafter cited as *Med. Register of N. Y. City*).
24. *Ann. Rep., Met. B. of H.*, 1867, appendix A, p. 6ff.; 1867, pp. 17-18.
25. *Times*, January 6, 22, 1870.
26. *Nation*, no. 325 (September 21, 1871), 189.
27. For examples, see *Herald*, February 23, 1872; April 25, 1873; *Times*, February 17, April 14, 1872; *Leslie's Illustrated*, June 8, 1872.
28. *Times*, February 28, April 23, 1880; January 23, March 19, April 10, 1881; *Daily Tribune*, January 25, March 8, November 30, 1880; *Herald*, January-April, 1881; *Medical Record*, XIX (1881), 448; *Proceedings of the Special Meeting of the Board of Managers . . . Association for Improving the Conditions of the Poor, January 10, 1881* (New York, 1881); *January 19, 1881* (New York, 1881) [New York Historical Society, pamphlets].
29. *Times*, April 13, 1887; December 20, 31, 1889; *Herald*, December 19, 31, 1889.
30. *An Examination of the Subject of Street Cleaning in the City of New York* (New York, 1891), pp. 5-16 [New York Historical Society, pamphlet]; *Herald* and *Times*, December 14, 1890.
31. *N. Y. State Laws*, 115th sess., chap. 269, April 9, 1892, I, pp. 528-38; chap. 415, May 2, 1892, I, pp. 865-66.
32. Allan Nevins, *The Evening Post: A Century of Journalism* (New York, 1922), p. 492; *The First Parade of the Department of Street Cleaning*,

- May 26, 1896 (New York, 1896), pp. 1-31 [New York Historical Society, pamphlet]; *Herald*, January 6, 1895; *Times*, April 12, 1897; New York *Sun*, April 16, 1895 (hereinafter cited as *Sun*).
33. *Sun*, April 20, 1895; *Daily Tribune*, April 21, 25, 30, May 17, 1895; see also *Sun*, April 22, 1895; *Times*, October 22, 1897; *Daily Tribune*, September 16, 1897.
 34. *Ann. Rep., Bd. of Health, 1894*, pp. 27, 41; 1895, p. 36.
 35. *Ibid.*, 1890, p. 22; 1895, pp. 58-61; N. Y. *State Laws*, 107th sess., chap. 278, May 12, 1884, p. 340.
 36. *Ann. Rep., Bd. of Health, 1894*, p. 47; 1895, pp. 30-31.
 37. *Sanitarian*, V (1877), 233.
 38. *Medical Record*, XLVI (1894), 207; N.Y.A.M., "Min. . . . Section on Public Health," December 5, 1894, p. 92; May 6, 1896, p. 107; N. Y. *State Laws*, 118th sess., chap. 58, March 2, 1895, II, part 1, p. 52.
 39. *Herald*, August 28, September 4, 1867; *Times*, September 8, 1867; July 5, 1868; *Ann. Rep., Met. B. of H., 1868*, pp. 37-39.
 40. *Ann. Rep., Bd. of Health, 1894*, pp. 57-58.
 41. Dr. E. H. Jones, "The Sanitary Questions Concerning Abattoirs and the Slaughtering Business in New York," *Sanitarian*, V (1877), 315-21.
 42. *Sanitarian*, V (1877), 317-19.
 43. B. of H., Min., January 13, 1885, p. 295; February 7, 1885, p. 326; N. Y. *State Laws*, 108th sess., chap. 394, June 2, 1885, p. 639; *Ann. Rep., Bd. of Health, 1894*, pp. 45-46.
 44. B. of H., Min., April 15, 1878, p. 270; Jacob Riis, *How the Other Half Lives* (New York, 1957), pp. 85-86; *Ann. Rep., Bd. of Health, 1894*, p. 42.
 45. *Ann. Rep., Met B. of H., 1868*, pp. 39-40; also see *Herald*, July 15, 1869; May 4, 11, 1871; *Times*, July 15, 1869.
 46. *President Chandler and the New York City Health Department*, pp. 5-6.
 47. *Ann. Rep., Bd. of Health, 1894*, pp. 37-41.
 48. *Ibid.*, 1895, p. 33; 1896, pp. 47-48.
 49. N. Y. *State Laws*, 101st sess., chap. 220, May 7, 1878, p. 274; 107th sess., chap. 202, April 24, 1884, pp. 255-58; *Ordinances, Resolutions, Etc., Passed by the Common Council, 1881*, XLIX, p. 77.
 50. *Ann. Rep., Bd. of Health, 1890*, pp. 70-72; N. Y. *State Laws*, 110th sess., chap. 430, May 23, 1887, pp. 533-34.
 51. N. Y. *State Laws*, 110th sess., chap. 430, May 23, 1887, pp. 533-34; 115th sess., chap. 487, May 5, 1892, I, pp. 981-83.
 52. B. of H., Min., May 23, 1883, p. 217; *Ann. Rep., Bd. of Health, 1890*, p. 24.
 53. *Ann. Rep., Bd. of Health, 1894*, p. 46.
 54. *Ibid.*, pp. 60-62; 1896, p. 42.
 55. *Ibid.*, 1895, pp. 31-32.
 56. *Ibid.*, 1896, pp. 41-46, 89ff.
 57. *Ibid.*
 58. *City Record*, I (1873), p. 167.

59. N. Y. *State Laws*, 108th sess., chap. 269, May 12, 1885, pp. 464-65; 109th sess., chap. 467, May 27, 1886, p. 703; chap. 477, May 27, 1886, p. 710; 110th sess., chap. 603, June 18, 1887, pp. 814-16.
60. *Ann. Rep., Bd. of Health*, 1893, pp. 21, 46; 1894, p. 64.
61. *Ibid.*, 1895, pp. 32-33; *Times*, May 22, 1895.
62. Riis, *How the Other Half Lives*, pp. 43-44.
63. *Ann. Rep., Bd. of Health*, 1896, pp. 47, 197.

The Prevailing Diseases

. . . the mild cholera scare of the past Summer in spurring up the Board of Health, the Department of Public Works, and the Street-Cleaning Department afforded, on the whole, the most beneficial experience we have had in many a year. [*Times*, October 16, 1892.]

In glancing back over the history of any city's health, one cannot help being struck by the disparity between the diseases which aroused the greatest fear and drew most attention and those familiar disorders which were responsible for the major share of morbidity and mortality. The records clearly show that tuberculosis, pneumonia, and other respiratory disorders were the chief cause of death in New York City during the last 40 years of the nineteenth century and that enteric or diarrheal diseases, a prime source of infant mortality, were probably a close second. Respiratory and enteric complaints, however, were constantly present, and their insidious ravages were accepted as the normal order.

The Fear of Asiatic Cholera

While recognizing that control of summer diarrheas was essential to reducing infant mortality, municipal officers and the general public were always far more concerned with the threat from Asiatic cholera than they were with the more serious danger from the omnipresent bacillary and amoebic dysenteries. The recollection of the great epidemics of cholera in 1832 and 1849 was still fresh when the disorder returned in 1866. Although about 600 New Yorkers died during the 1866 outbreak, that year marked the last great onslaught of Asiatic cholera in the United States.

Despite the city's relative freedom from cholera after 1867, the disorder deserves a major share of the credit for promoting quarantine measures, strengthening the Health Department, and improving the general sanitary condition of the city. The threat of cholera, as discussed in an earlier chapter, provided the stimulus

for establishing the Metropolitan Board of Health in 1866. In the succeeding years, the presence of cholera in any major world port invariably led city officials to tighten the quarantine regulations and institute a large-scale campaign to clean up the city. For example, in the summer of 1873 the newspapers were full of cholera stories—the *Times* even editorialized on “Cholera Panics!” In August the editor of *The Sanitarian* declared that in the United States cholera was the “all-absorbing topic.” He correctly equated the disease with dirt and specifically pointed out that the evacuations of cholera patients were highly dangerous. Joining with the newspaper editors, he decried the poor quality of food and the general unsanitary condition of the city.¹ As might be expected, this hue and cry resulted in the Health Department making strenuous efforts to remove the worst sanitary abuses.

When cholera broke out in Toulon and Marseilles in 1884, American newspapers once again carried daily front page reports of the disease. In July President Chester Arthur issued a proclamation warning state officials to be on guard. As the disorder continued to strike in a desultory fashion at European cities, New York newspapers and medical journals kept warning that unless special precautions were taken, cholera would certainly break out the following summer. Throughout the winter of 1884-85 cholera preoccupied public attention. In January a group of prominent businessmen organized the Sanitary Protective Society to mobilize all existing health agencies. As the public clamor for action increased, early in 1885 the Board of Health secured a special appropriation of \$50,000. Fortunately the disease did not gain a foothold in the city, and in December the board requested permission to hold over the special fund for use in the event of an outbreak in 1886. Once again, however, the health and quarantine officials were put on the *qui vive* and the city was given a thorough cleansing. The following year the presence of cholera in Italy led Mayor Abram Hewitt to ask President Grover Cleveland to stop all Italian immigration until the danger was over.²

The last major cholera scare came in 1892, and once again the entire city was alarmed. Warnings were issued in the spring, and by July newspapers and medical journals were carrying detailed reports of the cholera ravages as it spread from Asia into Europe. Typical of these accounts were those supplied by the editor of the

Medical Record. After closely following the progress of the disease, he reported on July 30 that it was no threat to the United States. A week later he mentioned that 50,000 persons had died in the Russian Caucasus and that the Parisian officials had lied to prevent panic when cases appeared in the city—statements scarcely reassuring to his readers. The *Times* did not help matters when it stated on August 27 that 2,500 persons a day were dying in Russia.³

In the meantime New York City was feverishly preparing for the worst. Mayor Hugh J. Grant called on all city departments to cooperate with the Board of Health. The Street Cleaning Department began a sanitary campaign, and the Health Department alerted its milk and food inspectors, checked on the water supply, and kept the summer corps of 50 physicians on its payroll during the fall months to provide for the coming emergency. The St. John's Guild lent its "Floating Hospital" to be used for cholera cases, J. P. Morgan offered the use of a steamship to house cabin passengers on immigrant vessels during the quarantine period, and the directors of St. Mark's Hospital organized a volunteer medical and nursing corps in preparation for the expected epidemic. New York was not alone in its hasty preparations to meet the impending invasion of cholera. Similar steps were being taken in other American ports, and President Harrison responded to the crisis by ordering all immigrant vessels to perform a minimum 20-day quarantine. As tension began to mount, the Health Department issued a circular designed to allay fear and promote personal hygiene. Appropriately enough, it was entitled, "Don't be frightened, but do be cautious."⁴

The poor immigrants jammed into steerage experienced bitter hardships during the ocean crossing, but the fact that they were to be left aboard ship in their crowded quarters during the quarantine period aroused no particular concern. The cabin passengers were more fortunate. As already noted, J. P. Morgan offered them the use of a steamship. In addition, the state leased some buildings on Fire Island for the detention of quarantined cabin passengers. This latter action led to a minor crisis which revealed how deeply rooted was the fear of cholera. When it was announced that the cabin passengers would be landed on Fire Island, the local Board of Health promptly deputized all citizens and pre-

pared to resist. An armed mob lined the pier, and it was not until the governor mobilized the National Guard that the mob dispersed and the passengers were able to land. The real concern, however, should have been for the steerage passengers. Dr. J. M. Byron, who was employed as a bacteriologist at the quarantine station, told the members of the New York Academy of Medicine that only Dante could have described "the filth, misery, and abject condition of this mass of humanity. . . ." He blamed the ship owners and masters for the deplorable state of affairs and declared that only the effectiveness of the quarantine system prevented cholera from gaining entrance into New York City.⁵

By 1892 bacteriology had made notable strides, and the etiology of Asiatic cholera was fairly well understood. Old ideas die hard, however, and there was still a healthy distrust of this fearful disease. A Sanitary Commission investigating a cholera outbreak aboard the steamship *Franklin*, which arrived in New York on November 15, 1871, described how all patients were promptly removed to the quarantine hospital and all passengers kept in quarantine for 20 days. Although 52 passengers were diagnosed as cholera cases and 12 of them died, the disease did not spread beyond the quarantine facilities. The commission concluded that this instance clearly demonstrated that cholera was not contagious like smallpox or measles and that it could be kept under control by reasonable sanitary precautions. All evidence in the succeeding years tended to confirm the Sanitary Commission's conclusions, yet during the cholera scare of 1892 the Board of Health required the police to establish a guard at each place where a case or suspected case of cholera had occurred in order to assist in maintaining the quarantine.⁶

In summarizing the events of 1892, the *New York Times* credited the fear of cholera with spurring all city departments into achieving unusual heights of efficiency. Although the amount of cholera in the city had proved negligible, the effect of the Health Department's special efforts had been to reduce the death rate from all other diseases.⁷ Probably the most significant result of this threatened invasion of cholera was the establishment of the Health Department's Division of Pathology, Bacteriology, and Disinfection under the charge of Dr. Hermann M. Biggs. As indicated in the previous chapter, Dr. Biggs would have managed to

secure a laboratory eventually, but the cholera threat brought his arguments into sharp focus and helped crystallize the thinking of the members of the Board of Health.

The year 1892 marked the last time cholera was considered a serious threat to New York's health; never again would it alarm public officials and spread fear and consternation among the public. There had been good reason for this alarm, since the disease had scourged America on three occasions. For the last 30-odd years of the nineteenth century, however, it stimulated a public health consciousness among thousands of Americans, and thus served the cause of public health.

The Re-Emergence of Smallpox

The empirical discovery of inoculation and vaccination in the eighteenth century had paved the way for drastically reducing smallpox in the early nineteenth century. Tragically, the very success of vaccination in eliminating major smallpox outbreaks made the public apathetic, and neglect of vaccination by the mid-century led to a rising incidence of the disease. In New York City the peak years came in the 1870s, with 805 deaths recorded in 1871, 929 in 1872, 484 in 1874, and 1,280 in 1875. Brief flare-ups occurred in 1881 and 1882 when 451 and 259 died, respectively, and again in the years from 1892 to 1894 when the death toll was 81, 102, and 154.⁸ In terms of present health statistics these figures seem startling, but compared to the prevailing annual death toll of 3,500 to 5,500 from tuberculosis, 1,000 to 2,400 from diphtheria, 500 to 2,000 from scarlet fever, and comparable figures for other disorders, smallpox was only a minor factor in the city's morbidity and mortality.

Precisely because the means were at hand for eliminating this dreaded disease, public health leaders and responsible citizens considered its presence an affront to their community. Unfortunately, as a major port and entrepôt for immigrants, New York had a large transient population, and despite the best efforts of the Health Officer and other quarantine officials, the disease was repeatedly introduced into the city. Moreover, New York attracted people from many parts of the United States, thus further complicating the problem of keeping smallpox to a minimum. Many of

the immigrants were suspicious of all government officials and were particularly distrustful of health officers who sought to insert some foreign substance into their bodies. The Board of Health, lacking a compulsory vaccination law and often without funds for a general vaccination program, could only appeal to the public to use its free vaccination facilities. Whenever smallpox became epidemic, special funds were provided to send physicians into the tenements and schools to vaccinate all individuals living in infected areas.⁹

The crowded schools were an obvious focal point for smallpox, and the Board of Health began investigating them early in 1867. Under prodding by Dr. Elisha Harris, education officials agreed in March to permit an inspection of school children to determine whether or not they had been vaccinated. A survey of some 139 schools in New York and Brooklyn revealed that about 4 percent of the 233,000 children examined had not been vaccinated. Armed with this information, the Board of Health then resolved that the sanitary superintendent should inspect the common or public schools twice a year and require a vaccination certificate from each student and teacher.¹⁰ The Board of Education, which ordinarily was resentful of any intrusion by other municipal agencies, was cooperative, but the health inspectors ran into problems with many of the school trustees.

The Antivaccination Movement

As with many public health measures, the success of vaccination led to doubts about its value. A generation which had experienced only limited contact with smallpox could see little reason for undergoing the painful and, at times, dangerous process of vaccination. The crude techniques then in use involved making a much larger abrasion than is the case today, and secondary infections were not infrequent. Moreover, there was a real danger that human vaccine matter which was commonly used might well contain the agents of other more serious disorders. By the 1880s an antivaccine movement, comparable in scope to the recent anti-fluoridation one, was in full swing.

The early opponents of vaccination had tangible evidence on which to base their position. It was not until the movement be-

came a cult that its followers wandered beyond the bounds of scientific credibility. The first individuals to oppose the standard vaccination procedures raised some good points. For example, Drs. J. M. Carnochan and A. B. Whitney remonstrated with the Board of Health for permitting the use of vaccine matter taken from humans. They argued that it was capable of transmitting scrofula and "other constitutional diseases" and that it was often too weak to be of benefit. They were not opposed to vaccination per se, but they were opposed to the use of any matter other than pure vaccine from cows. The Eclectic Medical Society of the City of New York passed similar resolutions, but went further by asserting that no child should be vaccinated without the consent of the parents. The board requested an opinion from its vaccine physician, Dr. J. P. Loines. He responded with a long report in which he quoted the views of various British and continental physicians and concluded that there was no danger from human vaccine matter providing the correct procedures were used. After considering the antivaccination arguments, the *Times* suggested that the medical profession thoroughly investigate the subject and take a definite stand.¹¹

The debate over vaccine undoubtedly slowed down the drive to vaccinate school children. In the winter of 1868-69, when smallpox began to spread through the city, inspectors in some of the schools found as many as 50 percent of the children unvaccinated. It was these findings, combined with the widespread appearance of smallpox, which led the Board of Health to undertake a major vaccination campaign. Beginning on May 27, 1869, the board appointed an additional 60 sanitary inspectors and began a systematic house-to-house check on all residents. Approximately 150,000 families were contacted, and at the end of six weeks the health officials estimated that vaccination had been either given or offered to 700,000 individuals. In a clear demonstration of the validity of mass vaccination, the smallpox epidemic was brought to an abrupt end.¹²

As noted in Chapter 3, when smallpox returned in 1870 the school board again cooperated by appointing a special school medical inspector and requiring vaccination as a prerequisite to school attendance. On its part, the Health Department appointed another temporary vaccination squad. Despite these measures,



Sanitary Precautions against a Smallpox Epidemic—An Inspector of the Board of Health Vaccinating Tramps in a Station-House. From *Frank Leslie's Illustrated Newspaper*. April 19, 1879. Courtesy of the New York Public Library.

smallpox continued to flare up, and in 1874 President Chandler of the Board of Health established a permanent vaccination force. In times of emergency, such as the outbreaks of 1874 and 1875, this corps was temporarily expanded. Its work was usually facilitated when smallpox was an immediate threat, for then the public was more likely to accept vaccination. Once the crisis was passed, the vaccination program tended to lag, despite a continuous educational campaign carried on by the Health Department, the newspapers, and the New York Academy of Medicine.¹³ Even in the face of serious smallpox outbreaks, the Health Department was never given enough money to conduct a full-scale vaccination drive. Smallpox caused a total of over 700 deaths in 1881 and 1882, yet in January of the latter year the Board of Health ruled that it could not afford to vaccinate private families unless they had been exposed to smallpox.¹⁴

One of the most effective weapons devised by the Health Department in its battle with smallpox was to begin production of vaccine matter. In 1871 the department had been forced to use "humanized lymph" because of its inability to obtain bovine lymph. In consequence, the department attempted that year to make its own supply, but the cost was prohibitive. Five years later, under the direction of Dr. James B. Taylor, a second and successful start was made on a farm in Lakeview, New Jersey. In 1884 the cows and production facilities were moved into the city. Early in 1895 supervision of this work was turned over to the Division of Pathology, Bacteriology, and Disinfection.¹⁵ The production of pure, high-quality vaccine by the Health Department was particularly significant since the use of ineffective or contaminated matter provided much of the basis for the antivaccination drive which emerged in the later years of the century.

The newspaper and medical journals provide ample evidence to show that obtaining pure virus was a major problem. In response to a newspaper article accusing hospital physicians of not knowing how to vaccinate, an indignant "House Physician" replied in January of 1881 that the trouble lay not with the physicians but with the defective vaccine matter.¹⁶ About this time, the Committee on Hygiene of the Medical Society of the County of Kings issued a report deploring the unreliability of vaccine virus. The committee noted that 13 individuals were selling purported vaccine crusts,

and that similar crusts could be bought from druggists whose source of supply was unknown. One vaccine company investigated by the committee had only three employees, an agent, a secretary, and a workman who collected the vaccine from the cows and calves. "An examination of some of the crusts furnished for use," the committee reported, "showed the presence of hairs, dirt, and dung." In 1883 the *Medical Record* declared that compulsory vaccination of infants on immigrant steamers was dangerous on the grounds that the steamship companies bought the cheapest serum and provided medical care which was "often on a par with the virus."¹⁷

With serious consequences frequently ensuing from faulty vaccination matter and techniques, it is not to be wondered that a few reputable physicians joined the antivaccination movement, although, by and large, its main ranks were filled with cranks, extremists, and charlatans. Its appearance in the 1880s also coincided with the drive by the American Medical Association to gain control of licensing and to eliminate irregular practitioners from the profession. Thus the antivaccination movement gave unorthodox physicians and dissenters a chance to criticize their more orthodox colleagues. For example, a physician writing in the *Physio-Medical Journal* in 1880 called vaccination "a relic of barbarism" and went on to argue that it survived because physicians could make money from it. In 1882 the Anti-Vaccination League of America held its first meeting in New York. One of the speakers asserted that smallpox was a filth disease rather than one spread by contagion, and he, too, called vaccination a moneymaking practice for physicians. Taking note of these charges, Dr. Austin Flint, representing the New York Academy of Medicine at a meeting of the New York State Medical Society, spoke of what he termed efforts "to excite in the minds of ignorant people a prejudice against vaccination," and he offered a resolution urging the society to support the vaccination drive.¹⁸

In the succeeding years the antivaccinationists became more strident—almost in direct proportion to the opposition by health officers, newspapers and the medical profession. Dr. E. B. Foote, Jr., who published his own journal under various names, in 1888 called vaccination "rape with a venereal taint." Dr. Alice Campbell, a Brooklyn homeopath who purportedly protected her pa-

tients with a homeopathic preventive called "varioline," was another energetic antivaccinationist. Although she was unable to find support among the homeopathic fraternity, she did make matters quite uncomfortable for the Brooklyn Board of Health.¹⁹

The last major outbreak of smallpox in New York City and Brooklyn came in the winter of 1893-94, and it gave Dr. Campbell and her fellow antivaccinationists a chance to swing into action. The newly appointed Commissioner of Health for Brooklyn, Dr. Z. Taylor Emery, began an effective campaign to vaccinate all individuals coming in contact with smallpox, in some instances compelling them under the threat of forcible detainment. His action led Dr. Campbell and her associates to form the Anti-Compulsory Vaccination League of Brooklyn, which promptly instituted legal proceedings against Dr. Emery. In May 1894 a local judge ruled that Dr. Emery and the Health Department had no right to vaccinate anyone against his will. Not content with this victory, a few days later, on May 29, the league held an open meeting in which it demanded that Emery be removed, "on the ground that he has proved himself a bigot and a tyrant."²⁰

As the antivaccinationists began building their case, all sorts of ridiculous charges flew. A Brooklyn alderman claimed a health inspector had walked into the room where his sister was dressing and insisted upon vaccinating her. Another Brooklynite described how he had been seized in his house, handcuffed, and forcibly vaccinated, in consequence of which he became ill and was unable to work. Fortunately for Dr. Emery, he had full backing from the mayor of Brooklyn and was given strong support by the King's County Medical Society. Although Dr. Campbell may have hoped to find encouragement from her fellow homeopaths, the Homeopathic Medical Society of King's County also expressed confidence in Dr. Emery and affirmed its belief in vaccination "and its proper enforcement by the health authorities."²¹

The Anti-Compulsory Vaccination League won its suit against Dr. Emery, but on an appeal, the Health Department was upheld. In the meantime a number of individuals successfully sued for damages as a result of their being either forcibly vaccinated or else forcibly detained in quarantine. The net effect was to make the Health departments in both Brooklyn and New York a little leery of compulsory vaccination. For example, in response to a specific

query New York health commissioner Dr. George B. Fowler stated in January 1897 that the Board of Health was not and never had been in favor of compulsory vaccination.²²

Although the advocates of compulsory vaccination did not win many converts, health boards generally were making headway in their educational campaigns, with the result that more and more people were willing to submit both themselves and their children to vaccination. Despite active opposition from the antivaccinationists, Dr. Emery's physicians managed to immunize about 250,000 Brooklynites during the early months of 1894. This same year the New York City Health Department reported it had given a total of 225,000 vaccinations and revaccinations. Possibly as an incidental result of its educational program, the Health Department gained a major victory in these years through a court decision upholding the right of school boards to exclude unvaccinated children from the public schools.²³

William Jenner had provided a crude method for preventing smallpox, but it was not until the bacteriological revolution and the development of new techniques that the procedure became relatively safe. The New York City Health Department was the first to establish an organized vaccination program, to produce its own vaccine matter, and to place this production under the supervision of competent bacteriologists. In combination with a relatively effective educational program, by the end of the nineteenth century New York did manage to get smallpox fairly well under control. This was accomplished despite the multiple language and cultural differences presented by so many of the newcomers to the city.

The Rising Incidence of Diphtheria

The third disease to receive considerable public attention in the latter third of the nineteenth century was diphtheria. Unlike cholera and smallpox, diphtheria was a major epidemic disorder throughout this period and one which showed a steadily rising incidence. It, too, was a horrible disease with a high case fatality rate. Its young victims were often carried away quickly as a result of toxins, or else lingered to suffocate when the so-called false membrane built up in the throat. From 1880 to 1886, when the number of cases annually ranged from 2,096 to 5,196, the case

fatality rate never fell below 42 percent and one year reached as high as 49 percent. From 1866 to 1872, the annual number of deaths from diphtheria was about 325, making it merely one of the many disorders plaguing children. In 1873 this figure suddenly jumped to 1,151, increased by another 500 in 1874, and then reached another new high of 2,329 in 1875. In the succeeding years the annual deaths gradually fell to reach a low of 671 in 1879, and then jumped to 1,390 in 1880. From this year to 1896, the number of diphtheria deaths never fell below 1,000 and on three occasions it was well in excess of 2,000. Interestingly, the peak year came in 1894 (2,359 deaths) with the introduction of throat culture tests for the disease and the use of antitoxin therapy. While the incidence of diphtheria generally increased throughout these years, the morbidity and mortality statistics show four epidemic waves, with the high points coming in the years 1873-76, 1880-82, 1885-89, and 1893-96.²⁴

Diphtheria aroused little interest until the epidemic years of 1874-75, when the five-fold increase in deaths led the *Times* and other newspapers to urge the health authorities to action. In a long editorial on July 14, 1874, the *Times* noted that the public was paying virtually no heed to diphtheria, a major threat to public health, while at the same time there was general alarm caused by the report of two suspected cholera cases. The editor pointed out that 1,344 persons had died from diphtheria during the previous year, over 500 of whom were children under the age of five. "Had a tithe of the number died from anything resembling cholera or yellow fever," the editor declared, "we should have had a public scare which would have compelled such a cleaning out of tenements, flushing of sewers, and clearing away of street filth as has not been witnessed for many years." In accordance with the prevailing sanitary concepts, he blamed the disease upon the filthy home conditions of the poor. The following January Dr. Elisha Harris expressed essentially the same views. He pointed out that the disorder was most widely prevalent in those areas where drainage was poorest, although he conceded that cases were widely distributed. He suggested a trial program of cleaning and ventilating homes, schoolrooms, and any other places where diphtheria was prevalent.²⁵ The Health Department, lacking funds for a major program such as the one envisaged by Dr. Harris, contented

itself with issuing a memorandum calling for a policy of cleanliness and personal hygiene combined with strict isolation of the sick.

The New York Academy of Medicine was acutely aware of the growing danger from diphtheria at this time, but its chief concern was with therapy rather than etiology. In 1876 and 1877 a number of papers were read before the academy on topics such as "Diphtheria and Its Treatment" and "Is Tracheotomy Justifiable in Diphtheria?" The case fatality statistics clearly show that none of the proposed forms of therapy were of much value, and the better physicians recognized that a moderate supportive treatment was the best that could be done. A western physician was reported by the newspapers in 1881 to have discovered that blistering the patient's chest would draw the poison from the throat.²⁶ One shudders to think of the painful first and second degree burns which must have been inflicted on children already fighting for their lives.

In 1892 the Section on Public Health of the academy took up the question of the cause of diphtheria. Dr. F. Fisher read a paper that year in which he claimed to have proved experimentally "that the gas escaping from sewers contained the specific Klebs-Loeffler bacillus." Since his thesis seemingly provided scientific support for what was essentially the miasmatic theory, Dr. Fisher's colleagues did not question his findings. Dr. August Caille commented that he was not surprised by them and then recommended that all sewer pipes be placed outside of houses. Mr. Charles Wingate agreed with both Fisher and Caille, adding that the ideas they had expressed were essentially in agreement with the "ground water theory of disease," one which maintained that there was a direct correlation between infectious diseases and poor drainage.²⁷

The discovery of the Klebs-Loeffler bacillus, as already indicated, did not end speculation about diphtheria. In the summer of 1893 a Dr. J. S. Wight argued that stable filth was "the field of pure culture for that dreadful and fatal disease, *diphtheria*." His experience had shown that cavalrymen were more likely to get the disease than infantrymen and that individuals living close to stables were the most likely victims. The editor of *The Sanitarian* supported Dr. Wight, and quoted two prominent officials of the New

York City Health Department to the effect that families living within 50 feet of stables were most prone to the disease.²⁸

The health authorities and the medical profession can scarcely be criticized for their inability to understand or treat diphtheria in the years prior to 1894, but the question can be asked as to why they paid so little attention to the disease. Dr. Abraham Jacobi, reporting for the Committee on Hygiene of the New York County Medical Society in 1891, pointed out that according to the annual reports of the Board of Health between 1866 and 1890 some 43,000 persons had died of diphtheria and croup and that another 18,000 had died from scarlet fever in the 18 years from 1871 to 1890. Despite this enormous mortality, the city had made virtually no provision to care for the sick. Nine years before, in 1882, he continued, the hospital facilities on Ward's Island were so crowded with smallpox, typhus, and typhoid fever cases that there had been no room for patients with diphtheria or scarlet fever. Since that time, nothing had been done except to open the Willard Parker Hospital with its 70 beds. Almost in despair, Dr. Jacobi exclaimed: "Seventy beds, and twenty-five hundred cases are permitted to die annually!"²⁹

Fortunately, just as diphtheria reached its peak years in the 1890s, advances in bacteriology made it possible to diagnose, treat, and finally to prevent this great child killer. The work of Dr. Biggs and his associates has been treated in an earlier chapter. Suffice it to say that although the number of cases continued at a high rate throughout the 1890s, the case fatality rate began to drop sharply with the introduction of antitoxin therapy.

One can scarcely leave diphtheria without commenting on the other two significant causes of death mentioned by Dr. Jacobi, croup and scarlet fever. The Health Department's mortality statistics show that the annual number of deaths from croup seldom fell below 500 during the last 30 years of the nineteenth century, and on one occasion rose above 1,000.³⁰ Croup, however, was a familiar infantile complaint and seems to have been considered as one of the normal hazards of life. It was the subject of occasional medical articles, but the health authorities made no special efforts to deal with it, other than the general infant care provided by the summer corps of physicians.

Scarlet Fever, Measles, and Whooping Cough

Scarlet fever, an epidemic disease which was only slightly less fatal than diphtheria, scarcely seems to have been noticed in the debates and discussions of public health. Yet for most of this period the annual number of deaths was close to 1,000, and for two of them, 1881 and 1882, the figures were 1,964 and 2,066 respectively. Newspapers occasionally warned that diphtheria and scarlet fever were epidemic, and serious outbreaks usually were mentioned in the annual reports of the AICP or the Board of Health, but there were no demands from the public that the health authorities seek either the cause or the cure. One of the few references to the disease appears in the Board of Health minutes in October 1883, when a Dr. J. C. Peters suggested that a special health service be inaugurated for the prevention and suppression of scarlet fever. The Sanitary Committee, to which Peters' suggestion was referred, requested that he furnish copies of his reports on the subject. Nothing further was heard of the matter, and presumably it died a natural death.³¹

Measles and whooping cough were two other children's diseases which aroused little concern. Up to 1881 these two disorders were roughly comparable in their annual mortality, with each of them averaging close to 300 deaths per year, but with measles having a slight edge. After this date the number of deaths increased sharply for both disorders, although measles widened its lead. Whooping cough deaths ranged from 300 to 500, whereas measles consistently averaged in excess of 700. Here again, these fatal childhood sicknesses were considered part of the growing-up process and neither parents nor physicians felt that anything could or should be done about them. Although they were both reportable diseases, few physicians took the trouble to do so. The Health Department's sanitary superintendent wrote to the New York Academy of Medicine in 1885 pointing out that many cases were not reported until after the patient's death. The department, he stated, was seeking to call this negligence to the attention of physicians through the newspapers, medical journals, and medical societies. But he warned that health officials were moving softly, for the Board of Health "does not desire to prosecute if milder measures will answer." Significantly, there was no discussion when the letter was read at the academy's May meeting.³²

Consumption and Pneumonia: Two Great Killer Diseases

In terms of their impact upon the city's annual mortality, two diseases, phthisis or consumption (tuberculosis of the lungs) and pneumonia should have caused the greatest outcry. Both of them, however, were considered constitutional disorders, and their very frequency dispelled the fears one might expect to be associated with them. The Health Department recorded slightly over 4,000 deaths from tuberculosis in 1870, and the annual death toll rose steadily in the ensuing years, reaching a peak in 1890 when 5,492 deaths were reported. The comparable figures for pneumonia show 1,836 deaths in 1870 and then a strong upward trend to a peak of 6,487 in 1893.³³ As with all nineteenth-century health statistics, the accuracy of these figures is open to question, but it is clear that the two disorders presented a major threat to the health of New Yorkers, about which the medical profession could do little.

In 1870 Dr. A. K. Gardner, an able New York physician, summarized the best thought of the day in an article on tuberculosis. He attributed the disease to overwork, physical exhaustion, mental anxiety, and to the effects of prolonged wasting affliction. He noted, too, that being subject to hard work and exposure, the underfed poor were unduly prone to it. He then declared that under certain conditions consumption was "personally communicable," although an individual in good health ordinarily would not contract it from a patient. He himself had known five or six cases in which the disorder was definitely transmitted by personal contact, but he added that his colleagues generally were not prepared to accept the contagiousness of consumption "as a fact."³⁴ In view of the outraged cries from the medical societies when the Department of Health made tuberculosis a reportable disease almost 30 years later, Dr. Gardner was understating the views of his colleagues. Yet their reaction places Dr. Gardner's perceptive observations in an even better light.

Following Dr. Gardner's article in 1870, tuberculosis aroused only an occasional notice. The medical societies periodically discussed it, but their major emphasis was upon diagnosis and treatment. In 1875 Dr. Elisha Harris reported that the number of deaths in the city during January had been the highest since 1865, largely the result of "inflammatory diseases of the lungs." While

the apparent cause seemed to be the great fluctuations in temperature, Harris said, a closer examination revealed "that the overcrowded, badly drained and unventilated habitations of fully 80 per cent of the victims of these maladies must be charged with contributing certain factors to this fatality."³⁵ While Gardner and Harris correctly recognized that consumption was associated with poverty and malnutrition, their findings tended to obscure its contagious nature and to give support to those who dismissed it as another of the evils which the poor brought on themselves.

In 1878 the Mutual Life Insurance Company of New York issued a report which should have awakened public consciousness to the gravity of consumption. The company's statistics showed that tuberculosis was responsible for 17.94 percent of all deaths, and that it was common to all ages. Even more shocking was the estimate that one-third of the total male deaths in New York City was caused by tuberculosis.³⁶ Unfortunately, death by tuberculosis was a relatively slow process. Because such familiar chronic complaints lacked the drama of the great pestilences, they went largely unnoticed by New Yorkers.

The first major assault upon tuberculosis came in 1889 when Biggs, Prudden, and Loomis, at the request of the Health Department, issued their report in which they pointed out that the disease was both contagious and preventable. The ensuing drive by Biggs and his cohorts has already been discussed in Chapter 5. Suffice it to say, the major emphasis in the fight against consumption was placed upon diagnosis and reporting of cases, an anti-spitting campaign, and regulation of the milk and meat supply. The most surprising aspect of this movement was its rapid and enthusiastic acceptance by the public. The cause, prevention, and cure of tuberculosis became a major subject of discussion in medical societies, journals, and newspapers, and within short order it had become a leading health issue. Undoubtedly the strong personalities of such leaders as Biggs, Prudden, Loomis, and E. L. Trudeau were a major factor in this, but it is also likely that the enthusiasm engendered by the bacteriological revolution had given some hope for the first time that this dreaded plague could be wiped out. Even in the New York Academy of Medicine, which opposed compulsory reporting of tuberculosis cases, there was strong support for the Health Department's drive. In the Public

Health Section of the academy, if one judges by the papers and discussions, most of the members supported the contagionist viewpoint. While the academy's membership at large did not concur, they did vote in favor of a resolution recommending that the Health Department adopt "more stringent measures for the care of all sputum," the establishment of municipal and state tuberculosis hospitals, and the careful regulation of all hotels and sleeping cars.³⁷

The precise effect of the campaign against tuberculosis in the 1890s is difficult to assess. For one reason or another, the disorder had already reached its peak, and it is possible that it might have followed the wax-and-wane pattern of earlier diseases, or at least lost some of its virulence. Whatever the case, the firm preventive measures taken by the Health Department undoubtedly deserve much of the credit for its gradual elimination as a major cause of death in New York City.

Pneumonia, like the other respiratory complaints, was associated with cold and exposure, but beyond that nothing was known about its etiology. Medical journals occasionally dealt with it, but their main concern was diagnosis and therapy. Pasteur's discovery of the bacillus of lobar pneumonia in 1880-81 was reported, but it offered no immediate hope for a cure. One of the few times that the Health Department paid any attention to pneumonia was in a special report in 1875 which contented itself with a simple analysis of the mortality figures. It noted that 7,803 deaths had been attributed to the disorder during the past four years, of which half were children under the age of five years. In further analyzing the statistics, the report pointed out that the greatest mortality among adults occurred in the 40-50 year age bracket. A *Times* editorial in December 1880 aptly summarized the state of knowledge with respect to pneumonia. It noted there had been an unusual number of deaths from pneumonia since the advent of "unseasonably cold weather," and commented that although some of them could be attributed to prolonged exposure, "in many cases, the cause cannot be traced."³⁸

The Malignant Fevers

Among the so-called fevers affecting the city, the most serious ones were typhoid, malaria, and typhus, but the one receiving the

greatest share of public attention was yellow fever. This pestilence was still periodically ravaging the south Atlantic and Gulf coasts and spreading far up the Mississippi Valley. The residents of the major port city of New York were understandably apprehensive, since the stark newspaper accounts of epidemics in Charleston, Mobile, New Orleans, and Galveston served as constant reminders of this fearful plague. Major outbreaks of yellow fever in 1878 were directly responsible for the creation of the short-lived National Board of Health, essentially a federal quarantine agency aimed at yellow fever. To add to New York's worries, on several occasions yellow fever cases were diagnosed in the quarantine station.

The most serious threat to the city arose in 1870 when an outbreak occurred in the military garrison on Governor's Island. Since the city had no jurisdiction over this federal installation, it was not until three New Yorkers died after attending a funeral on the Island that the Health Department learned of the disease. Health officials promptly instituted a rigid quarantine and thus prevented the fever from gaining a foothold in the city proper. The Health Department's measures were well taken since there were 159 cases and 52 deaths among the 774 residents on the Island. Another serious threat to the city appeared in 1885 when a stowaway on a vessel from Cuba was discovered to have yellow fever, but the standard fumigation and cleansing procedures customarily applied in those days kept the disease at bay.³⁹ These incidents did nothing to allay the fears of New Yorkers, and in the long run it may have been just as well, since the chief impact of yellow fever, like that of cholera, was to arouse the health consciousness of the public.

Typhoid, a major health problem throughout the nineteenth century, was probably the worst of the disorders classified under the rubric "fevers." From 1867 to 1897 it exacted an annual toll ranging from 261 to 625, or an average of between 350 and 400 for the 30-year period.⁴⁰ The connection between typhoid and infected fecal matter had been well established before this period. Until the advent of bacteriological laboratories in the 1890s, however, individual cases were difficult to diagnose. In addition, much of the plumbing was of poor construction, and even in the best of cities sewerage systems were inadequate. The standard practice

of the New York health officials upon identifying a typhoid case was to inspect the plumbing and water supply and to instruct the family as to how to disinfect the fecal discharges of the patient. In tenement areas it was not easy to locate cases until the disease was well advanced, nor was it easy to impress on slum dwellers, who seldom had running water, the necessity for personal hygiene. As mentioned earlier, the combined fear of government officials and hospitals led many of the immigrants to hide their sick. Under these circumstances, the ultimate solution for typhoid lay in the advent of safe water, adequate plumbing, and effective diagnostic techniques, all of which came about in the twentieth century.

In the meantime the medical profession was gradually achieving a better understanding of the disease. In 1887 Dr. T. Mitchell Prudden read a paper before the New York Academy of Medicine in which he suggested that the city's ice supply was a potential source of typhoid. Six years later a group of physicians blamed the Croton water supply for the advent of typhoid in the early spring of 1893. In 1896 the Health Department pointed to the gradual reduction in typhoid deaths since the high point of 1883, and gave credit to its policy of devoting more attention to the sanitation of rural districts and summer resorts.⁴¹ Interestingly enough, there was speculation in the medical journals and newspapers about this time that the disease could be transmitted through infected milk and other food supplies.

Malaria, a major health threat in nineteenth-century America, was no serious problem in New York City, but it still caused a significant number of deaths. In 1868 some 132 deaths were attributed to it, and during the succeeding years the annual death toll rose steadily, reaching a peak of 457 in 1881. In the next ten years it gradually declined to a low of 90 in 1895, rising only slightly in the next two years. Although malaria was a familiar disease, its etiology remained unknown until the end of the nineteenth century. It was generally ascribed to miasma arising from the earth as a result of poor drainage and putrefying organic matter, but there were many variants on this thesis. The wide diversity of opinion as to its cause is clearly shown in the ideas expressed in a session which the American Public Health Association devoted to malaria in its 1883 meeting. Dr. George M. Sternberg

attributed it to a specific germ; Dr. Charles Smart blamed impure drinking water; Colonel G. E. Waring thought a high water table was the decisive factor; and Dr. Gustavus Devron asserted that the drying up of swampy areas liberated the malaria germs. Three years earlier, when malaria seized Governor Alonzo Cornell in Albany, the "repair of a sewer in the immediate vicinity of the Governor's mansion" was held responsible.⁴²

From the days of Hippocrates, malaria had been associated with night air, a belief still widely held in the late nineteenth century. In 1885 the *Times* denounced the lakes in Central Park as disease ridden and dangerous. In defense, the city park commissioner conceded that malaria did exist in the vicinity of the lakes, but added that the malarial miasma was only dangerous at night. Although the commissioner was essentially correct, since the anopheles are most active at night, the *Times* derided his thesis.⁴³ Operating on the miasmatic theory, the Health Department was in no position to take any specific measures against malaria other than the customary sanitary and drainage steps which were the standard procedures. Until the role of the anopheles mosquito was discovered, there was little the department could do.

Typhus, an immigrant-borne disease, was relatively insignificant among the fevers of New York City during the last 30 years of the nineteenth century. From a high point of 137 deaths in 1868, the number fell to 3 in 1880. An epidemic the following year pushed the total to 160, and the disease continued to flare up for several years. After disappearing for two years, it again became epidemic in the early 1890s and reached a new high of 200 in 1893. By this date the Health Department was well prepared to make a systematic attack upon what was considered a filth disease. As soon as the focus of infection was discovered, the department stamped out the disease by isolating the sick and by giving careful attention to disinfection procedures.⁴⁴ In the four following years not a single death was recorded, fully justifying the Board of Health's assertion that typhus was under control.

Late in 1871 an unusual disease, "Cerebro-spinal Fever," broke out among horses, causing a heavy mortality for the next three months. Early in February of 1872 the first human case was reported, and by the end of March it was clear that the disease was reaching serious epidemic proportions. Although Dr. Stephen

Smith subsequently referred to it as "a disease previously unknown in this city," President J. S. Bosworth of the Board of Health more accurately stated that this was "the first recognized appearance of cerebro-spinal fever in an epidemic form." He pointed out that 30 to 40 deaths per year had been ascribed to it during the preceding five years. These figures, he added, were probably low because of poor diagnosis and negligent reporting. Whatever the case, 747 deaths were recorded in 1872 (subsequent Health Department charts show 782). In reviewing the course of this outbreak at the end of the year, health officials concluded that cerebrospinal fever was a specific disease caused by miasma arising from the filthy streets and escaping sewer gases.⁴⁵

Following the epidemic year of 1872, cerebrospinal meningitis was blamed for an average of about 150 deaths per year until 1881 when it again reached epidemic proportions, killing a total of 461 persons. Reflecting both the growing population and possibly better diagnosis and reporting, the annual death toll for the next ten years increased to about 200. In 1893 a third epidemic pushed the year's total to 469. Surprisingly, considering that the disease was relatively new and highly fatal, it aroused little concern, probably because it was associated with the so-called filth diseases. During the 1872 epidemic the fever seemed to be most prevalent in areas consisting of built-up or poorly drained land, leading health authorities to attribute it to the miasmatic or "malarial influences." During the 1881 epidemic the streets were again unusually filthy, which once more cast suspicion upon miasma. The outbreak of 1893 confounded all observers, however, since there had been no prolonged hot spells in the summer and the streets were relatively clean and well drained. After discussing all possibilities, the Health Department concluded that the epidemic of 1893 simply "cannot be explained." It did add as an afterthought that an epidemic wave seemed to recur every 9 to 12 years.⁴⁶

Venereal Diseases: The Wages of Sin

Understandably the Health Department could scarcely take direct action against diseases whose etiology and means of communication were unknown. Once the communicability of an infection was recognized the Health Department did endeavor to

apply quarantine and disinfection measures. There was one major exception to this general rule—venereal disorders. Although they were debilitating and fatal and could be spread by direct contact, the prevailing social mores prohibited any public effort toward either prevention or therapy. The sexual character of these infections cast them beyond the pale; they were considered the wages of sin, and the fact that there were innocent victims was simply disregarded.

Hospitals generally refused to admit venereal patients, and even many physicians were reluctant to treat them. Blackwell's Island Hospital, the penitentiary institution, was the only place in New York City where treatment was available for the poor, and neither the deplorable hospital conditions nor its prison association was likely to attract voluntary patients. The latter part of the century did see a growing recognition of the need for therapeutic and preventive measures. For example, in 1872 Charles Loring Brace in his book on the poor appealed for a special hospital or dispensary to care for female syphilitic cases. Far more influential in awakening public concern was Dr. J. Marion Sims's inaugural address before the American Medical Association in 1876 in which he called for a thorough examination of all incoming immigrants and for a system to take care of all existing syphilitic patients. He suggested that the New York Health Department had all the powers needed and could bring them to bear by simply adding syphilis to its list of contagious diseases.⁴⁷ Dr. Albert L. Gihon stated essentially the same thesis before the American Public Health Association in 1879. While the majority of physicians sympathized with this viewpoint, there were still many who reflected popular prejudices and others who denied that syphilis constituted any real health danger. One of the latter asserted: "I look upon it as so manageable a complaint in comparison with other diseases of the skin, that it is always a source of pleasure to me when I have to deal with syphilitic diseases." The infection, he added, always responds to mercurials or else soon wears itself out!⁴⁸

In 1886 Dr. John Alsdorf announced the formation of the New York Society for the Prevention of Contagious Diseases, the chief aim of which was to prevent the dissemination of syphilis and other contagious disorders. The society proposed to establish a

dispensary where free medical care would be available to females and to establish a medical bureau to provide for the systematic inspection of brothels. Physicians in the city were to be asked to report all cases to the society so that its inspectors could check on their families and friends.⁴⁹ The degree of success achieved by the society is not clear, but its organization is indicative of the changing public attitude.

The minutes of the New York Academy of Medicine also show an increasing interest in syphilis. On May 17, 1892, two papers dealing with the subject were read before the academy, and they produced a long and heated discussion. Both speakers called on the health authorities to institute preventive measures and urged that the medical profession begin an educational campaign. Although the reception given to the papers was generally favorable, several members responded sharply. Dr. E. L. Keyes declared that the dangers from syphilis were overdrawn, and added that he accepted the existence of syphilis the same as he did that "of earthquakes, thunder, showers, and other phenomena of nature." The only Americans whom he found to be suffering from the disease were the derelicts, alcoholics, and "those having peculiar hereditary characteristics." Dr. F. R. Sturgis ridiculed the idea of a public campaign, commenting, "fancy how the reporterial imagination would run riot with interviews with prominent specialists." He also warned physicians that to urge legislation on the subject would only "stir up a hornet's nest about your ears."⁵⁰ With the medical profession still divided and the public unwilling to face up to the issue, the Health Department, as a municipal agency, could only tread lightly.

Rabies and the Pasteur Treatment

Among those diseases which have always possessed a certain morbid fascination and which have always received far more attention than their danger merited is rabies. Without question, it is a horrible and fatal disease, yet on a percentage basis its impact has scarcely been measurable. One of the best explanations for this public concern can be found in a newspaper editorial in 1872. The editor pointed out that the agent of this disease "is the most trusted and beloved of domestic animals, the one that is admitted

closest to man's intimacy and confidence." Beginning in early colonial days municipal ordinances had provided for the elimination of stray dogs during the early summer months. The enforcement of these laws was usually lax, but the appearance of a rabies case was enough to precipitate a mass poisoning, shooting, or roundup of strays. For example, the threat of hydrophobia in 1872 caused the Health Department to begin a drive against strays.⁵¹

News of Pasteur's discovery of a treatment for potential rabies cases aroused a great deal of interest. After six children in Newark were bitten by a mad dog late in 1885, four of them, along with several physicians anxious to study Pasteur's prophylactic, sailed for Paris. As might be expected, Pasteur's claims were derided by the more conservative physicians. Dr. C. A. Leale, who served as physician for several New York institutions for sick children, declared in 1887 that he saw 18,000 to 20,000 children annually, and although several hundred had been bitten by mad dogs, he had yet to see a case of hydrophobia. The Pasteur treatment would only frighten dog-bite victims, and he hoped the profession would never resort to it.⁵² Happily, Dr. Leale represented a minority viewpoint, and it was not long before the Pasteur treatment gained wide acceptance. As noted in Chapter 5, once the Health Department's laboratory was established, Drs. Biggs and William H. Park quickly sought to take advantage of all new developments, and in 1895 they sent Dr. Anna W. Williams, a bacteriologist working for the Health Department, to Paris for special training in the Pasteur Institute. This same year the State Legislature enacted a law providing \$6,000 to establish a Pasteur Institute in New York City.⁵³

Eye Diseases in Institutions and Schools

One of the major problems besetting orphanages and other institutions for children was the perennial contagious eye disorders. These institutions were usually mismanaged and always overcrowded, a combination which provided an ideal environment for all types of contagious diseases. Medical care, if provided at all, was at best cursory, and new admissions were seldom screened for infections. Occasionally in the past the actions of some conscien-

tious physician had brought an improvement, but without close supervision the institutions soon returned to their old ways.

Fortunately for New York children, Dr. Richard H. Derby, an able and humanitarian physician, launched a full-scale attack upon the problem of ophthalmia in June of 1885. In a paper read before the New York Academy of Medicine he reported on the widespread incidence of "contagious ophthalmia" in the New York City orphanages and residential schools. The disease, he declared, was as contagious as typhus and scarlet fever, and common humanity demanded that measures be taken against it. The immediate need was a law requiring each institution to furnish the Board of Health with complete information as to the number of cases. The academy unanimously voted to appoint a committee, with Dr. Derby as chairman, to investigate the subject. The Board of Health agreed to cooperate and designated certain of its medical inspectors to assist in the study.⁵⁴

In the course of the investigation, the committee found one out of every four children in New York institutions suffering from some form of eye disease. It discovered, too, that children were admitted without a medical examination, that the plumbing was unsanitary, the food inadequate, and that the children used common wash basins and towels. It was not unusual for 18 to 20 children to use the same towel, and these towels were customarily dried and put back into use without being washed. Appalled by these findings, the academy successfully pushed for a state law to remedy the situation. The law, passed on June 14, 1886, required each institution to have a qualified physician in attendance who would examine new admissions and give an annual medical examination to all children. Children with infectious or contagious diseases were to be isolated, and adequate air space and ventilation were required for dormitories and rooms.⁵⁵

Within a short period the law drastically reduced institutional eye diseases and brought with it a good many incidental benefits. The academy's report had focused attention upon all aspects of these institutions, with the result that there was an improvement in sanitary conditions, food supplies, and the general health of the children. The new sanitary standards forced one institution to close and led several others to renovate or replace their buildings. The greatest benefit from these reforms was the virtual elimina-

tion of the blindness which too often had ensued from eye infections. Prior to 1885 some 39 children had been admitted to the Blind Asylum from city institutions. In the ten years following passage of the act, not a single new admission was traced to this source. An amended law in 1893 restated the basic provisions of the 1886 measure, with an additional requirement that institutional physicians provide local health authorities with monthly reports on the state of their institutions and the condition of the children.

The experience gained by physicians and health inspectors in dealing with institutional eye diseases made them conscious of the high incidence among public school children. When a school medical inspection system was established in the late 1890s, the school inspectors were specifically enjoined to examine the children's eyes.⁵⁶ Dr. Derby's attack on this one particular social evil coincided with a rising social consciousness, and the drive he started deserves credit for eliminating a major cause of blindness. The credit must also be shared with the New York Academy of Medicine, which threw its full support behind the original proposals, and the Health Department, which rigorously enforced the new law and later applied its principles to the school medical inspection program.

Difficulties in Dealing with Contagious Diseases

In summarizing the Health Department's handling of contagious diseases up to 1897, several points stand out. In the first place, health officials were handicapped by the state of medical knowledge, since for most of the period there was little understanding of the nature of disease. This factor was responsible in part for the failure of physicians to report contagious disease cases. The ethics of the doctor-patient relationship scarcely lends itself to such reporting, and with the profession still divided on the issue of contagion, it is not to be wondered that many physicians paid little attention to health directives. In 1871 President Bosworth of the Board of Health blamed carelessness and negligence on the part of doctors for much of the spread of contagious diseases. Because of their failure "to appreciate the importance of preventive measures," he ordered the city sanitary inspector to forward

to all physicians printed notices giving those sections of the Sanitary Code relating to the reporting of contagious diseases. Fortunately the bacteriological revolution during the next 25 years brought a drastic change in medicine. In 1896 Dr. Charles S. Benedict of the Health Department declared that the increase in the number of contagious disease cases reported that year was largely the result of a desire on the part of the medical profession to cooperate with the municipal authorities.⁵⁷ This improvement in the spirit of cooperation, as this chapter has already indicated, was only relative, but undoubtedly the situation had changed for the better.

A second factor limiting the department's effectiveness was the reluctance of the poor to seek medical care. According to Jacob Riis, one of the first instincts of immigrants was to hide their sick lest the hospital authorities carry them off "to be slaughtered" in hospitals. These same immigrants sewed about half of New York's ready-made clothes in their crowded and dirty apartments, and it was not unusual to find a small child suffering from some highly contagious disease crawling among heaps of half-finished clothes destined to be sold in Broadway stores.⁵⁸

The third handicap under which the Health Department labored was a perennial shortage of funds and personnel. Considering the size of New York City and the enormity of its health and sanitary problems, the number of medical inspectors was always woefully low, although this situation was alleviated somewhat during epidemic years when the department's budget usually was supplemented. For example, 1881 and 1882 were peak years for nearly all of the reportable disorders. Precisely why this should have been the case is not clear, unless it could have been the impact of the new immigration from Italy and eastern Europe. In any event, in May 1881 the State Legislature authorized the city to spend an additional \$50,000 to meet the threat from the spread of contagious diseases. The money was to be used to hire special inspectors, physicians, and nurses, and to buy needed supplies. On June 7 the Board of Health requisitioned the Board of Estimate for \$30,000 of this amount. The following year the Board of Health asked for an additional \$15,000 to keep the extra personnel on its payroll.⁵⁹ While these amounts were relatively

small in relation to the magnitude of the task, the Health Department did not fare badly considering the public attitude toward municipal government.

Notes to Chapter 7

1. *Times*, July 6, 1873; *Sanitarian*, I, (1873), 221-23, 228-29.
2. *Herald*, November 6, 1884; May 28, 1885; November 6, 1887; *Times*, July 20, November 2, 14, 1884; January 19-20, 1885; November 6, 1887; B. of H., Min., December 26, 1885, p. 279.
3. *Medical Record*, XLII (1892), 48, 103, 121, 161-62; *Times*, August 27, 1892; *Herald*, August 26-28, September 2, 1892.
4. B. of H., Min., September 2, 1892, p. 154; *Ann. Rep., Bd. of Health*, 1892, p. 14ff.; *Medical Record*, XLII (1892), 314-15; *N.Y. Med. Jnl.*, LVI (1892), 269-70; *Herald*, December 21, 24, 1892; *Times*, September 2, 9, 1892.
5. *Herald*, September 9, 12-14, 1892; *Times*, September 12, 13, 1892; *N.Y. Med. Jnl.*, LVI (1892), 327; J. M. Byron, M.D., "Asiatic Cholera at Lower Quarantine in 1892," *Transactions of the New York Academy of Medicine*, 2d ser., IX (1893), pp. 289-95 (hereinafter cited as N.Y.A.M., *Transactions*).
6. *Ann. Rep., Bd. of Health*, 1871-72, pp. 328-32; B. of H., Min., September 16, 1892, p. 160.
7. *Times*, October 16, 1892.
8. *Ann. Rep., Bd. of Health*, 1898, pp. 216-17.
9. For example, see *Docs. of Bd. of Aldermen*, part 1 (1873), no. 4 (April 4, 1873), pp. 76-81.
10. *Herald* and *Times*, March 22, 23, 1867; *Ann. Rep., Met. B. of H.*, 1867, pp. 27-28; 1868, pp. 10-11.
11. *Ann. Rep., Met. B. of H.*, 1868, pp. 46-47; *Times*, September 26, 1869; see also, Martin Kaufman, "The American Anti-Vaccinationists and Their Arguments," *Bull. Hist. Med.*, XLI (1967), 463-78.
12. *Ann. Rep., Met. B. of H.*, 1869, p. 122.
13. *Ann. Rep., Bd. of Health*, 1870-71, p. 72; 1871-72, pp. 24-26; 1872-73, pp. 10-11; see N.Y.A.M., Minutes, and the *Herald*, *Times*, and *Post* during the years 1862-84.
14. B. of H., Min., January 31, 1882, p. 355.
15. See *Ann. Rep., Bd. of Health*, 1871-72, pp. 25-26, plus other years mentioned. There is an excellent summary in *Ann. Rep., Bd. of Health*, 1896, p. 234-42.
16. *Times*, January 1, 8, 1881.
17. *Sanitarian*, X (1882), 355-57; *Medical Record*, XXIII (1883), 625.
18. A. H. Baird, M.D., "Vaccination a Relic of Barbarism," *Physio-Medical Journal*, VI (1880), 185-87; *Medical Tribune*, IV (1882), 119-23; N.Y.A.M., Minutes, March 16, 1882, p. 586.

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19. *Dr. Foote's Health Monthly*, XIII (1888), 9; XIV (1889), 2-3; *Sanitarian*, XXXII (1894), 173-76.
20. *Times*, April 24, May 29, 1894; *Herald*, April 26, 28, May 29, 1894; *Medical Record*, XLVI (1894), 571.
21. *Times*, May 30, June 5, 14, 1894; *Herald*, May 30, 1894.
22. *Times*, May 20, 1894; *Sanitarian*, XXXIV (1895), 520; XXXVI (1896), 75-76, 255; XXXVIII (1897), 19-21.
23. *Times*, May 20, 1894; *Ann. Rep., Bd. of Health, 1894*, p. 12.
24. *Ann. Rep., Bd. of Health, 1893*, pp. 10-11; 1896, p. 321.
25. *Times*, July 14, 1874; *Herald*, July 15, 1874; *Sanitarian*, II (1875), 467-68.
26. N.Y.A.M., Minutes, March 16, 1876, p. 351; February 1, 1877, pp. 373-78; *Times*, February 15, 1881.
27. N.Y.A.M., "Min. . . . Section on Pub. Health," November 23, 1892, pp. 51-55.
28. *Sanitarian*, XXX (1893), 551-52.
29. Abraham Jacobi, "The Unsanitary Condition of the Primary Schools of the City of New York," *Sanitarian*, XXVIII (1892), 221-24.
30. *Ann. Rep., Bd. of Health, 1898*, pp. 216-17.
31. *Ibid.*; B. of H., Min., October 16, 23, 1883, pp. 301, 324.
32. *Ann. Rep., Bd. of Health, 1898*, pp. 216-17; N.Y.A.M., Minutes, May 21, 1885, p. 59.
33. *Ann. Rep., Bd. of Health, 1898*, pp. 216-17.
34. A. K. Gardner, "Causes of Consumption—Is It Contagious?" *Leslie's Illustrated*, May 14, 1870.
35. See N.Y.A.M., Minutes, October 20, November 17, December 1, 1870, pp. 201-02, 204; November 16, 1876, p. 366; *Sanitarian*, II (1875), 565-66.
36. *Sanitarian*, VI (1878), 364-67.
37. N.Y.A.M., Minutes, March 18, 1897, p. 521.
38. *Ann. Rep., Bd. of Health, 1874-75*, pp. 713-15; *Times*, December 12, 1880.
39. *Ann. Rep., Bd. of Health, 1870-71*, pp. 330-34; "Letter from New York," *Journal of the American Medical Association*, V (1885), 307 (hereinafter cited as *J.A.M.A.*).
40. *Ann. Rep., Bd. of Health, 1898*, pp. 216-17.
41. *Ibid.*, 1896, p. 397; N.Y.A.M., Minutes, March 17, 1887, p. 118; *Herald*, April 27, July 4, 1894; *Times*, July 12, 1893.
42. *Ann. Rep., Bd. of Health, 1898*, pp. 216-17; *Times*, September 24, 1880; *Sanitarian*, XI (1883), 747-48.
43. *Times*, April 25, 1885.
44. *Ann. Rep., Bd. of Health, 1898*, pp. 216-17; 1893, p. 14.
45. *Ibid.*, 1871-72, pp. 27-28, 348-67; 1872-73, pp. 9-10.
46. *Ibid.*, 1893, p. 14.
47. Charles Loring Brace, *The Dangerous Classes of New York, and Twenty Years' Work Among Them* (New York, 1872), p. 127; J. Marion Sims, "An Extract From the Inaugural Address Delivered Before the American Medical Association . . . June 6, 1876" (London, 1876), pp. 13-15 [New York Academy of Medicine Library, pamphlet].

48. *Sanitarian*, VIII (1880), 252-62.
49. *Ibid.*, XVII (1886), 151-55.
50. N.Y.A.M., "Min. . . . Section on Public Health," May 17, 1892, pp. 31-41.
51. *Times*, December 5, 1872; *Ann. Rep., Bd. of Health, 1872-73*, p. 26.
52. *J.A.M.A.*, V (1885), 699; *Sanitarian*, XIX (1887), 247.
53. N. Y. *State Laws*, 118th sess., chap, 770, May 27, 1895, I, p. 543.
54. N.Y.A.M., Minutes, June 4, 1885, p. 61; January 7, 1886, p. 78; Richard H. Derby, "Contagious Ophthalmia in Some of the Orphan Asylums and Residential Schools of New York City," N.Y.A.M., *Transactions*, 2d. ser., V (1886), pp. 291-300; *Proposed Act for the Better Preservation of the Health of Children in Institutions Introduced . . . February 4, 1886 . . .* (New York, 1886) [New York Academy of Medicine Library, pamphlet]; B. of H., Min., December 15, 1885, p. 262.
55. *Ann. Rep., Bd. of Health, 1896*, pp. 364-68; N. Y. *State Laws*, 109th sess., chap. 633, June 14, 1886, pp. 904-05.
56. *Ann. Rep., Bd. of Health, 1896*, pp. 364-68.
57. *Ibid.*, 1870-71, p. 27; 1896, p. 84.
58. *Ibid.*, 1870-71, p. 28; Jacob Riis, *How the Other Half Lives* (New York, 1957), p. 80.
59. N. Y. *State Laws*, 104th sess., chap, 246, May 12, 1881, I, p. 354; B. of H., Min., June 7, 1881, p. 204; June 13, 1882, p. 26.

8

The State of Medicine and the Changing Role of Hospitals

Have we not had enough yet of the monthly instalments [sic] of new bacilli which are the invariably correct and positive sources of disease, and replaced by the next man who comes along? [Abraham Jacobi, "*Inaugural Address Delivered Before the New York Academy of Medicine*" (New York, 1885), p. 20. New York Academy of Medicine Library, pamphlet in *Presidential Addresses, 1847-85.*]

By the nineteenth century the combination of an ever-accelerating accumulation of knowledge and the application of scientific principles had wrought profound changes in nearly all aspects of society. In medicine gross anatomy had been thoroughly delineated, microanatomy was coming into its own, and by the mid-century pioneering work into physiology was well underway. Precisely because medicine is not a science, but rather an art which uses scientific methodology and draws upon many disciplines, an advance along the entire front of science was necessary before medicine could synthesize the new knowledge and bring about a significant change in its practice. In the realm of surgery lack of anesthetic procedures prevented all but the most elementary and essential operations prior to 1846. In the years which followed, a high incidence of secondary infections continued to act as a check upon surgeons until this hazard was greatly reduced by the introduction of antiseptic and later aseptic techniques. The net effect of these innovations was a major upsurge in elective surgery during the latter years of the nineteenth century.

The major problem still confronting physicians was the omnipresence of communicable diseases. Despite all scientific progress, yellow fever, cholera, typhoid, and other disorders remained as inexplicable as ever, and it was their inability to prevent or to treat epidemic diseases which gave nineteenth-century physicians a profound sense of frustration. Desperately clutching at whatever theory came along, they argued among themselves, engaged

in public disputes over the cause and treatment of diseases, and aired their disagreements in pamphlets, newspapers, and on public lecture platforms. With a few exceptions, the profession continued to use the traditional forms of treatment—bleeding, purging, vomiting, blistering, and sweating—varying the rigorousness of the application according to the personality of the individual physician. The public, already dubious of massive bloodletting and dosing, was confirmed in its suspicions by the notorious quarrels within the ranks of medical practitioners. In droves patients turned to medical sects which promised cures without recourse to bloodletting and harsh mineral therapeutics. Newspapers and journals reflected an attitude of amused contempt for the medical profession. While physicians were consulted by the early health boards and often served on them, care was taken to insure lay control of the boards. Even medical journals conceded that a board of health dominated by physicians would never be able to agree upon a course of action.

By the end of the Civil War the futility of the old harsh therapy was widely understood, and treatment moved in the direction of supportive measures. A discussion in the New York Academy of Medicine in 1874 shows the changing attitude toward bloodletting. Dr. A. C. Post reported that he had relieved a bronchitis patient close to suffocation by applying 12 large tumblers as dry cups to his chest. When a Dr. Roberts inquired whether or not this was a proper case for bleeding, Dr. Post answered that 25 years ago he would have bled the patient but that now he seldom resorted to venesection.¹

Yet bloodletting was far from dead. An Italian barber-surgeon who charged one dollar for bleeding had an extensive practice in Brooklyn in the 1880s, and the editor of the *New York Medical Journal* in 1887 deplored the tendency to let bloodletting fall into disuse. Lacking specifics for serious disorders, physicians occasionally resorted to drastic remedies. A Brooklyn physician, following the suggestions of a visiting European professor, inoculated three patients suffering from third-stage syphilis with syphilitic matter. Although all three died, he informed members of the academy that for chronic cases, "syphilization is surely a treatment which can be recommended. . . ," a statement which scarcely accorded with his results. In 1892 another doctor reported success

in treating the common cold with two grains of opium per hour. This same year Dr. A. E. Nevins recommended doses of Dover's Powder (ipecac and opium) and the application of turpentine oil fomentations to the patient's abdomen for cases of chronic constipation.²

The major medical breakthrough of the nineteenth century, and possibly of all time, was the bacteriological revolution. By placing medicine on a rational basis, it inaugurated a new era for preventive medicine. The general attitude of laymen and doctors toward the new discoveries was one of cautious optimism. During 1884 a series of discussions were held in the New York Academy of Medicine and the New York County Medical Association on the subject of Koch's theory of the *Vibrio comma* as the agent of Asiatic cholera. While the consensus favored Koch's thesis, several members reserved judgment. Dr. William Detmold, president of the New York County Medical Association, expressed serious doubts and warned that scientific discoveries "had to be sifted through a great many cool brains before they could be accepted as scientific facts." Dr. Abraham Jacobi in his presidential address before the New York Academy of Medicine in 1885 expressed the views of many intelligent physicians. In criticizing "the bacteriomania of modern time" he asked: "Have we not had enough yet of the monthly instalments [sic] of new bacilli which are the invariably correct and positive sources of a disease, and replaced by the next man who comes along?" He spoke of the great developments in chemistry and pointed out that the question of whether disease resulted from bacteric or chemical poisons was still not settled. Recognizing that the average practitioner was in no position to judge these issues, he called on the academy to turn its attention to the bacteriological debate. Even as Dr. Jacobi spoke, discoveries were tumbling out of laboratories and the issue was soon settled. By 1897 the editor of the *Times* could declare: "The microscope, chemistry, and the sanitary police are the great protectors upon which modern medicine must rely."³

Unfortunately, as medicine was establishing itself on a firm base, the position of the American medical profession vis-à-vis the public was weakened by an embittered fight between the regular and the irregular practitioners, the latter group represented largely by the homeopaths and eclectics. In order to

achieve one of its major aims, control of membership in the profession, the American Medical Association began a full-scale assault against all unorthodox medical sects. Under a revised code of ethics, consultation with homeopaths and other irregulars was specifically forbidden. Since homeopathy had won many adherents among respectable and able graduates of orthodox medical schools, this ruling was difficult to enforce. It often cut across ties of personal friendship, and occasionally placed the patient's life in jeopardy. As the American Medical Association began to insist on the code, the net effect was to cause a serious division in the New York State Medical Society and many of its constituent societies. In the case of the state society, which split into two groups on the code issue, a reconciliation was not brought about until 1906.⁴

This same quarrel was a factor in delaying passage of an effective licensure law in New York State. In May 1874 the legislature established a State Board of Medical Examiners and required all physicians to register. An amendment in 1880 required practitioners to register with their local county clerk and show proof of graduation from a medical school. Neither of these measures proved of any real value: the public was apathetic; the regular profession divided; and the homeopaths, eclectic, and other irregulars who were fearful that the orthodox physicians would control licensure, actively fought the licensing laws. In the long struggle which followed, the orthodox physicians were forced to make concessions to the two leading irregular groups. Finally, in 1891 a relatively effective law resulted in the creation of three medical examining boards. A physician seeking a license could apply to the board of his choice, homeopathic, eclectic, or regular, and be examined according to the tenets of his training.⁵

The Development of Hospitals

In the immediate postwar years, hospitals continued their role as institutions designed to care for strangers and the poor. The so-called decent, respectable people still expected to be treated at home, and, when the time came, to die in their own beds. The growing recognition that many strangers could afford better accommodations than those offered by the wards in charity institu-

tions had led most of the privately operated hospitals to provide individual rooms for paying patients. This trend was hastened by the steady increase in specialized hospitals. Although the number of private hospitals in 1870 exceeded those maintained by the city, the largest hospitals were municipally operated. A reform wave in 1860 had led to the creation of the Department of Public Charities and Correction under the control of four commissioners. This organization brought with it a major overhaul of the municipal hospitals and asylums, a fortuitous development in view of the events from 1861 to 1865.

When the Metropolitan Board of Health took over, hospitalization and medical care were provided for New Yorkers through a wide variety of agencies, virtually none of which were directly under its control. The municipally operated institutions were the responsibility of the commissioners of public charities and correction; the commissioners of emigration and the commissioners of quarantine both operated medical institutions for their respective charges; and the United States Treasury Department (United States Marine Hospital Service) maintained the Seamen's Retreat on Staten Island for the care of sick sailors. In addition, a large number of hospitals and nearly all the dispensaries were operated by voluntary organizations. All told, approximately 75 institutions were providing systematic medical care within the metropolitan area. Six of these were general hospitals, with a total of 1,841 beds. During 1867, these institutions treated 12,093 patients and had a case fatality rate of 9.28 percent.⁶

The Municipal Hospitals

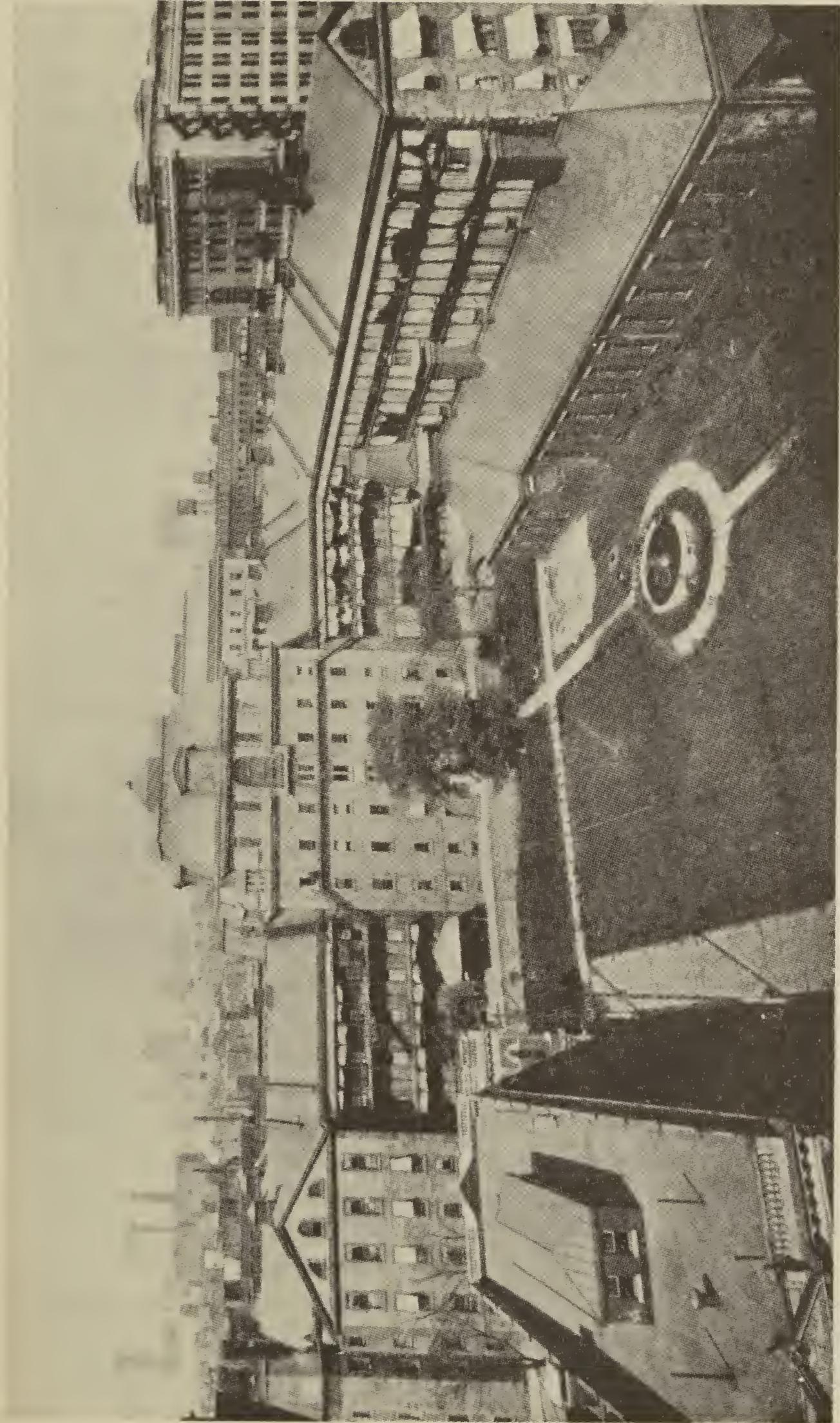
The commissioners of public charities and correction were responsible for 12 institutions, representing the majority of hospital beds in the city. The largest was Bellevue, which had grown to 1,200 beds by 1873. The hospital, located on the East River at the foot of 26th Street, consisted of a main building and two wings. A large surgical amphitheater, an autopsy room, and a medical museum were available for clinical instruction by the faculty of the Bellevue Hospital Medical College. Associated with Bellevue were two reception hospitals, one in City Hall Park at Centre Street and the other at 99th Street and Tenth Avenue. Their

primary purpose was to treat emergency cases, and, when necessary, to pass along the patients to Bellevue for further treatment.⁷

Like all state and municipal hospitals, Bellevue tended to be overcrowded and underfinanced, but it seems to have operated at a fairly satisfactory level. The Board of Health in 1867 described Bellevue as improving but still overcrowded. The work of the professional staff caused no complaints, but some dissatisfaction was expressed with the administration. A *Times* reporter, in glancing over the Bellevue financial report for 1867, discovered that in the course of the previous year 1,637 gallons of the best whiskey had been purchased. Of this total, Bellevue could account for 147 gallons. He suggested sarcastically that the remaining 1,449 gallons had been lost by evaporation. Of the 40 gallons of brandy purchased, only 5 were used for medical purposes. He noted, too, that in the month of May, the hospital spent \$3,628.47 for food, \$1,048.49 for liquor, and only \$636.97 for medicine. On the basis of these figures, he estimated that the administrators were spending 20 cents for liquor and 10 cents for medicine out of each dollar budgeted for maintenance.⁸

Bellevue was not alone in its high budgetary allowance for alcohol. A study of the food bill in 1832 for the Charity Hospital in New Orleans, a large state-operated institution, also shows that 20 percent of the money was spent for liquor.⁹ For centuries alcohol had been one of the great stimulants, tonics, and pain relievers, and it was prescribed with regularity for all age groups. With anesthesia in its infancy and only a few sedatives and analgesics available, hospital staffs still administered relatively large quantities of alcohol to the patients. On the other hand, it is probably true, as was the case in New Orleans, that the administrators and staff had enough faith in this general remedy and preventive to resort to it frequently for their own health's sake.

The situation at Bellevue could not have been too bad, since Dr. Elisha Harris, one of the men least likely to condone chicanery, spoke highly of the institution in an article dealing with the hospitals of New York City. Moreover, the Citizens' Association of New York, the leading reform organization, asserted in its annual *Report* for 1868 that the hospital's efficient management was gradually enabling it to gain the confidence of the poor. As with many state or municipal hospitals, a high percentage



Bellevue Hospital Old Building; New Men's Dormitory and Pathological Department in Rear, Extreme Right. From *Bellevue and Allied Hospitals, 8th Annual Report, New York, 1909* (opposite page 1).

of beds tended to fill up with the chronically sick, and among these were a great many cases of tuberculosis. In 1867 this one disease alone was responsible for 146 of the hospital's deaths. The hospital took a major step forward in 1868 when a regular ambulance service was provided. Although only two ambulances were available, at least one was kept on duty at all times.¹⁰

Among the other institutions under the direction of the commissioners of public charities and correction were a cluster of hospitals maintained by the city on Blackwell's Island. The largest was Charity Hospital with about 1,000 beds. Like Bellevue, it was divided into a number of sections, including an ophthalmic, a dermatological, and a uterine and obstetrical division. It was also the city's therapeutic center for venereal diseases. In 1872 it was estimated that one-fifth of the 8,000 patients were venereal cases. A relatively large Smallpox Hospital, with accommodations for about 500 patients, a Fever Hospital for other contagious diseases, a Hospital for Incurables, and asylums for lunatics, epileptics, and paralytics completed the picture on Blackwell's Island. Most of the municipal institutions for infants and children were located on Randall's Island. The largest one, the Infant's Hospital, was in reality a home for from 1,500 to 1,900 foundlings, but as with many such institutions, the infant death rate was high. Theoretically, medical care for infants and small children taken sick at any of the institutions on the Island was provided in the Nursery Hospital. In addition, an Idiot and Epileptic Asylum provided care and a limited amount of training for young children in this category. A Convalescent Hospital on nearby Hart's Island rounded out the children's institutions.¹¹

In evaluating these institutions in 1868, the Citizens' Association generally concurred with the Board of Health in giving them a good rating. Although Dr. Rogers had criticized the Infant's Hospital, the association stated that the introduction of the wet-nurse system in 1867 had reduced the mortality rate by 70 percent. It noted that New York was the only city to maintain special hospitals for epileptics and paralytics and commended the authorities for providing a gymnasium for epileptics. The only institution to be sharply criticized was the Lunatic Asylum. Here the major complaint was overcrowding. Although it had accom-

modations for only 521 patients, on January 1, 1868, there were 917 inmates in the asylum.¹²

The commissioners of public charities and correction were also responsible for the nurseries, the almshouses, workhouse, and prisons. Speaking of the almshouses, the Citizens' Association pointed out that these institutions were primarily hospitals "for the old and infirm, rather than retreats for the vagrant and slothful."¹³ The existence of these separate facilities for the aged and infirm undoubtedly helped to reduce the case load at Bellevue and other municipally operated hospitals. In many cities this group often occupied a good many of the beds in charity hospitals, thus preventing patients with curable disorders from receiving treatment.

The Immigrant Hospitals

The major hospital maintained by the commissioners of quarantine was the disabled steamship, *Falcon*, which originally had been fitted up as a hospital vessel in 1859. The main deck, which was used as a large ward, was almost 150 feet in length and about 25 feet wide. Above it was a second deck partitioned off to form smaller wards and quarters for the staff. All observers agreed that the numerous air shafts and windows provided ample ventilation and that the ship was kept in a good condition. The majority of admissions were patients suffering from cholera or fever. In this instance, the term fever usually referred to either typhus or typhoid. In 1867 some 1,200 patients were treated aboard the *Falcon*, of whom 340 died. Cholera was responsible for 259 of these fatalities, and 78 were attributed to fever.¹⁴ The abnormally high death rate was due in part to the seriousness of the diseases and in part to the moribund condition of many of the patients on admittance.

Under the administration of the commissioners of emigration, an immigrant head tax of \$1.50 still supported a large hospital complex of about 30 buildings on Ward's Island. All told about 1,000 beds were available. The main building included wards for surgical, medical, ophthalmic, obstetrical, and venereal cases. A series of detached pavilions were provided for the various fever patients, and in the early 1870s a new Insane Asylum was erected,

consisting of six one-story pavilions. Ample facilities were provided for immigrant children, including a children's hospital ward, a nursery, and a primary school. Although the Ward's Island facilities were designed to care for newly arrived immigrants, many who developed typhus or typhoid several years after their arrival were sent to the Island. In the late 1860s and the 1870s each year 12,000 to 15,000 persons were given some type of assistance in this complex.¹⁵

The Private Hospitals

The rapid growth in the number of private hospitals in the 1850s was a prelude to the appearance of many more new institutions. The New York Hospital was still the largest private institution, but some of the older hospitals were enlarging their facilities and new ones were coming into existence. St. Vincent's, Mount Sinai, and St. Luke's, three of the older hospitals, were each capable of caring for from 110 to 200 patients. St. Luke's, the largest of the three, had about 200 beds and accepted both accident and acute disease cases. The other two hospitals were not permitted under the terms of their charters to accept contagious disease patients. All four institutions were keeping abreast of the times, modifying and enlarging their facilities as better medical care became available.¹⁶

The Nursery and Child's Hospital and the Women's Hospital of the State of New York, both of which had been chartered in the 1850s, continued to do yeoman's work. The German Hospital and the Roosevelt Hospital, founded in the 1860s, were also given excellent ratings in these years. In 1867 the Board of Health generally praised the work of the private hospitals, although it mentioned that the Mt. Sinai and St. Francis hospitals were located in insalubrious surroundings. The New York Hospital received a special commendation for its effective program of isolating contagious disease cases and for the relatively low incidence of infection in the surgical wards. St. Luke's Hospital (Episcopal) was also commended on its orthopedic ward for children. Among the new institutions established in the immediate postwar years were St. Francis', St. Elizabeth's, St. Mary's Free Hospital for Children, the Presbyterian, and the Ruptured and Crippled Hospital. In

the ensuing years many others appeared on the scene, and by 1900 the collective hospitals in New York City were capable of providing a wide range of specialized care.¹⁷

The Dispensaries

Although the majority of hospital patients were charity cases (in 1882 it was estimated that 80 percent of the 8,000 patients treated on Manhattan Island belonged in this category), medical care for the poor was largely in the hands of the dispensaries. The dispensaries were outpatient clinics which provided medical care and drugs for the poor. Originally the service was free, but toward the end of the century a nominal fee of ten cents was instituted. The extent to which the poor relied on the dispensaries can readily be seen from their annual reports. During 1867 the dispensaries treated a total of 162,311 patients. Four years later the city's 26 dispensaries handled 219,851 patients, a figure equal to 20 percent of the city's population.¹⁸

Most of the dispensaries were privately operated, but virtually all of them received financial aid from either the state or the city. In 1867, for example, the following eight major dispensaries each received \$1,000 from the municipal government: New York, Northern, Eastern, Demilt, Homeopathic, Bond Street Homeopathic, Northeastern, and Northwestern. They also received state funds, along with some 16 other dispensaries in the metropolitan area. As new dispensaries were established in the nineteenth century, it became a common practice for them to apply for state aid as soon as they were granted a charter. The Legislature seldom refused and was usually quite generous. Among the New York City dispensaries receiving state aid in 1867 were such diverse institutions as New York Ophthalmic Hospital, New York Eye and Ear Infirmary, Long Island College Hospital, German Dispensary, Homeopathic Medical College Dispensary, and the New York Medical College and Hospital for Women. The rise of homeopathy during these years is clearly shown in the fact that of the 26 dispensaries receiving state funds in 1870, no less than 8 of them were operated by homeopathic physicians.¹⁹

Stimulated by an increasing demand for medical care and the growth of specialization within medicine, the number of dispen-

saries grew steadily in the succeeding years, reaching a total of 64 by 1893. As more and more patients flocked to them, there was rising apprehension among private practitioners that this free care represented a threat to private medicine. At a meeting of the New York Academy of Medicine on November 30, Mr. C. C. Savage, president of the Demilt Dispensary, defended the role of dispensaries. In the discussion which followed, Dr. J. West Roosevelt spoke for many of his colleagues when he pointed to the high percentage of the city's population under treatment by dispensary physicians and raised the question as to who were "proper and important patients. . . ." ²⁰ The issue of private versus free medical care was one which became increasingly bitter as public health departments generally began widening their spheres of action. In recent years local medical societies in some areas of the United States have forced health departments to stop providing free inoculation, indicating that the question is still not settled.

Nursing Gains Respectability

New York municipal hospitals, like similar institutions, suffered from overcrowding and a low-caliber working force. Meager wages, long hours, and heavy patient loads characterized most hospital jobs, a combination which drove better workers into other fields. The traditional practice of using convalescent patients as orderlies further contributed to the poor quality of medical care. Although the work of Florence Nightingale, Dorothea Dix, and Clara Barton was gradually bringing about a transformation, for much of the period nursing was still looked upon as the last resort of fallen women. One hopeful sign was the ability of private hospitals, with better working conditions and wages, to attract a higher class of attendants in the latter half of the century. The best medical care was provided by those institutions, private and public, managed by women in religious orders. For example, in 1880 the Board of Health expressed its gratitude to the Sisters of Charity for their services in the Health Department's Riverside Hospital (for contagious disease cases) "at a time when it was impossible to secure the services of other reliable nurses for this work." ²¹

In America the Civil War clearly demonstrated the role that women could play in caring for the sick, and in the postwar years there was a growing awareness of the need for trained nurses. In 1872 a group of well-to-do women organized the State Charities Aid Society to investigate conditions in the New York City hospitals. Their findings led them to promote a training school for nurses, certainly one of the most pressing needs. With the help of Dr. W. Gill Wylie, a member of Bellevue's voluntary staff, and strong backing from the newspapers, the society gained reluctant approval from the commissioners of charity and the medical board of Bellevue to inaugurate a nursing service in five wards of the hospital. In March 1873 the society rented a house close to Bellevue to serve as a school and issued a circular appealing for students. Within a few weeks six students were enrolled and the school formally came into existence.²²

On the advice of Dr. Wylie, who had visited English nursing schools and had conferred with Florence Nightingale, the Bellevue school was patterned along the lines of the Nightingale system. This latter included a relatively independent nurse superintendent, a hierarchy of ranks, an authoritarian atmosphere, and a formal deference to physicians. The first superintendent, Sister Helen Bowden of the All Saints Sisterhood in London, quickly introduced firm discipline and uniforms, and by the time ill health forced her to return to England in 1876 the school was well established. By this time, too, the reduction in mortality in those wards served by nurse trainees had convinced even the most conservative staff physicians that there was a place for trained women.²³

The success of the Training School for Nurses at Bellevue led to the establishment of a similar institution in 1875 at Charity Hospital on Blackwell's Island. The first class, consisting of 22 girls from "good families," began work on August 1. The trainees were expected to stay in the hospital for two years, during which time they were to receive \$10 per month and room and board. The presence of these young women in the hospital brought an immediate and drastic change. Dr. Daniel H. Kitchen, chief of the medical staff, reported that it had eliminated fighting and swearing and had brought improvements in the food service,

cleaner wards, and a more cheerful atmosphere to the entire hospital.²⁴

Despite the obvious success of these schools, progress in nursing education was slow. A third school was opened in conjunction with the New York Hospital a few years later, and in December 1888 Bellevue Hospital instituted a training school for male nurses. This latter school accorded with the prevailing moral concepts. A few years earlier an indignant correspondent to the *Times* had objected to the lack of provision for male nurses. It was obvious, he wrote, that the sick should have nurses of their own sex, adding emphatically: "Every male patient having any self-respect will and ought to demand this."²⁵

Somewhat belatedly the New York Academy of Medicine gave its sanction to the nursing profession. In 1893, on the recommendation of its executive committee, a nurse bureau was established in the academy's headquarters. Nurses registering with the bureau were required to submit recommendations from two physicians and to pay a \$2 fee. Within the next two months some 275 nurses were enrolled.²⁶ Unfortunately, the nurse bureau had little impact upon New Yorkers since it was designed primarily for those patients who could afford private nurses.

In terms of the ordinary New Yorker, a more significant step was taken in 1877 when the New York City Mission assigned Frances Root, a graduate nurse from Bellevue, to visit the homes of the poor. Shortly thereafter the Ethical Culture Society engaged the services of Effie Benedict, another Bellevue graduate, to serve as a district nurse. Since private nurses were still treated as servants by many well-to-do patients, the emergence of visiting nurses improved the status of the nursing profession. At the same time it brought nursing services into the homes of the poor. The opening of the Henry Street District Nursing Service by Lillian D. Wald in 1893 broadened the scope of the profession and marked the beginning of public health nursing in America.²⁷ While perceptive physicians recognized that sickness was intimately related to the home environment, public health nurses spending their working hours with the poor and the sick in their homes, schools, and dispensaries were the first ones to attempt to do something about it.

Notes to Chapter 8

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9

Immigration and the Quarantine System

. . . our health laws are imperfect and disgracefully ambiguous. They allow the disembarkation of passengers [from an immigrant ship] who have been exposed to infection, . . . elsewhere than at a quarantine station—proceeding, of course, upon the hypothesis that there is no danger in such landing. It is always better in matters of this kind to be too stringent than too lax. [*Times*, April 9, 1869.]

The waves of immigration, which on occasions almost inundated New York City, profoundly affected the fabric of its society and were a decisive factor in shaping its political and economic life. Despite the vigilance of immigration and quarantine authorities, the newcomers repeatedly introduced disorders such as smallpox, typhus, and typhoid into the city. Destitute and sickly immigrants constituted a major proportion of welfare cases and were a heavy drain upon the limited resources of the government and voluntary welfare agencies. Over and above these more tangible problems, few immigrants had any conception of urban life, and their customs and attitudes immensely complicated the task of the health inspectors. Unable to comprehend the reason for many health measures and generally suspicious of officialdom, they often hid their sick and paid only lip service to the principles of public and personal hygiene.

The number of immigrants arriving in New York from 1866 to 1870 averaged close to 250,000 per year. The actual figure was slightly higher, since the receiving center for immigrants, Castle Garden, was designed to handle only steerage passengers. Germans constituted the largest single national group; the Irish were second; and the English were third. In 1867, a fairly typical year, the breakdown was 117,591 Germans, 65,134 Irish, 33,712 English, and 26,294 of all other nationalities. In the succeeding years, the number of Germans declined, the Irish and English migration remained constant, and immigration from other countries sharply increased. During the last 20 years of the century, the stream of

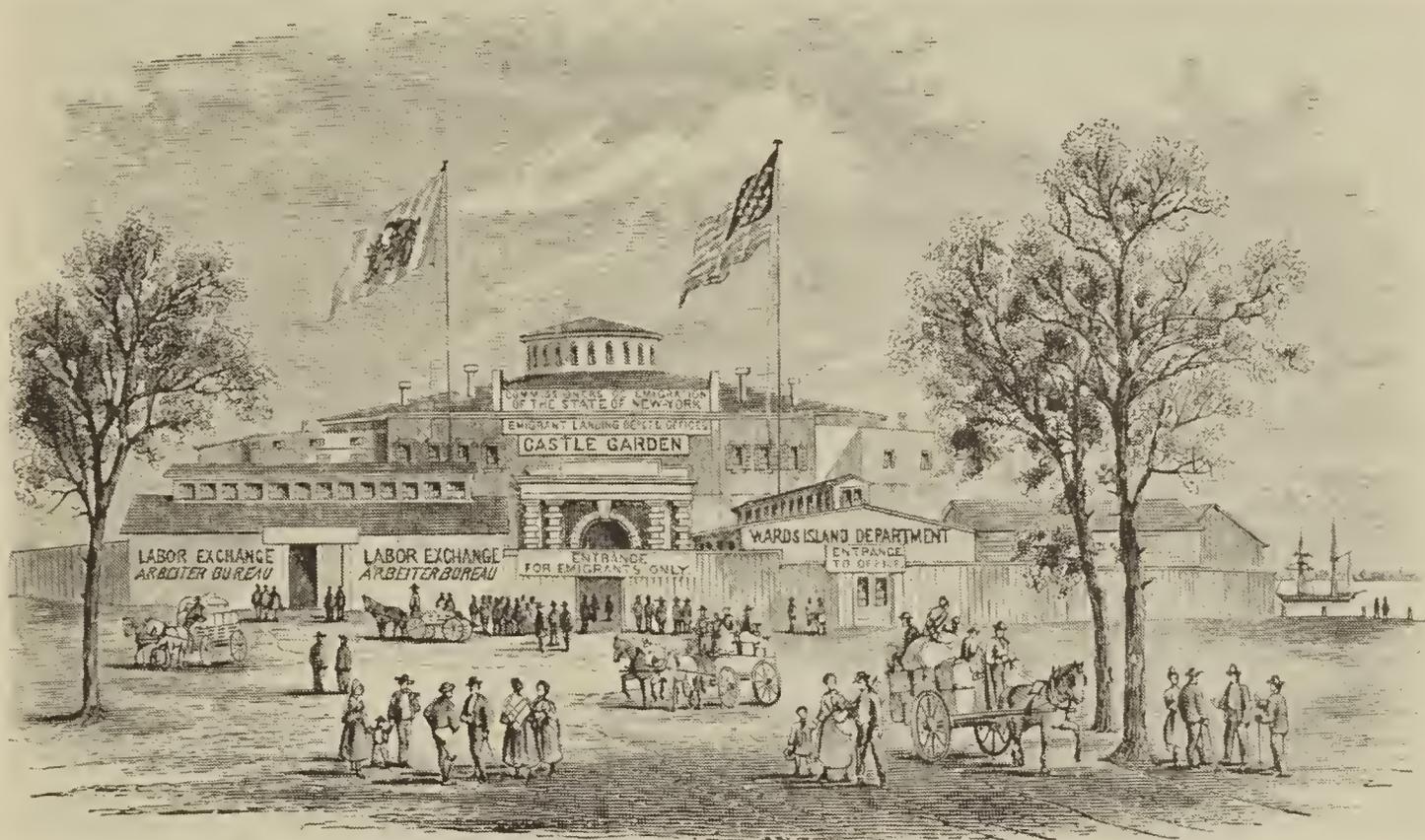
immigration shifted from northern and western to southern and eastern Europe.¹ The Russians, Hungarians, Italians, eastern European Jews and others differed far more widely in their culture from the native-born Americans than had the earlier immigrants, and they were more prone to congregate in certain districts. The creation of such sections as "Little Italy" did little to acculturate these newcomers and created special problems for the Health Department.

Screening Sick Immigrants

The screening system, designed to minimize the immigrant problems, had originally been established by the city of New York. In 1847 it was taken over by the state and placed in charge of six commissioners of emigration. The many and varied responsibilities of these commissioners were amply financed by an immigrant head tax or commutation fee ranging from \$1.50 to \$2.50 which was collected from the captains of immigrant vessels. As of 1866 the commissioners of emigration operated a large establishment at Castle Garden and a major hospital and relief complex on Ward's Island. In addition, they maintained a series of offices for their agents throughout the state to which immigrants could apply for relief and medical care. The first step in what was a fairly effective system for receiving and processing newly arrived immigrants called for immigrant vessels to stop at the quarantine station, six miles below the city, where the crew and passengers were briefly examined by the quarantine officers. The vessels then proceeded to Castle Garden where the immigration physicians reexamined all passengers to see if any sick had been overlooked at the quarantine station. Those with disabling physical or mental defects were detained until they obtained special bonds. Immigrants needing medical care or other assistance were usually sent to Ward's Island. The rest were then processed through registration and routed to their various destinations.

Although the primary responsibility for sick immigrants lay with the commissioners of emigration, the quarantine officials were responsible for isolating and treating patients with yellow fever and Asiatic cholera. Cases of typhoid, typhus, smallpox, and nearly all other sicknesses remained in the domain of the commissioners of emigration. These patients were sent to the large

Immigration and the Quarantine System



State Emigrant Landing Depot, Castle Garden, N.Y. From *Annual Report of the New York State Commissioner of Emigration, December 31, 1868*, p. 18. Courtesy of the New York Public Library.

complex on Ward's Island, which included many hospitals, residence facilities for destitute immigrants, and quarters for the staff. A small hospital and dispensary was also maintained at Castle Garden for emergency cases.

An average of 14,000 persons a year were admitted to the Ward's Island complex during the late 1860s. How many of these were newly arrived immigrants is not clear; the commissioners of emigration were responsible for their charges until they had been in New York State for five years, and the annual reports do not indicate how many of the patients were admitted to Ward's Island directly from their ships. For example, the commissioners merely reported for the year 1868 that they had cared for 14,250 immigrants on Ward's Island and had assisted another 21,413 either in the city or elsewhere in the state.²

On the whole the quality of medical care on Ward's Island was quite good. Patients were separated according to the nature of their sickness and, despite their relatively large numbers, the perennial disorders which generally characterized mid-nineteenth-century hospitals were kept to a minimum. The so-called hospital fevers among adult patients, eye infections among children, and puerperal fever in the maternity wards were kept well under control. The number of deaths dropped steadily in the five years from 1866 to 1870. The medical department reported a case fatality rate of 11.64 in 1866, 8.23 in 1867, and 7.25 in 1868. The following year, after noting that the death rate in the surgery department was only 1.27, the commissioners reported that the fatality rate for all patients was only 5.19. Considering the fact that in one year over 1,000 typhus and typhoid patients were admitted into the fever hospitals, the fatality rates for all five years are surprisingly low.³

Health Conditions on Immigrant Vessels

The reduction in hospital mortality can be attributed largely to the advent of steamships and to the establishment of minimum standards on board immigrant vessels. The arduous voyages on sailing vessels, some lasting 50 to 80 days or more, were a major cause of sickness and debility among newly arrived immigrants.

A long and difficult journey inevitably compounded the health problems resulting from bad food and water, overcrowding, and poor sanitary conditions, and it was a rare year that some tale of horror was not unfolded. In 1867 a vessel from Antwerp lost 18 of its 180 passengers enroute and on arrival another 20 were hospitalized in a serious condition. In the fall of the following year a British ship carrying 351 passengers encountered heavy seas and adverse winds which caused the loss of the captain's life and lengthened the voyage to 57 days. Although four passengers died enroute and another 88 were hospitalized on arrival, there were no complaints. In this instance, the passengers felt that there had been no negligence on the part of the officers or crew.⁴

The British government required immigrant ships to carry a physician and usually enforced a fairly effective code of regulations with respect to the living conditions of steerage passengers. Even so, the sailing vessel *James Foster, Jr.* left Liverpool on December 19, 1868, with 146 steerage passengers and did not arrive at quarantine until March 8, 1869, a voyage of 79 days. During the crossing, 4 passengers and 12 crewmen died, and on arrival 102 passengers were sent to the hospitals on Ward's Island. In this case it was clear that there had been criminal negligence on the part of the officers and crew. Fortunately, the New York authorities were in a position to take legal action. Reflecting the changing attitude toward the gross abuses suffered by immigrants, a New York State law in June 1868 had authorized the commissioners of emigration to investigate such complaints and to institute criminal proceedings against those responsible. As a result, three crewmen, including the third mate, received sentences of from 5 to 15 years in jail. The captain and first mate, the two most guilty parties, had died of ship fever shortly after the vessel's arrival.⁵ It was a measure of justice that the two men succumbed to a disease which spread through the ship in part because of their own callous disregard for the welfare of the passengers. The worst offenders were ships sailing from Brussels, Antwerp, and Hamburg, since the authorities in those ports made no effort to regulate accommodations for steerage passengers. In 1868, reacting to protests by the American government, the north German states began inspecting steerage facilities, and shortly

thereafter the worst abuses were remedied. The Belgian authorities, however, paid no attention to American complaints.⁶

As noted earlier, the development of steamships was the prime factor in reducing immigrant morbidity and mortality. In 1856 only 22 of the vessels arriving at Castle Garden were powered by steam; 12 years later the figure had reached 341. The chief advantage of steam power was that it drastically shortened the duration of the voyage and thus avoided compounding the difficulties usually encountered by those in steerage. In 1866, 401 steamers carrying 156,931 passengers and 349 sailing vessels carrying 74,898 passengers arrived in New York. Despite the fact that the steamships carried more than twice as many passengers, only 816 died enroute as against 851 for the sailing ships.⁷

The shift to steamers was rapid in the ensuing years. In 1869 a total of 713 vessels arrived in New York, of which 504 were steamers and only 209 were sailing vessels. The steamers brought 229,190 passengers and the sailing ships 28,333. The following year the commissioners of emigration commented upon the improvement in the health of immigrants as a result of this wider use of steam vessels. Comparing shipboard mortality, they found it to be .08 percent for steamers and .58 for sailing vessels. The inordinate disparity in the two death rates may well have been the result of the desperate efforts of sailing vessels to meet the steamship competition. In order to compete, sailing vessels lowered their rates and cut costs to the bone. In so doing, they drastically reduced the quality of their service and left themselves virtually no margin of safety in the event of unfavorable winds and bad weather.⁸ It was a losing battle in any case, for by 1870 steamers were carrying 90 percent of the immigrants, and the general health of those arriving at Castle Garden had never been so good.

Financial and Political Problems

By this date the health of newly arrived immigrants was so improved that the commissioners of emigration recommended to the Legislature that the commutation fee be reduced from \$2.50 to \$1.50. Shipping companies formed a powerful lobby, however, and it is not unlikely that they brought some influence to bear.

Granting an improvement in the health of newly arrived immigrants, the commissioners were still responsible for the health and welfare of immigrants until they had been in the state of New York for a period of five years. At a time when the head tax was reduced, many complaints were voiced about the way in which immigrants were dominating the welfare rolls. Moreover, two years earlier a fight had developed between the commissioners of emigration and the commissioners of charities and correction over the question of financial responsibility for imprisoned immigrants. An "impartial" board awarded almost \$115,000 dollars to the commissioners of correction. Rather significantly, a *Times* editorial noted that payment of this sum would dig deeply into the reserve funds of the emigration commissioners "at a time when the expenses of the Commissioners are extraordinarily high, in consequence of the poverty and distress now prevailing to so great an extent among their wards."⁹

The reduction in the income of the immigration office came at an unfortunate time, for the succeeding years were ones of financial stringency. The advent of depression in the 1870s led to a drastic reduction in the number of immigrants and a corresponding fall in the income of the immigration commissioners. While it was partially offset by a reduction in welfare work, the operation and maintenance costs of Castle Garden and the Ward's Island complex remained more or less fixed. The financial troubles were compounded on March 21, 1876, when the United States Supreme Court ruled that the collection of a head tax was illegal. While it was appealing to Congress for relief, the State Legislature made a series of annual appropriations to compensate for the loss of the head tax. In August 1882 Congress finally enacted a law providing for a head tax of 50 cents per person, payable to the immigration authorities at the port of entrance. This measure provided some relief, but the state was still compelled to supplement the income from this source until 1890 when the federal government assumed complete responsibility for the immigration facilities.¹⁰

To add to the difficulties of the emigration commissioners, during the years after 1876 when they had no fixed source of income, the tide of immigration rose sharply. In 1877 a total of 54,500 immigrants landed in New York City; three years later

some 327,000 arrived, and in 1881 the figure jumped to 440,000. The meagerness of the state appropriations in this period is shown in the 1880 report of Floyd F. Kane, the superintendent of the refuge and hospitals on Ward's Island. He wrote that no improvements had been made in any of the buildings "beyond the absolutely unavoidable repair. . . ." Whereas the emigration commissioners had averaged close to \$400,000 from the state head tax, the annual appropriations from the state was only about \$200,000 per year in the six years from 1877 to 1882.¹¹ Under these circumstances, the immigration facilities tended to deteriorate.

The saving factor was the good health of the newly arrived immigrants, which relieved the immigration officials of one of their heaviest burdens. In 1875 the health officer of the port, Dr. Vanderpoel, attributed the decrease in the importation of contagious diseases to the willingness of ship captains and officers to apply the principles of "sanitary science." Five years later the commissioners of emigration noted that there was little sickness among the immigrants and "their health was generally better than that of those landed in preceding years." The improvement can also be credited to the determination of the New York authorities to apply the existing immigration laws. In 1881 indictments were brought against 17 ship captains for carrying excessive numbers of steerage passengers. The British Medical Association, which also deserves some of the credit, investigated the quality of ship surgeons on British steamers in 1882 and found that over 40 percent were unfit for their job.¹² With pressure being exerted on both sides of the Atlantic and improvements in the speed and accommodations of steamships, the worst abuses were soon a thing of the past.

In 1883 Governor Grover Cleveland savagely attacked the commissioners of emigration, accusing them of swindling immigrants, of barefaced jobbery, and of operating an agency which was "a scandal and a reproach to civilization." The validity of the charges is not clear, although it would appear that his attack was more a reflection of contemporary political quarrels than of any righteous indignation. The Committee on Finance of the State Senate made a thorough investigation of the immigration office in 1883 and its findings, while not altogether favorable, scarcely substantiate the governor's charges. The committee felt that the

size of the board, six permanent plus three ex-officio members, made it unwieldy, but concluded that it had performed fairly well in view of the inadequate financing. While finding no evidence of fraud or extortion, the committee did criticize the emigration commissioners for allowing a number of concessionaires to use the Castle Garden facilities free of charge. Suffice to say, nothing came of the governor's charges, nor of his efforts to change the structure and personnel of the board.¹³

While the medical facilities at Castle Garden and Ward's Island were far from ideal, they continued to provide adequate care for the limited number of sick immigrants. From the standpoint of the city's health, the most notable change in the immigration picture during this period was the shift in nationality of the immigrants. By the 1890s large numbers of immigrants were coming from Italy and eastern Europe. In terms of their economic position, they were akin to the earlier waves of Irish, but differences in language and culture made their adjustment more difficult. Like their predecessors, the newcomers were forced to crowd into the most dilapidated slums. In 1893 Dr. Tracy, the registrar for the health department, commented upon the exceptionally high death rate in those areas occupied largely by Italians. They were especially prone to phthisis and pneumonia, which he thought was the result of their coming from a warm sunny climate. The Polish Jews, who lived in equally poor areas, had a relatively low mortality rate.¹⁴ In their case, Dr. Tracy credited good health to frugality and temperance. The registrar's judgments probably speak more for his own sense of values than for actual health conditions.

In the 1840s and 1850s the massive influx of Irish and German migrants had created serious health problems. The immigrants themselves were sick and debilitated, and they repeatedly introduced communicable diseases into the city's population. In the post-Civil War years, the processing of immigrants became standardized and relatively efficient and a high percentage of those with disease were screened out. By the time the federal authorities assumed responsibility for processing immigrants in 1890, the newcomers no longer represented a direct threat to the city's health.

The Quarantine System

The chief agency for preventing the importation of contagious diseases was the Quarantine Office, an establishment operated by the state and over which the Health Department had no control. Throughout the last 30 odd years of the nineteenth century, it operated under guidelines established by the Quarantine Act of 1863. The chief administrator was the health officer, appointed by the governor for an indefinite term. He had wide powers over all vessels entering the port of New York, since at his discretion he could order ships into quarantine, detain them for long periods, and require the cargo to be unloaded and the vessel cleaned and fumigated. The health officer was in an additional happy position; although he received no salary, he was permitted to keep the health inspection fees collected from every vessel entering the harbor. Despite the large revenues accruing from fees, the expenses of the quarantine station were covered by a state appropriation.

As a check upon the health officer, the 1863 law had created a three-man Board of Commissioners. Ostensibly this board served as a court of appeal from the decisions of the health officer, but with the latter's fees ranging from \$50,000 to \$100,000 per year, there was a commendable spirit of cooperation between the board and its administrative officer. The board was also in charge of the grounds, buildings, and properties of the quarantine station, a responsibility not without its compensations.¹⁵

The fruitless efforts to find a site for the quarantine station have been recounted in the first volume of this history and have been touched upon in Chapter 1. The State Legislature embarked on a new tack in 1866 by calling on the commissioners of quarantine to construct a station on the West Bank, a shoal near Fort Richmond, Staten Island. Recognizing that it would take several years to carry the project through to fruition, in 1867 the State Legislature appealed to the federal government to continue its loan of three old vessels for use as temporary quarantine hospitals. In addition, the Legislature voted \$50,000 to set up temporary quarters on Barren Island and another \$25,000 to build a boarding and loading station on Coney Island. Work was slow in getting under way on these projects, but the appearance of several yellow

fever cases in the summer of 1867 gave an impetus to construction.¹⁶

Inadequate as were the temporary facilities, they served their purpose fairly well, although in the spring of 1869 there was a mounting criticism of the quarantine officials for permitting supposedly healthy immigrants from infected ships to land directly on the New York City docks. In light of the widespread appearance of smallpox at this time, much of it attributable to immigrants, the Board of Health resolved on May 19 that all immigrant vessels arriving from quarantined ports must be inspected by a health officer before they could berth at any New York dock. In the succeeding months some 133 vessels were examined and 1,675 steerage beds which had been exposed to smallpox were burned.¹⁷

By the following summer, the construction of the new quarantine station was well along. It consisted of two separate islands, the first of which was to be used for sick patients and the second for the inspection and quarantine of passengers exposed to disease. Island Number 1, as it was called, consisted of the superintendent's house, quarters for nurses and staff, and six pavilion-type hospitals designed to accommodate 250 patients each. Officials had expected to use this island in the summer of 1869, but its use was delayed by the failure of the contractors to finish the docks. Other than filling and raising the ground level, little had been accomplished on Island Number 2.¹⁸ Fortunately, no serious crisis arose, so the delay did no harm.

It is just as well that the quarantine station had to handle only routine matters, for the commissioners of quarantine under the administration of Governor John T. Hoffman, 1868-72, badly mishandled their finances. Despite relatively large sums appropriated for operating costs, maintenance, and construction, the quarantine buildings and equipment were in a deplorable condition in 1872. An indication of what happened to these funds may be found in a clause attached to an appropriation measure passed by the reform government in 1873 which specified that money for buildings and equipment was not to be used to compensate any of the officers.¹⁹

The health officer during Hoffman's administration, Dr. John

M. Carnochan, like his associates on the Quarantine Commission, overlooked no opportunities to augment his income. Although his legitimate fees amounted to \$57,000 in 1869, he was accused of selling the rights to towing, lightering, and stevedoring. It was also asserted that he kept vessels in quarantine until they paid to be released.²⁰ Understandably, there was a general hue and cry against the quarantine system in these years. Although Carnochan, who carried chicanery to a new high, was not the typical health officer, the position remained a prize political plum throughout most of the century.

The breakup of the Tweed ring in 1871-72 brought considerable improvement. In May 1873 the State Legislature abolished the Board of Quarantine Commissioners and turned its work over to the health officer. Dr. Carnochan was removed from office and replaced by Dr. S. Oakley Vanderpoel, who provided a fairly honest and effective administration. He immediately opened the lightering of vessels in quarantine to public competition, eased restrictions on ships from yellow fever zones, and in general sought to cooperate with the shippers and businessmen.²¹ Within a few months after taking office, Dr. Vanderpoel began receiving a favorable press. In May 1874 a medical journal declared that the quarantine facilities were in readiness and in excellent condition. Four years later *Frank Leslie's Illustrated Newspaper*, a publication not usually given to extolling the merits of state or municipal agencies, carried a long and favorable feature story on the quarantine station. The one discordant note in Vanderpoel's regime was a critical report by a State Assembly Committee in 1876. It is quite possible that the attack was politically motivated since the position was a lucrative one, even for an honest official. In any event, the Legislature, in a step which should have been taken much earlier, required the health officer to pay the operating expenses of his department from his fees. Regrettably, a proposal to pay him a straight salary was rejected.²²

As of 1878 the main quarantine station, situated on the south shore of Staten Island, consisted of "warehouses, docks and wharves, anchorage for vessels, hospitals, convalescent stations, a floating hospital, boarding station, burying-ground, and residences for officers and men." Connected with the warehouses were "apartments with appliances for special disinfection by forced

ventilation, refrigeration, high steam, dry heat, and chemical disinfectants." In addition to the main station, the two artificial islands which had been constructed in the 1860s and subsequently named Hoffman and Dix islands were used for isolation purposes. Dix Island, which contained hospital buildings, was reserved for yellow fever and Asiatic cholera cases, while Hoffman, with barracks and residence facilities, provided housing for healthy passengers during the quarantine period.²³

Although Dr. Vanderpoel had performed creditably—and paid the annual political assessments regularly—in January 1880 he was removed from office and replaced by Dr. William M. Smith, a party faithful who had served twice in the New York Assembly. Within a year or so after Smith took office, the New York Legislature once again investigated the Health Office. The city newspapers, which were generally opposed to the fee system, were outraged at the revelations of the Senate investigation. Dr. Smith was quoted as saying that he kept no record of his fees but simply pocketed them each day. In so doing, Dr. Smith was apparently following the standard practice. His predecessor, Dr. Vanderpoel, when asked by the Senate committee how much he had received during his eight years of office, replied: "I did not keep a strict account of my expenses or income. I always considered that a Health Officer would be a fool to do that." On further questioning, he admitted contributing between \$9,000 and \$10,000 per year to the party, although he denied that the money represented political assessments. Vanderpoel could easily afford a \$10,000 annual contribution, since the Senate Committee conservatively estimated the health officer's net income at between \$40,000 and \$60,000 per year.²⁴

Fortunately, the quarantine system worked fairly well, since the health officers could make more in fees and fringe benefits by detaining vessels than by simply allowing them to dock. The only significant changes during Smith's tenure of office resulted from an amendment to the state quarantine law in 1885. This amendment required masters of vessels from foreign ports to present a bill of health countersigned by the American consul describing the sanitary condition of the vessel, cargo, crew, and passengers. Whereas the 1863 law had made only four diseases subject to quarantine—yellow fever, Asiatic cholera, smallpox, and typhus—

four more disorders were added to the list—measles, scarlet fever, diphtheria, and relapsing fever.²⁵

Although the State Legislature in 1876 had required the health officer to pay operating expenses from his fees, the maintenance of the buildings, facilities, and other properties still remained the responsibility of the Board of Quarantine and was supported by state funds. In 1885-86 a lucrative political scheme involving contracts for cleaning imported rags once again brought the Health Office unfavorable notices. The head of the Quarantine Board was the notorious Republican boss, Thomas C. Platt, a man well versed in milking political offices. Platt, with the help of a second commissioner, was able to outvote David W. Judd, apparently the one honest commissioner. Platt's term of office should have expired early in Governor Grover Cleveland's administration, 1882-85, but the Republican Senate, which Platt controlled, refused to confirm any of the governor's appointments and it was not until 1888 that Platt was finally forced out of office on a legal technicality.²⁶

Unable to remove Platt, Governor Cleveland and his successor, David B. Hill, struck at him by vetoing all appropriations for the quarantine facilities. With no funds for maintenance, the buildings and equipment steadily deteriorated. As criticism of the quarantine accommodations mounted, Health Officer Smith blamed the Legislature and the governor for their failure to appropriate funds for repairs. At the same time he consistently opposed efforts to make his position a salaried one and to use the relatively enormous fees to improve the quarantine facilities. In 1887 committees appointed by the New York County Medical Society, the State Board of Health, the New York Academy of Medicine, and the College of Physicians in Philadelphia separately investigated and condemned the quarantine station.²⁷ Responding to the public furor, early in January of 1888 a bill was introduced restricting the health officer's salary to \$10,000 and assigning all fees above that amount to the Quarantine Board. This measure was signed by the governor in March and was promptly followed by the enactment of another law in May reorganizing the quarantine administration. A new Board of Commissioners, consisting of the mayors of New York and Brooklyn, the state engineer and surveyor, the quarantine commissioners, and the health officer,

was given supervision over repairing, improving, and maintaining the quarantine establishment. The law included an appropriation of \$80,000 to meet the most pressing needs.²⁸

The following years saw a steady improvement in the facilities at the quarantine grounds. The only major problem arose from the growing influx of immigrants. Dr. Smith constantly complained of the inadequate medical services provided on immigrant vessels. The problem, however, was one which had to be dealt with on the national level. In 1892 the quarantine law was rewritten, but no basic changes were made. This same year Dr. Smith was replaced by Dr. William T. Jenkins. As Dr. Smith left office, the New York Chamber of Commerce expressed "its grateful recognition of his wise, careful, and efficient administration. . . ." Since an effective quarantine seeks to draw the fine line between public and commercial interest, the business community's wholehearted praise of a quarantine officer is not necessarily an indication of a job well done. His successor, Jenkins, had only been in office a few months when the Transatlantic Steamship Association commended him highly, possibly an even worse accolade.²⁹

In 1892 the New York Academy of Medicine began studying the feasibility of a national quarantine law. Working in conjunction with the City Chamber of Commerce, the National Quarantine Committee of the academy lobbied in Washington for effective federal control. The other port cities joined with New York in demanding some type of federal legislation, and Congress responded by enacting a law early in February 1893. Its provisions, however, were not as strict as those already in force in the New York quarantine, and Congress failed to provide the requisite funds for even this mild law. The academy, which had opposed the bill on the grounds of inadequacy, resolved to continue its fight for a more effective measure.³⁰

In the meantime, the New York quarantine system continued to fulfill its main function. When Levi P. Morton won the governorship in 1894, he selected Dr. Alvah H. Doty to serve as health officer. Doty, who had been chief of the Bureau of Contagious Diseases in the Health Department, was an excellent choice for the position. Governor Morton was no reformer, since he had been hand-picked by Boss Platt, but Platt was a shrewd

politician who knew when to back and fill, and he often confounded the reformers by supporting one of their causes. In view of his previous involvement with the Quarantine Board, he and Morton may have felt it wise to appease the opposition. Whatever their motives, the selection of Doty as health officer was applauded by both the medical profession and the general public.³¹ Thus by the end of the nineteenth century, the Quarantine Office had been divested of its worst political aspects, the staff was relatively competent, and the agency was fulfilling its task of screening out the major contagious diseases.

Notes to Chapter 9

1. See, *Ann. Rep., Comm. of Emig.*, 1866-70.
2. *Ibid.*, 1868, pp. 8-9, 11.
3. *Ibid.*, 1866, pp. 19, 26; 1868, p. 16; 1869, p. 17.
4. *Ibid.*, 1867, pp. 4-5; 1868, pp. 4-7.
5. *Ibid.*, 1869, pp. 4-5; *N.Y. State Laws*, 91st sess., chap. 857, June 5, 1868, II, pp. 2040-41; *Herald*, March 11-15, 1869.
6. *Ann. Rep., Comm. of Emig.*, 1867, pp. 4-5; *Times*, March 13, 1869.
7. *Ann. Rep., Comm. of Emig.*, 1866, pp. 22-24.
8. *Ibid.*, 1869, p. 26; 1870, p. 4; *Herald*, March 15, 1869; *Times*, March 13, 1869.
9. *Ann. Rep., Comm. of Emig.*, 1870, pp. 4-6; *Times*, March 6, 1868.
10. *Times*, January 8, April 27, 1875; *State of New York, Messages from the Governors*, Charles Z. Lincoln, ed., VII [1877-84] (Albany, N. Y., 1909), pp. 14-15, 432-33 (hereinafter cited as *N.Y. State, Messages from Governors*). See also *Ann. Rep., Comm. of Emig.*, 1877-79.
11. *N.Y. State, Messages from Governors*, VII, pp. 711-12; *Ann. Rep., Comm. of Emig.*, 1880, pp. 52-53; New York State Senate, *The Committee on Finance . . . to Investigate the Affairs of the Commissioners of Emigration* (Albany, 1883), pp. 4-5 [New York Public Library, pamphlet]; *World*, September 6, 1876.
12. *Herald*, January 18, April 23, September 9, November 12, 1875; *Times*, January 20, 1875; *Ann. Rep. Comm. of Emig.*, 1880, p. 4; *Leslie's Illustrated*, May 28, 1881; *Medical Record*, XXV (1884), 98, 351.
13. *State of New York, Public Papers of Grover Cleveland, Governor, 1883* (Albany, 1883), pp. 88-89; N. Y. State Senate, *Committee on Finance . . . to Investigate the . . . Commissioners of Emigration*, pp. 6-11.
14. *Ann. Rep., Bd. of Health*, 1893, p. 183.
15. For an account of the 1863 law and the operation of the Quarantine Office, see John Duffy, *A History of Public Health in New York City, 1625-1866* (New York, 1968), pp. 351-53.
16. *N.Y. State Laws*, 89th sess., chap. 751, April 21, 1866, pp. 1625-34; 90th

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- sess., chap. 481, April 22, 1867, I, p. 1245; chap. 543, April 22, 1867, II, pp. 1493-94; 90th sess., Concurrent Resolution, II, pp. 2490-91; *Herald*, August 30, 1867; *Times*, August 28, 1867.
17. *Herald*, April 13, 1869; *Times*, April 9, 1869; *Ann. Rep., Met. B. of H.*, 1869, pp. 17-18.
 18. *Times*, August 19, 1869.
 19. N.Y. *State Laws*, 94th sess., chap. 715, April 26, 1871, II, pp. 1570-71; 96th sess., chap. 643, May 29, 1873, pp. 999-1014.
 20. *Nation*, no. 320 (August 17, 1871); *Evening Post*, February 15, 1870.
 21. *Medical Record*, VII (1872), 18-19; *Herald*, January 9, April 21, 1874; *Times*, April 22, 1873; January 10, 1874.
 22. *Leslie's Illustrated*, September 21, 1878; *Medical Record*, XI (1876), 288-89, 303-04; N. Y. *State Laws*, 99th sess., chap. 193, May 1, 1876, I, p. 197.
 23. *Leslie's Illustrated*, September 21, 1878; *Sanitarian*, II (1874), 136-37.
 24. *Medical Record*, XVII (1880), 386; *Daily Tribune*, March 25, 1880; *Herald*, December 1, 3, 1881; December 1, 1885; *Times*, December 2, 23, 1881; *Public Papers of Grover Cleveland, Governor, 1883*, pp. 20-21.
 25. *J.A.M.A.*, IV (1885), 419; N.Y. *State Laws*, 108th sess., chap. 534, June 13, 1885, pp. 901-02; *Herald*, December 1, 1885.
 26. *Harper's Weekly*, XXX (1886), 3; XXXII (1888), 3; *Herald*, April 7, 1886; July 29, December 28, 1887; *Times*, September 3, 1885; July 29, 1887; January 14, 1888.
 27. *Herald*, January 3, 5, 14, 1888; *Times*, October 24, 31, December 27, 1887; *Sanitarian*, XX (1888), 3-21; N.Y. *Med. Jnl.*, XLVII (1888), 24-26; LI (1890), 35-40; Gordon Atkins, "Health, Housing and Poverty in New York City, 1865-1898" (doctoral dissertation, Columbia University, 1947), p. 179.
 28. *Times*, January 4, March 23, 1888; N.Y. *State Laws*, 111th sess., chap. 270, May 9, 1888, pp. 476-77.
 29. N.Y. *State Laws*, 115th sess., chap. 486, May 5, 1892, I, pp. 968-81; Susan W. Peabody, "Historical Study of Legislation Regarding Public Health in the States of New York and Massachusetts," *The Journal of Infectious Diseases*, supplement no. 4 (1909), 36; *Sanitarian*, XXVIII (1892), 562-63; N.Y. *Med. Jnl.*, LVI (1892), 470.
 30. N.Y.A.M., Minutes, September 12, 1892, p. 318; January 31, February 16, 24, March 2, 1893, pp. 338-39, 343-45, 347; December 20, 1894, pp. 407-08; *Times*, December 21, 1892; N.Y. *Med. Jnl.*, LVII (1893), 141.
 31. *Herald* and *Times*, January 3, 1895. For a discussion of Boss Platt, See David M. Ellis et al., *A Short History of New York State* (Ithaca, N. Y., 1957), pp. 376-80.

Infants, School Children and the Slums

In the opinion of this Board the number of deaths from contagious diseases would be greatly diminished by a daily medical inspection of the public, parochial and private schools of this city and the medical examination of the children absent from said schools. . . .
[*Daily Tribune*, July 16, 1896.]

In terms of morbidity and mortality, there was probably no more serious health problem than that represented by the age group below five years. When the metropolitan board took over health affairs, this age group was responsible for almost 50 percent of the city deaths, and as late as the 1890s infant mortality still comprised about 40 percent of the total. Illustrating the tragic waste of human life, Dr. Elisha Harris, the registrar of vital statistics, while correlating temperature and humidity with infant deaths during the summer of 1874 mentioned that the infant mortality had been 63.5 percent in July and 61 percent in August. For the year 1875 infant mortality represented 47.75 percent of all deaths.¹

Legalized Infanticide

The heavy attrition among babies and infants was generally accepted as the inevitable workings of Providence and aroused relatively little attention. The one aspect which repeatedly forced itself into public notice was the condition of foundlings and institutionalized babies. In an earlier chapter reference was made to the notorious infant boardinghouses, places designed for unwanted babies. The evidence clearly indicates that many of the infant nursing homes deliberately practiced infanticide. In 1866 health inspectors made a list of 50 places suspected of abortion and infanticide. Even when evidence of these practices was conclusive, however, the board had no legal authority to move against the operators. A Madame Parselle, who advertised that she would handle the adoption of children, was reported to keep a "lying-in hospital at No. 147 West Seventeenth-street, where private pa-

tients were confined and the babes disposed of." Under the terms of her contracts, she agreed to keep the infants until they were adopted or else died; few of them survived long enough to be adopted. Within the space of a few weeks in 1868 no less than seven infant deaths occurred under her tender ministrations. Although reliable physicians testified in each of these cases that the child had died of starvation, the Board of Health was unable to take any legal action. Not surprisingly, the board appealed for remedial legislation and the establishment of a legitimate lying-in hospital.²

As bad as conditions were for infants in boardinghouses, they were little if any better for the so-called foundlings. Prior to 1866, infants picked up off the streets in a starved or half-frozen condition were turned over to the female inmates of the almshouses, where they "seldom survived a year." A special Infant Hospital was built on Ward's Island in 1866, but the mortality rate was almost as high. A wet-nurse system introduced in 1867 improved matters slightly, although Dr. Stephen Rogers stated in the *Medical Record* that the mortality rate was still 70 percent. By 1870, after the employment of a physician and paid nurses, the mortality rate, temporarily at least, dropped to 58.9 percent.³

Little improvement could be expected in the care of infants until there was a better understanding of the role of pathogenic organisms. Even after the bacteriological thesis gained acceptance, mediocre or inept administration of institutions for infants frequently nullified any benefits which might have been achieved. In 1871 Dr. Abraham Jacobi visited Europe to study the care of foundlings. Here he found the death rate as high as in America, and he came to the conclusion: "The younger the children, and the larger the institution—the surer is death." On his return, Dr. Jacobi induced the State Medical Society to appoint a special committee to look into the subject. The committee report, which was submitted in February 1873, agreed in essence with his conclusions. The members found that the mortality in the city's two private infant asylums, the Foundling Asylum operated by the Sisters of Charity and the Nursery and Child's Hospital under the management of a Protestant group, had been as high as in the large public institutions until the former had effected radical changes in their operation. The best solution to the foundling

problem, the committee concluded, was to place the infants in private homes, preferably in the country. The committee also noted "with pangs of sorrow and disgust" that in some instances public funds appropriated for charitable agencies ended up in private pockets. After warning that many of these agencies strenuously lobbied for financial assistance, the members suggested that the State Board of Charities should keep a careful check upon the use of state funds.⁴

The most fortunate foundlings were those in private infant asylums. Even these institutions had their problems, however, as is illustrated in the case of the Infant Asylum, an establishment founded by two Jesuits in 1880. Within a few months after opening its doors, complaints were made about conditions in the asylum. A letter signed by a group of citizens, including Mary Putnam Jacobi, protested against the mismanagement, specifically citing overcrowding, lack of an adequate diet, and the absence of suitable nurses. Subsequently, investigators for the Board of Health and the Society for the Prevention of Cruelty to Children substantiated the charges. In addition, they found that the water supply and ventilation were inadequate, fire escapes were nonexistent, and there was no resident physician. Three physicians who visited the institution shortly afterward reported that despite signs of recent cleaning, "the stench begotten by impure atmosphere and the typical offensive odor of foul clothing and personal uncleanness had not been eradicated." After citing some of the worst conditions, the physicians concluded that the institution was not fit for either sick or well children.⁵ On receipt of this report, the Board of Health promptly ordered the building vacated, whereupon the directors of the asylum voted to close down all operations, and the children were transferred to other institutions.

Fortunately instances such as these were the exception. In general, the private institutions, such as the New York Infant Asylum, were well regarded throughout these years. It is a commentary upon the state of medical knowledge that an annual mortality rate of 30 to 40 percent in these infant homes was considered proof of their excellence. Whatever the condition of private institutions, the public ones continued to offer little hope for abandoned babies. In 1883 a *Times* headline over an article on the

Infant Hospital at Randall's Island read: "WHERE THE BABIES OF THE WORK-HOUSE WOMEN ARE SENT TO DIE," and the article went on to describe babies which were "mere skeletons with a bit of blue-black skin drawn over them."⁶ The protests of the *Times* apparently went unheeded for in 1889 no less than 333 of the 508 babies in this institution died. The hospital again was bitterly criticized in 1897, and the defense put up by the commissioner of charities makes conditions seem all the worse. According to one of the newspaper reporters, he was quite "placid" when questioned, explaining that the 96 percent mortality was "not as bad as it looks," since many of the children were ill on arrival and others were sent by their parents to save funeral expenses. He further explained that his low salary schedule forced him to use women from the workhouse who maltreated the babies. Fortunately, Nathan Straus, the New York philanthropist who had established milk stations for the poor, took over as president of the Board of Health the following year, and he quickly remedied the worst abuses.⁷

Tenement Babies

Physicians and social reformers who were familiar with conditions of the poor had no illusions as to the cause of the excessive infant mortality in tenement areas. Dr. Stephen Rogers was well ahead of his time when he suggested in 1868 that the only solution was to tear down most of the miserable shacks and dilapidated buildings and replace them with proper housing supplied with pure water. He criticized the Board of Health for attributing much of the increased summer mortality to diseased meat, pointing out that a high percentage of deaths were those of children under two years of age, none of whom ever tasted meat. Some of them, he suggested, might have been better off if they had eaten a little diseased meat! He was also critical of a pamphlet issued by the Board of Health entitled, "Rules for the Management of Infants during the Summer Months." Instead of the recommended light flannel clothing for infants, he urged that the most suitable infant dress in summertime was "perfect nudity. . . ." Whereas the health authorities had suggested the addition of barley, sugar, and water to baby's milk, he advocated the use of pure milk. The same

theme was reiterated by Dr. William C. Roberts in a paper read before the New York Academy of Medicine in 1868. He, too, blamed the slums and the general lack of sanitation for the excessive infant mortality in the tenement areas, but he conceded that even the children of the wealthy did not escape. "There is not, perhaps, during any summer, a young child in this city who does not suffer more or less from diarrhoeal disorder. . . ."⁸ The enormity of the whole problem of infant mortality was well beyond the capacity of any health agency in the prebacterial era, but the Board of Health at least recognized the most pressing needs, and its sanitary program in the tenement areas was a step in the right direction.

As has already been shown in previous chapters, the most effective agency in saving the lives of infants in the poorer areas was the summer corps of physicians. The work of these doctors was reinforced by the efforts of many voluntary organizations. In citing the reduction in the deaths of children under five from 48.35 percent of the total annual deaths in 1875 to 40.66 percent in 1890, the Health Department credited the work of its sanitary inspectors and the summer corps, and then mentioned the charitable efforts of the newspapers and private groups. Among the private agencies specifically listed were the St. John's Guild, King's Daughters, Hebrew Sanitarium, *Tribune* Fresh Air Fund, and the summer corps of the *Evening World*.⁹

The foregoing represent only a few of the dozens of reform organizations which emerged in the 1870s and 1880s. While some concentrated on political, tenement house, or sanitary reform, the infant welfare movement was the one which had the strongest appeal. In 1881 the president of the Society for the Prevention of Cruelty to Children appealed to a special committee of the State Medical Society to take three actions: appoint an examining board to prevent syphilitic women from serving as wet nurses, support a law to prevent children from working in dangerous industries, and provide systematic medical care for all children. Dr. Abraham Jacobi, speaking for the committee, agreed to support a child labor law, but stated that the other two proposals were impracticable. The committee, however, did favor establishing depots where children of the poor could be supplied with food.¹⁰ The willingness of the medical society to support food depots indi-

cates the changing climate of opinion, but another ten years elapsed before a layman, Nathan Straus, organized the first free milk centers.

The rising public concern with infants was reflected in the State Legislature. In 1886 a state law was enacted requiring every institution caring for "orphan, vagrant or destitute children, or juvenile delinquents, to have a regular physician attached to its staff." The law further specified the physician's duties and set minimum standards of space, ventilation, and sanitation. Eye infections had long been recognized as a major cause of blindness among children, but it was not until the germ theory was generally accepted that any effort was made to protect the newborn. In 1890 a state law required midwives or nurses caring for newborn babies to report to the nearest health officer or legally qualified practitioner any redness or inflammation of the eyes occurring within two weeks after birth. Failure to comply could result in a fine of up to \$100 and/or six months in jail.¹¹ The principle of waiting until the infection had developed was scarcely sound preventive medicine, but it was a step in the right direction. In a day when parents tended to disregard children's disorders, the law helped to reduce the number of chronic eye cases, the ones most likely to lead to blindness. Judging by modern standards, the wastage of babies and small children was still enormous as the nineteenth century drew to a close. Jacob Riis stated that in one year some 170 live babies and 72 dead ones were picked up off the streets. The live ones were sent to Randall's Island, where he estimated that 90 percent died.¹² Fortunately, a major change was in the offing. Armed with the new weapons of science, the New York City Health Department and health departments everywhere were in a position to make a major assault on the causes of infant mortality with the opening of the twentieth century.

Beginnings of School Health

As noted in Chapter 7, the Health Department's attention was first drawn to the condition of the schools as a result of the widespread prevalence of smallpox in the late 1860s and early 1870s. Having first decided in 1867 to investigate the number of unvaccinated school children, the board then resolved to have its sani-

tary inspectors make an examination of all public schools twice a year. The results of these early surveys showed the worst feature to be excessive crowding. In one classroom measuring 14 by 14 feet an inspector found 109 students and was informed that the room sometimes held as many as 120. None of the schools had a ventilation system nor did the windows provide an adequate supply of fresh air. The situation was made more acute by the general use of stoves for heating purposes. When these facts were reported to the Board of Education, it conceded the charge of overcrowding but pleaded the legitimate excuse of an inadequate budget.¹³

The school board members, although willing to go along with the vaccination program since it cost them nothing, had no real interest in health conditions, and the health authorities could do little without their cooperation. In justice to the Board of Education it should be pointed out that responsibility for the schools was sharply divided. Expenditures were under control of the Board of Estimate and Apportionment and had to originate with the local board of trustees in each ward. The Board of Education could make major policy decisions, but it still remained for the local trustees to carry them out. Responsibility for construction and maintenance of schools rested largely with these trustees, and they deserve a good part of the blame for the generally deplorable school conditions. To add to the educational problems, the whole system was enmeshed in politics, and well-to-do citizens whose children attended private institutions were reluctant to vote taxes for the public schools. The Board of Health, which might have taken more initiative with respect to school children, was equally reluctant to engage in an interdepartmental struggle with the school board. The net effect of all these factors was to prevent the development of an effective school health program for almost 30 years.

In the ensuing years health reformers occasionally won minor skirmishes. The *Times* in 1869 took up cudgels on behalf of the school children by editorially denouncing the overcrowded conditions, inadequate ventilation, and the lack of gymnasiums. The editorial writer also expressed apprehension over a problem which bothered many of his contemporaries—the danger to the children's

health from excessive brain work. Although there was a desperate need for larger school appropriations, the *Times* contented itself with suggesting to the prosperous classes "who are making too much use of the cheap and popular schools" that they send their children to private institutions and thus make room for poor children. A far better and more practical recommendation was made by the Citizens' Association, which urged the appointment of "an able sanitarian and skillful physician" who could devote his full time to the sanitary condition of the schools and the health of the pupils and teachers.¹⁴

Probably to the surprise of its authors, this excellent suggestion brought results within two years. On January 1, 1872, the Board of Education appointed Dr. R. J. O'Sullivan to the position of visiting physician. His original responsibility was to check on teachers who were absent for more than five days because of illness. Shortly after his appointment a serious smallpox outbreak developed, and O'Sullivan collaborated with the health authorities in a massive school vaccination program. In addition, Dr. O'Sullivan took it upon himself to report to the Board of Education some of the worst sanitary abuses he had encountered. He wrote subsequently that these reports "were always courteously received and placed on file. . . ." The board did act upon some of his other suggestions, including early dismissal of infant classes in warm weather, a morning recess in all primary schools, and a recommendation that children from homes with communicable diseases be banned from school. Probably as a result of his reports, in November 1872 O'Sullivan was given sanitary supervision of all schools under the Board of Education.¹⁵

That same month the Board of Health ordered two of its sanitary inspectors, Drs. August Viele and W. H. B. Post, to work with the school physician in making a thorough inspection of schoolhouses. The three men found that many of the school buildings were simply old tenement houses modified only slightly for educational purposes and that nearly all schools were overcrowded, unventilated, and filthy. They particularly commented upon the inadequate and foul condition of the toilets, the odors from which often permeated the entire school.¹⁶ This report was turned over to the Board of Education. Whether or not anything

might have come of it is difficult to say, but a shift in political winds caused the board to defer action. Shortly thereafter the reform government of Mayor Havemeyer took over from Tammany and one of the first acts of the new Board of Education in 1873 was to eliminate the position of school physician. The only explanation for this action was hinted at by an indignant correspondent who signed himself "Hygiene." He claimed that the new school board was more concerned with the evils of "Sec-tarianism" than of "Sanitarianism." Anti-Catholicism was an important factor in the reaction against Tammany, and it may have been involved in the board's decision.¹⁷ Whatever the explanation, it was 14 years before another medical school inspector was appointed.

For the next few years nothing was done about school health. Dr. A. N. Bell of *The Sanitarian* carried on a constant battle, occasionally with some support from the newspapers, but the issue had little appeal to New Yorkers, who in any case were not prepared to make the relatively large capital outlays necessary to provide decent school buildings.¹⁸ In 1876 the New York Medico-Legal Society, in which Dr. Bell was active, appointed a Committee on Schools and began agitating for a school health program. The society requested help from the New York Academy of Medicine in December 1876, but a resolution to this effect in the academy's meeting was referred to the Executive Committee where it apparently died. The Medico-Legal Society gained a minor victory in 1877 when a bill was introduced into the State Senate proposing to create the office of sanitary inspector of schools. Although the New York Board of Education strenuously objected, calling it an "additional and useless office," the measure passed the Senate only to be defeated in the House.¹⁹ The Board of Health kept discreetly out of the matter. According to Dr. Moreau Morris, when in his position as sanitary inspector he reported unsanitary school conditions to the Board of Health, he was told to keep away from the schools as he "was treading on the toes of another Commission." The editor of the *Medical Record* aptly summarized the situation when he glumly observed of the schools: "When we consider that the Board is managed in the interests of a political ring, and that it is quite necessary that

the ignorance, neglect of duty, and stupidity of said Board should not be brought to light, the outlook towards reform is quite unpromising." The only solution, he concluded, was a radical overhaul of the Board of Education.²⁰

With the Board of Education actively opposing efforts to create a school medical inspector and health officials keeping out of the picture, nothing was accomplished until 1882. Responding to pressure from the Medico-Legal Society and the newspapers, in May 1882 the City Council ordered the Board of Health and the fire commissioners to make a thorough study of the public schools.²¹ As a result of the survey, which revealed the same atrocious conditions which had characterized the schools for many years, the Board of Education in 1883 appropriated \$6,000 to improve the ventilation and drainage of the approximately 76 schools which the inspectors called a threat to the lives and health of the children. At the same time, it resolved to use \$500,000 of the revenue for 1884 to build new schools. To anyone reading the reports on school sanitary conditions, the callousness of the board in appropriating a mere \$6,000 seems incredible, particularly in view of the claim by one physician that defective plumbing and inadequate ventilation had been responsible for the deaths of 3,000 school children in the previous two years. Having made some gestures to pacify the reformers, the Board of Education reverted to its former do-nothing policy. Three years later when the Board of Health took the cautious step of appointing Dr. Moreau Morris as its school inspector, it quickly discovered that the school board was as jealous of its authority as ever. On February 2, 1888, the position of school inspector was abolished and Dr. Morris was transferred to another section. One of the newspapers in commenting upon Morris' good work as school inspector explained his transfer on the grounds that "the Board of Education has resented the interference of the Health Department with the Schools."²²

By this time, the Medico-Legal Society was picking up support in its battle for better schools. The Medical Society of the County of New York and the New York Academy of Medicine both evinced an interest through their respective committee on hygiene and the section on public health.²³ The program to build new

schools which had been initiated in 1884 also began to show results, although the majority of the old schools still in use were scarcely fit for stables. The Committee on Hygiene of the County Medical Society discovered that one school in 1891 was housed in three separate buildings—one had been condemned, another was a disreputable tenement, and the third was an old factory which had been “patched up.” Another school was housed in a former tenement surrounded by large stables, the drainage from which poured into the school cellar where two cesspools were located.²⁴

Encouraged by a rising interest in school conditions, in 1893 the Health Department reappointed Dr. Moreau Morris as inspector of schools and institutions. Morris had been active in the school health movement for many years, and the department could scarcely have chosen a better man. Although his responsibilities were restricted to the physical condition of the schools, Morris was in charge of the summer corps and was well acquainted with school problems. Under his leadership some of the worst sanitary abuses were remedied,²⁵ but the state of many buildings precluded all attempts at remedial action. An ex-school commissioner, Charles C. Wehrum, discussing Dr. Morris’ report in 1894 before members of the New York Academy of Medicine said that the latter had been “forced to make statements of actual conditions which cannot be read by any decently sensitive citizen of New York without disgust and humiliation.” Wehrum estimated that it would take \$7,000,000, an enormous sum in those days, to renovate or replace the worst school buildings.²⁶

The role of schools in disseminating communicable disease had long been recognized, and it was this knowledge which led the health authorities to promote the first school vaccination program in the 1860s. In the intervening years the emphasis in school health was placed upon improving environmental conditions in the schools rather than upon the children as individuals. By the 1890s the newfound bacteriological knowledge brought the need for a school health program sharply into focus.

As the Division of Contagious Diseases pressed its drive against diphtheria and scarlet fever in 1895 and 1896, it became obvious that the schools were a major source of infection. The first clear evidence of this was the discovery in the spring of 1895 that outbreaks of scarlet fever and diphtheria which closed two grammar

schools had originated in the families of the janitors who lived in the buildings. Eight years earlier the Board of Health had drawn the attention of the Board of Education to this danger, but the latter board had taken no action.²⁷

Late in the fall of 1895, the Health Department's sanitary superintendent, Dr. Charles F. Roberts, informed the Board of Health that he considered schools the major source for transmitting infectious and contagious diseases among children. To remedy the situation, he recommended a systematic daily medical inspection of all school children. Impressed by this suggestion, the Health Department assigned Medical Inspector George S. Lynde to make a study of the problem. Lynde's report confirmed the superintendent's observations. He found that sick children often continued to attend school and that convalescent children frequently returned to school while their disease was still contagious. In consequence, the Board of Health successfully petitioned the city for an appropriation to appoint a chief medical school inspector and 150 part-time inspectors to serve during the school year. Acutely conscious of the delicate sensibilities of the medical profession, the Health Department stressed that the school inspectors were to give no professional treatment. Their duties were to examine and to exclude from school those children with communicable diseases. If treatment was necessary, the care was to be provided by family physicians, hospitals, or dispensaries.²⁸

As soon as funds were available, early in 1897, a Division of Medical School Inspection was established in the Health Department. During the ensuing months the division fully justified its existence by discovering 234 cases of diphtheria, 222 of mumps, 124 of measles, and dozens of scarlet fever, whooping cough, and other serious disorders. The school inspectors also found 5,000 cases of head and body lice and another 1,346 cases of contagious eye diseases.²⁹ Although the duties of the school division were limited in scope, the findings of its inspectors left no doubt that a more positive program was needed, and their work paved the way for the comprehensive program which was soon to follow.

The Teeming Slums

What worse nuisance can there be than a tenement house in which plagues are endemic, and in which the yearly death rate is 75 to the 1,000? [*Daily Tribune*, July 16, 1896.]

The explosive urbanization of the nineteenth century created vast slums in every major city—densely crowded areas in which every social problem was compounded and in which morbidity and mortality rates soared. In the case of New York City, the second half of the nineteenth century witnessed the rise of the multistory tenement, adding a third dimension to the spreading slums. In the immediate post-Civil War years it was estimated that over three-quarters of the inhabitants in four of the most crowded wards, the sixth, eleventh, fourteenth, and seventeenth, were tenement dwellers. Not surprisingly, these wards consistently showed a high mortality rate.³⁰

For many years civic reformers and health officials had sought to draw public attention to the incredible filth and degradation in which the slum dwellers lived. They had appealed for action on humanitarian grounds, on the danger to public health, in terms of social cost, and on the basis of simple public and private self-interest. Their appeals, however, came to naught, for among respectable people—i.e., the middle and upper classes—it was axiomatic that sin and poverty went hand in hand; honesty, thrift, hard work, and cleanliness were invariably rewarded; and poverty was the inevitable consequence of laziness, dishonesty, dirtiness, and spendthrift ways. The Association for Improving the Condition of the Poor, certainly the most able and perceptive volunteer welfare agency, never questioned that the fundamental cause of poverty was what it termed “moral degradation,” but a certain ambivalence can be seen in its *Annual Reports* during the 1840s and 1850s. Close contact with the tenements increasingly forced the association’s members to see the relationship between the physical and cultural environment of the slum dwellers and their moral attitudes.

Throughout the 1850s a rising crescendo of complaints about the horrible living conditions of the poor filled the news media. Newspapers, journals, pamphlets, and public lectures made com-

mon cause on this issue. Although the city inspectors, who were largely responsible for health and welfare prior to 1866, scarcely epitomized honesty and ability, they condemned housing in the slum areas and asked for remedial action. State legislative commissions and private agencies conducted investigations and reported on the need for strong governmental action, but all efforts foundered on the sacred rock of private property. Even those who conceded the arguments of the reformers were afraid that the smallest encroachment upon the principle of private property might open the way to bringing the entire social structure crashing down. By more than a coincidence, the shrillest cries in defense of private property came from the owners of lucrative slums, a group which possessed a disproportionate amount of political influence. In consequence the only housing laws of any significance enacted prior to the Civil War were those pertaining to fire protection—a matter of vital concern to all property owners.

The demand for reform which had culminated in the creation of the Metropolitan Board of Health also led to the first real attempt to regulate slum housing. The survey of tenement districts made by the Council of Hygiene in 1864 had been widely publicized, and it crystallized the vague consensus that something had to be done. This first tenement law was drafted in the spring of 1867 by the attorney for the Metropolitan Board of Health, George Bliss, and several of the other health officials. It was modeled after a bill then under consideration in the British Parliament, but was simpler and less stringent. The *Times* strongly supported the measure but conceded that the issue was a complicated one, since it involved the rights of property holders, the matter of the personal rights of the tenants, and the potential danger in empowering municipal authorities to tear down and rebuild tenements.³¹

Although the law, which took effect on July 1, 1867, has been criticized for its low standards, it was as strong a law as could have been expected in an age when property rights were still paramount. It stated that all tenements must have a certain amount of ventilation, some form of fire escape, a waterproof roof, railings around all staircases, water closets or privies, and it required that the owner or agent's name be prominently posted. Cesspools were

banned except when unavoidable, and no one was to occupy a cellar dwelling without a special permit from the Board of Health. Cellar rooms were required to be at least seven feet in height and to extend above ground for at least one foot. Proper drainage was to be provided and any back rooms were to have free ventilation. Buildings erected on the same lot were to have a minimum of ten feet space between them on the first floors and another five feet for each additional story. The owners or agents of all tenements were required to whitewash the walls and ceilings twice a year, and tenants and landlords were required to give the health inspectors free access to the buildings for inspection purposes.³²

As Roy Lubove has correctly pointed out, there were many loopholes in the law. For example, an inside room could satisfy the ventilation requirements by opening into another room, and the qualifying statements with respect to fire escapes and cess-pools left too much to the discretion of the undermanned Board of Health. The minimum of one privy or water closet for each 20 inhabitants sounds woefully low by present-day standards, but, judging from all contemporary descriptions, it was a notable improvement.³³ The significance of the law is that it firmly placed community welfare above the rights of private property. Moreover, the mere existence of the law tended to improve tenement conditions; conscientious landlords were encouraged to eliminate abuses and less conscientious ones recognized the potential threat implied in the law.

The Board of Health took no immediate action to enforce the tenement house law other than to publicize its provisions, but this in itself led to a marked improvement. Tenement reform was only one of many crucial tasks confronting the Board of Health, all of which were certain to arouse the antipathy of powerful vested interests. Necessarily the board pushed first into those territories where it encountered the least resistance. In the case of slum housing, the problem was so acute that despite strong opposition the board was forced to take some action. Having given landlords ample time, toward the end of 1867 the Board of Health instituted about 100 legal suits against the worst offenders. In the majority of cases, the threat of legal action brought the desired results.³⁴ Cleaning and renovating the tenement districts, however, was a Herculean task, and one that could only succeed with the

cooperation of both landlords and tenants. The process of educating these two groups was only beginning, and the successes achieved in 1867 merely served to show the immensity of the job.

In 1868 the board ordered its attorney to institute legal proceedings against some 3,756 owners or agents. The following year Sanitary Superintendent Elisha Harris, one of the staunchest of health reformers, led a major drive against the tenement abuses. The most obvious trouble spot was the cellar dwellings. The *Times* grumbled in the spring of 1869 that the Board of Health, despite its absolute power, had done nothing about that "greatest sanitary nuisance and evil . . . the cellar-tenements," and it accused the board of timidity and excessive caution. While there was truth in the statement, the board had already started to tackle the issue. The previous November a survey had been made of some 2,000 cellar dwellings. About 1,000 of them were found to be half above ground and adequately lighted and ventilated; another 600 were two-thirds underground; and the remaining 400 were completely underground. Recognizing the housing shortage, the board decided to salvage those apartments in the first two categories and to close underground ones.³⁵

Starting early in 1869, the board put this program into effect. By the end of the year, it claimed responsibility for cleaning and renovating almost 1,000 cellars and thus providing good homes for at least 7,000 people. In addition, almost 200 basements had been closed on the grounds that they were unfit for human habitation. Commendable as was the latter action, the net gain is a matter of debate. In praising the board's action in the spring of 1869, a newspaper editor rejoiced that "large numbers of tenants are said to have been peremptorily warned to vacate their wretched premises before the 1st of May next." Nothing was said either by the board or the newspapers as to what provisions, if any, had been made for these unfortunates. Evicting slum tenants without providing better housing simply transferred them from one slum to another. Significantly, the AICP devoted several pages in its *Annual Report* for 1869 to the "squatter population," which it estimated at between 4,000 and 5,000. These squatters occupied shanty settlements located between 42nd and 44th streets east of Third Avenue, 55th and 59th streets south of Central Park, and on the west side between 60th and 80th streets. The shanties,



Interior of Mrs. M'Mahon's Apartment at No. 22 Roosevelt Street. From *Frank Leslie's Illustrated Newspaper*, February 2, 1867. Courtesy of The New-York Historical Society, New York City.

rudely constructed of scrapwood and tin, were often located on piles of refuse.³⁶ The sickness and death rates among the wretched inhabitants of these hovels were enormous, and it is not unlikely that many of those evicted from cellars, the lowest priced housing, may well have ended up in one of the shantytowns.

Whatever the shortcomings of the board's tenement program, under Dr. Harris' leadership there was an attempt to face up to the slum question. During 1869 a comprehensive inspection was made of almost 20,000 tenement buildings in New York and another 2,000 in Brooklyn. In the course of the inspection, thousands of nuisances were discovered, and pressure was brought to bear upon the owners to correct the worst conditions. Apparently deciding that there could be no compromise with slum owners, the board bitterly castigated those wealthy citizens who owned many of the worst slum dwellings. The income from the larger tenements, the ones usually owned by these absentee landlords, rarely fell below 15 percent, the board declared, and often was in excess of 30. These same buildings were usually managed by agents whose instructions were "to collect or evict." Moreover, absentee landlords, by operating through agents, were successful in avoiding responsibility for the condition of their properties, and in consequence the provisions of the Tenement House Act were virtually meaningless.³⁷ The frontal assault on the slum owners by the Board of Health brought no immediate results, but it was an act of courage. In the meantime, working within the limits of its authority, the board had made a notable start toward improving tenement conditions, and its activities were serving to focus public attention upon the needs of the slum dwellers.

When the Department of Health supplanted the metropolitan board in 1870, it was already armed with information supplied by the 1869-70 tenement survey. In the first year of operation, some 6,000 complaints were referred to the department's attorney for legal action. In most cases, this threat usually accomplished the desired end. Cellar dwellings, however, continued to remain a serious problem. Although health officials were in a position to eliminate basement apartments through their control over permits, it was not feasible to do so on a large scale. The use of some cellars was necessary, President Bosworth wrote, because of the "scarcity of proper accommodations for the indigent, and the want of

cheap and rapid transportation to suburban districts. . . .”³⁸ All the department could do was to eliminate the most dangerous ones. A survey of cellar dwellings in 1873 led the department to declare 550 of them unfit for habitation. On orders from the Board of Health, 400 were vacated. The inhabitants of the remaining 150 cellars refused to leave and were forcibly evicted by the department’s sanitary police.³⁹ In cheerfully reporting this progressive step, neither the Health Department nor the newspapers made any mention of what became of the poverty-stricken families thrown out into the streets.

The same crowded conditions which required the use of basements also were responsible for the fetid stale air which characterized slum dwellings. During the latter part of the nineteenth century considerable emphasis was placed upon the need for proper ventilation—an emphasis which was not without justification. Central heating was still a privilege of the wealthy, and the dwelling places of the poor were designed to protect them from the cold. Windows were few, and while the stale, foul air in tenements may not have contained miasma, it was scarcely conducive to good health. Popular prejudice, too, complicated the inspector’s work. Possibly arising from man’s age-old contact with malaria, night air was considered particularly dangerous, leading to a general exclusion of all outside air after sundown. In accordance with these beliefs, infants, sick people, and the aged were kept in almost hermetically sealed rooms. Associated with this fear of fresh air was another popular prejudice, that against bathing. The combined result of these two phobias in crowded tenements can well be imagined!

Fortunately, the residue of goodwill created by the Metropolitan Board of Health carried over into the 1870s, and the health inspectors gradually gained acceptance by the people they sought to help. Dr. Moreau Morris, the sanitary superintendent, wrote in 1871 that slum dwellers at first neither appreciated nor used windows and other ventilation facilities. As they become familiar with them, he continued, they quickly learn to value fresh air. “Even now,” he added, “if the question of the abolition of ventilating windows and shafts was put to a vote in any of our large tenement homes, the verdict would probably be overwhelming in favor of

their retention." He attributed part of this changing attitude to the educational work done by the inspectors, and he commented upon the friendly spirit with which the inspectors were now received on their house-to-house visits in the tenement sections.⁴⁰

Probably spurred on by publication of the Metropolitan Board of Health survey of 1869-70, the problem of the slum dwellers continued to occupy newspapers and magazine editors until the onset of the depression of 1873 drove it into the background. In March 1872 *Frank Leslie's Illustrated Newspaper* began a major exposé of slum conditions with the publication of an article by Ann A. Stephens entitled "Our Homeless Poor; Or, How the Other Half of the World Lives." Unlike Jacob Riis, who may have borrowed his title from her, Miss Stephens was concerned primarily with the quality of the lodging houses available for the poor. In succeeding issues *Leslie's* presented graphic descriptions of the horrible conditions to be found in the cellars and apartments of the poor. The summer of that year was unusually hot, leading to more articles on the subject of the poor. In reporting that \$10,000 had been subscribed to send street children into the country for a day or two, the *Nation* commented that "there was as much talk of the foul atmosphere and deadly nights of the tenement-house region as there is of charity-soup and coal in the hardest weather of our winters."⁴¹

Preoccupation with the immediate economic and social problems resulting from the depression kept the slum question in abeyance until 1878 when the AICP and the State Charities Aid Association joined forces to undertake a special investigation of the tenements. Strongly supported by the newspapers, a movement for tenement reform grew rapidly. One of the most effective agencies to emerge at this time was the New York Sanitary Reform Association under the leadership of James Gallatin. Sponsored by various reform groups, a series of meetings were held in the winter of 1878-79 to mobilize public opinion. At one of them a group of 70 clergymen agreed to devote one Sunday in February to preaching sermons on the tenement problem. The upshot of all this agitation was the enactment on June 16, 1879, of the Tenement Reform Act. While the new measure still left too many loopholes, it restricted the coverage of the lot to 65 percent, re-

quired a minimum of 600 cubic feet of air for each tenant, and ordered that every tenement with ten or more families must have an owner, janitor, or some other responsible person living on the premises. The Board of Health was empowered to enforce the new provisions, and, more important, the law provided that 30 experienced police officers were to be assigned to the Health Department for inspection purposes.⁴²

During the previous summer, the AICP had taken upon itself the responsibility for inspecting tenements. Its "visitors" or inspectors were given a copy of the existing tenement laws and instructed to report all violations. A year later the association reported a marked improvement in conditions. Most landlords had evinced a willingness to make the necessary improvements and the health authorities had "co-operated heartily" in bringing derelict landlords to task.⁴³ In helping to enforce sanitary regulations in the tenement areas the AICP was performing a useful job. In many cases, tenants in the slum districts were either unaware of the landlord's responsibilities or else afraid to protest for fear of arbitrary eviction.

From the founding of the Metropolitan Board of Health in 1866 the perennial tenement problem had occupied a good part of the Health Department's resources, yet the results seemed scarcely commensurate with the time and effort. Jacob Riis wrote that as of 1879 little improvement was apparent. The Board of Health "had made a determined effort to improve the tenement situation," but the "Sanitarians," he wrote, "were following up an evil that grew faster than they went; like a fire, it could only be headed off, not chased, with success." A year later the AICP declared that despite the Health Department's efforts on behalf of the tenements, "their condition as described sixteen years ago, is their condition to-day."⁴⁴

The situation of President Chandler and the Board of Health was a difficult one, since slum property involved strong financial and political interests. Over and above the obvious factor of high profits for absentee owners were the vested interest of owner-occupants and the practice of subleasing. Many tenants, by subleasing rooms, were responsible for the worst crowding. Moreover, the sanitary conditions in the tenements were often a reflection of the culture patterns of the residents, and remedial

action by health inspectors was sure to bring political repercussions. President Chandler gave support to the tenement reform movement, but his efforts did not satisfy its chief advocates. After bitterly criticizing the high sickness, death, and crime rates in tenement areas, Dr. A. N. Bell denounced Chandler for concluding that the "high taxes and the depressed condition of business compel the Board to make haste slowly in urging radical changes in the construction of tenement houses." Even the AICP, which admitted that the health authorities had "to contend against great opposition" since the tenements represented \$200,000,000 worth of property, still declared that this was "no argument for supineness. . . ." ⁴⁵ As newspapers and civic organizations took up the battle on behalf of the poor, the understaffed Health Department found itself pressured from all sides. Granting that its resources were inadequate, the department took little leadership in the movement to improve the tenements; instead, it found itself swept along with the current of reform.

Tenement house reform might have moved more rapidly had not the reformers become sidetracked by their efforts to devise model tenements, structures which would happily combine decent living conditions with reasonable profits. Henry C. Meyer and Charles F. Wingate, owner and editor respectively of the *Plumber and Sanitary Engineer*, proposed a competition in December 1879 for the best designed tenement for a 25 × 100 foot lot. The contest aroused a great deal of interest, and, of the approximately 190 plans submitted, the dumbbell design of James E. Ware carried off the prize. In the enthusiasm engendered by the competition, the basic fallacy that a 25 × 100 foot lot was inadequate for a large multifamily dwelling was generally overlooked. Among those with no illusions was the editor of *The Sanitarian* who commended those architects who refused to "prostitute their calling" by simply designing new structures which would perpetuate overcrowding. The AICP felt the proposed designs were a great improvement, but it, too, declared that it was "impossible to secure the requirements of physical and moral health within the narrow and arbitrary limits of the ordinary city lot." Despite these and other dissenting voices, the proliferation of the dumbbell tenements in the succeeding years, as Roy Lubove points out, aggravated the already overcrowded conditions. ⁴⁶

Regulation of Tenement Construction

For some time the Health Department had been asking for authority to order the reconstruction of poorly built tenements, but little heed had been given to its appeals. In December 1870 the collapse of a new factory resulting in four deaths created a temporary furor. The coroner's jury exonerated the owners, builders, and building inspector on the grounds that no law had been broken. The city building inspector admitted that he felt the structure needed an inner supporting wall but claimed he had to approve the plans since they met the building law specifications. Nothing came of this incident nor from a request by the Health Department in 1872 that it be given the authority to order the reconstruction of poorly built tenements.⁴⁷

The municipal Department of Buildings, which should have prevented poor construction, was a haven for political hacks who used its authority to obtain bribes. In April 1880 a large section of the front wall of Madison Square Garden fell into the street killing several people and injuring many more. In the resulting investigation, it was found that although the law required the building inspectors to be licensed by the American Institute of Architecture not one of them was certified. The man who drew up the defective plans for the building was a civil engineer who admitted he knew nothing about the city building code. Henry J. Dudley, the superintendent of buildings, was subsequently indicted for permitting both shoddy materials and an illegal design. The immediate effect of the uproar over this flagrant case was a new law placing the Department of Buildings under the Fire Department.⁴⁸

The change brought a notable improvement. In 1883 the AICP commended the Board of Health for its zeal in enforcing the tenement and building acts. Although the chief interest still centered on building model tenements, the tenement reform movement continued to be the subject of public discussion and was given further impetus by a series of disastrous fires.⁴⁹ Reflecting the general concern, in his annual message on January 10, 1884, Mayor Franklin Edson pronounced the existing building laws to be "crude and inoperative" and recommended that a committee representing builders, architects, health officials, and other interested parties submit proposals to the State Legislature for a new building law. A few months later the Legislature established a tenement

house commission to study the question. The net result was the passage of a long and detailed act in June 1885 designed to strengthen the building laws for the city of New York. It dealt with all aspects of construction, including excavations, walls, girders, elevators, chimneys, strength of floors, fire escapes, and so forth.⁵⁰ Continued public pressure led to further amendments in 1887. One change required a minimum open space between tenements ranging from 10 feet for one-story buildings to 25 feet for those over three stories. As was so often the case with these early laws, a loophole permitted the distance to be reduced at the discretion of the Board of Health if ventilation "could be otherwise secured." Another amendment this same year required that there should be a minimum of one water closet or improved privy sink for each 15 persons (the previous minimum standard had been one for each 20). No privy vaults or cesspools were to be permitted in or under any tenement house without a special permit from the Board of Health. More significantly, the new law stated that the Board of Police was to assign up to 45 policemen to enforce the provisions of the Sanitary Code. Of this group, 15 were specifically designated to enforce the tenement house laws. The Board of Health was also allowed to increase its force of sanitary inspectors to 25, at least 20 of whom were to be physicians.⁵¹

One aspect of construction, plumbing, was always of special concern to the Health Department and the public. Health officials assumed sewer gas to be a major source of disease, while the public was acutely conscious of the esthetic considerations. The city had virtually no system of inspection at a time when sewer lines were being extended and water closets were becoming common. Under these circumstances, the installation of plumbing became an open scandal. Shoddy material and careless workmanship were almost the order of the day and occasionally outright fraud was practiced. Public indignation finally led to a state law in 1881 requiring that the Board of Health approve plumbing plans and inspect the work during installation.⁵² The overworked health inspectors would have had difficulty handling this extra task even under the best of circumstances, but the decade of the 1880s was far from ideal. Chief Inspector John C. Collins, writing in 1890, declared that enforcing the 1881 act had been a constant struggle. "Every ruse," he said, "was employed to deceive." One builder

opened up a street for an entire block and closed it without laying a single pipe. Frequently inspectors found dummy vent pipes, and even when plumbing was installed, it was often defective. It was not until the Health Department obtained the arrest and conviction of a number of unscrupulous builders that the situation improved.⁵³

It is clear that the 1880s saw a great deal of pressure for tenement house reform, and that this pressure did bring some improvement in living conditions. The Health Department deserves part of the credit, but, as noted earlier, the chief impetus came from the AICP and other reform groups.⁵⁴ One of the latter, the Sanitary Aid Society of the Tenth Ward of the City of New York, provides an excellent illustration of the contributions of these associations. The organizers, a group which included distinguished names, such as Roosevelt, Adler, Dwight, Drexel, and Vanderbilt, proposed to concentrate their efforts on one of the worst areas in the city. The society hired seven inspectors early in 1885, including some skilled sanitary engineers, and ordered them to make a house-to-house inspection of the ward.⁵⁵ The grim conditions found by the inspectors were widely published and helped widen public support for reform measures. At the time when the society was making its survey of the tenth ward, the Health Department had only 15 inspectors for the entire city. One result of the society's work was the passage in June of a law empowering the Board of Health to hire 20 additional sanitary engineers for the specific task of inspecting tenement and lodging houses.⁵⁶

Strengthened by revisions in the tenement laws and increases in its staff, the work of the Health Department steadily improved. The *Times* noted in 1888 that the "vigilance of the Health Department and its inspectors and the treatment of offenders by the courts have caused a more careful observance of the sanitary laws . . .," but it pointed out that violations were continuing and a firm stand was needed against those "persons who deliberately cause the health and lives of householders to be endangered."⁵⁷ Probably the best commentary upon the improvement in the Health Department is to be found in the actions of the AICP. For years the association had maintained a sanitary agent and a staff of assistants to report on sanitary conditions in the tenements. At the same time it had been actively pressing for changes in the housing

laws. On both scores, remedying tenement abuses and strengthening the tenement laws, the AICP proved quite effective. At the end of 1887, after describing the building and tenement laws which had been enacted in the previous 20 years, the association announced that it no longer needed a tenement inspection force. The Health Department now had ample powers and its president and able attorney had promised to cooperate fully. Under these circumstances, the association saw little point in "duplicating the work now so efficiently done at 301 Mott Street." Henceforth all complaints would be referred to the Health Department, although a register would be maintained to show the disposition of each complaint.⁵⁸

Marking a significant step in housing reform, the Health Department was able to announce at the end of 1891 that its long battle against the occupancy of damp, poorly ventilated cellars was virtually finished. The next step was to move against the rear tenements, generally the worst buildings, and to eliminate the fire hazards represented by bakeries and other trades on the first floors. Fortunately the massive influx of immigrants in these years coincided with an increasing public awareness of the tragic human cost of squalid and teeming tenements. Spearheaded by Jacob Riis, a new generation of reformers began exposing the plight of the slum dwellers. In 1894 the State Legislature directed the governor to appoint a seven-man committee to investigate all phases "of the so-called tenement house question."⁵⁹ The Gilder Tenement-House Commission, as it was called after the chairman, Richard Watson Gilder, did a thorough job. One of the facts it turned up was ownership of slum property by many respectable citizens. The Trinity Church Corporation, for example, owned almost \$3,000,000 worth of tenement property. In refusing to obey a Board of Health order to improve the sanitary condition of its buildings, the controller of the corporation, Colonel S. V. R. Cruger, argued before the Tenement House Commission that the tenants were better off without running water since they would only allow it to spill on the floors!⁶⁰

Unconvinced by the logic of Colonel Cruger and other opposition witnesses, the Tenement House Commission recommended strengthening the housing laws, and in May 1895 the tenement laws were completely rewritten. The commission had asked the

Board of Health for recommendations, and President Wilson responded with a number of suggestions. He urged that all tenements with six or more families be fireproofed, that halls be lighted at night, that cellar apartments must have at least two feet of their height above ground, that the sanitary policemen assigned to the Health Department be increased from 45 to 50, that water be supplied to every floor of a tenement, and that the department be given authority to forbid the use of any building it felt was unfit. Virtually all of these recommendations were written into the new law, along with a provision empowering the Board of Health to condemn and demolish any substandard dwellings.⁶¹

Armed with this new authority the Health Department ordered its sanitary police corps of 50 men to make a complete survey of the tenements, checking on the number of privies, air shafts, stairs and balusters, fire escapes, sewer connections, and so forth. A total of 42,909 tenements were examined, including 2,449 rear ones. Of the latter, the inspectors felt that over 500 were unfit for human habitation. Whatever the moral implication of these filthy slums, they represented lucrative investment property, and any effort to destroy them was bound to stir up trouble. Nonetheless, the board ordered that 322 houses were to be vacated, although in most cases the owners were given a chance to renovate them. Altogether, during the remainder of 1896 some 278 of the tenements were renovated and another 80 odd were demolished.⁶²

Considering the almost unanimous agreement among responsible citizens that the 2,448 rear tenements were a menace to health and a disgrace to the community, the Health Department does not appear to have been excessively bold. For example, during the following year only 55 of the rear tenements were demolished, although an additional 39 were ordered vacated.⁶³ Yet the health authorities were fighting powerful vested interests with strong political influence and the ability to place many legal obstacles in the department's way.

In 1896 the department was forced to hire a special legal counsel to deal with the litigation resulting from its action against the tenement owners. Some of the cases were fought all the way to the State Supreme Court before the Health Department emerged victorious.⁶⁴ To its credit, the department did not await the final court decision, but pushed ahead with its program of vacating and

demolishing the worst of the buildings. In so doing it found firm support from the newspaper editors, one of whom specifically urged the department to continue the good work "till every rear tenement-house is closed and every slum abolished." By 1897 the effective work of the Health Department was reflected in a drastic reduction in the health inspection work of the AICP and other voluntary groups.⁶⁵ One other factor deserves mention: there was still no provision for the Health Department or any other city agency to provide housing for displaced tenants. Demolishing slums was a worthy act, but it left the former tenants in a desperate condition. As with cellar apartments, a wholesale destruction of rear tenements was simply not feasible until better housing was available.

Notes to Chapter 10

1. *Sanitarian*, II (1874), 323, 515-16; see also the *Ann. Rep., Bd. of Health* for these years.
2. *Times*, January 25, 1868; *Ann. Rep., Met. B. of H.*, 1868, pp. 32-33.
3. *Report, Citizens' Assoc. of N. Y.*, 1868, p. 7; Stephen Rogers, M.D., "Neglected Causes of Infant Mortality in New York," *Medical Record*, III (1868), 337-46; Charles Loving Brace, *The Dangerous Classes of New York, and Twenty Years' Work Among Them* (New York, 1872), pp. 407-08.
4. *Medical Record*, VI (1871), 13-14; *Leslie's Illustrated*, April 27, 1872; *Sanitarian*, I (1873), 18-21.
5. *Herald*, January 18, 1882; *Times*, January 6, 17, 1882.
6. Sarah McNutt, "The Babies Hospital—A Summer's Work," *Medical Record*, XXXV (1889), 234-39; *Sanitarian*, XI (1883), 348-50; *Times*, August 27, 1883.
7. Jacob Riis, *How the Other Half Lives* (New York, 1957), p. 142; *Times*, December 30, 1897; Gordon Atkins, "Health, Housing and Poverty in New York City, 1865-1898" (doctoral dissertation, Columbia University, 1947), pp. 247-48.
8. Rogers, "Neglected Causes of Infant Mortality in New York," pp. 339-41; William C. Roberts, M.D., "Causes of Death and Disease in this Metropolis," *Bull. of N.Y.A.M.*, III (1866-69), 379-80.
9. *Ann. Rep., Bd. of Health*, 1890, pp. 11-14.
10. *Medical Record*, XXI (1882), 14-15.
11. *Sanitarian*, XVII (1886), 66-68; *N.Y. State Laws*, 113th sess., chap. 41, March 13, 1890, p. 46.
12. Riis, *How the Other Half Lives*, p. 142.
13. *Times*, March 23, 1867; *Ann. Rep., Met. B. of H.*, 1867, pp. 10-11, 27-30.
14. *Times*, January 22, 26, 1869; *Report of the Committee Appointed by the*

- Citizens' Association to Examine into the System of Public Instruction in New York City* (n.p., 1869), pp. 35-36 [New York Public Library, pamphlet]; see also, John Duffy, "Mental Strain and 'Overpressure' in the Schools: A Nineteenth-Century Viewpoint," *Journal of the History of Medicine and Allied Sciences*, XXIII (1968), 63-79.
15. *Ann. Rep., Bd. of Health, 1870-71*, p. 72; *Sanitarian*, I (1873), 368-70.
 16. *Ann. Rep., Bd. of Health, 1872-73*, pp. 31, 320-21; *Sanitarian*, I (1873), 370.
 17. *Sanitarian*, I (1873), 308-10.
 18. See *ibid.*, I (1873), 371-77; II (1874), 37-38, 243; *Herald*, January 30, February 7, March 9, 1873; *Times*, June 6, 1874; September-December, 1875.
 19. *Sanitarian*, IV (1876), 210-14, 503-08; VI (1878), 214; N.Y.A.M., Minutes, December 2, 1876, p. 368; *Medical Record*, XII (1877), 137-38.
 20. *Sanitarian*, V (1877), 162-63; *Medical Record*, XV (1879), 14-15.
 21. *Ordinances, Resolutions, Etc., Passed by the Common Council, 1882*, L, p. 248.
 22. *Times*, November 26, 1883; February 5, 1888.
 23. See N.Y.A.M., "Min . . . Section on Pub. Health (1891-1911)," February 6, 1891, p. 1.
 24. *Sanitarian*, XXVIII (1892), 216-20.
 25. *Ann. Rep., Bd. of Health, 1893*, pp. 31, 56; 1894, p. 53.
 26. *Sanitarian*, XXXIV (1895), 315; *Times*, February 15, 1895.
 27. *Times*, June 10, 1895; B. of H., Min., July 9, 1887, p. 298.
 28. *Ann. Rep., Bd. of Health, 1896*, pp. 56-57, 359-63; B. of H., Min., December 8, 1896, p. 41.
 29. *Ann. Rep., Bd. of Health, 1897*, pp. 39-42.
 30. John I. Davenport, *The Election and Naturalization Frauds in New York City* (New York, 1894), pp. 13-14; Joseph Shannon, *Manual of the Corporation of the City of New York, 1868* (New York, 1869), p. 217.
 31. *Ann. Rep., Met. B. of H., 1867*, appendix C, pp. 284-85; *Times*, April 18, 1867.
 32. N.Y. *State Laws*, 90th sess., chap. 908, May 14, 1867, II, pp. 2265-73.
 33. Roy Lubove, *The Progressives and the Slums* (Pittsburgh, 1962), pp. 27-28; N.Y. *State Laws*, 90th sess., chap. 908, May 14, 1867, II pp. 2265-73.
 34. *Ann. Rep., Met. B. of H., 1867*, appendix C, pp. 284-85.
 35. *Ibid.*, 1868, p. 23; 1869, p. 12; *Times*, April 4, 1869.
 36. *Ann. Rep., Met. B. of H., 1869*, p. 12; *Herald*, July 14, 1869; *Times*, April 4, 1869; A.I.C.P., *Twenty-Sixth Annual Report, 1869*, pp. 30-32.
 37. *Ann. Rep., Met. B. of H., 1869*, pp. 15-16, 24-25.
 38. *Ibid.*, 1870-71, pp. 16-17.
 39. *Ibid.*, 1873-74, pp. 5-7.
 40. *Ibid.*, 1870-71, pp. 51, 56, 58.
 41. *Leslie's Illustrated*, March 2, 9, 16, 23, July 13, 1872; *Nation*, no. 369 (July 25, 1872), 51.
 42. N.Y. *State Laws*, 102d sess., chap. 504, June 16, 1879, pp. 554-56; Henry C. Meyer, *The Story of the Sanitary Engineer, Later the Engineering*

Infants, School Children and the Slums

- Record; Supplementary to Civil War Experiences* (New York, 1928), p. 14-17, 35-38; *Sanitarian*, VII (1879), 107-11, 178-79; IX (1881), 122-25.
43. A.I.C.P., *Thirty-Fifth Annual Report*, 1878, pp. 21-22; *Thirty-Sixth Annual Report*, 1879, pp. 38-40.
44. Riis, *How the Other Half Lives*, pp. 12-13; A.I.C.P., *Thirty-Seventh Annual Report*, 1880, p. 18.
45. *Sanitarian*, VII (1879), 195; A.I.C.P., *Thirty-Sixth Annual Report*, 1879, p. 52.
46. *Sanitarian*, VII (1879), 180-81; A.I.C.P., *Thirty-Sixth Annual Report*, 1879, pp. 41-42; Lubove, *Progressives and the Slums*, pp. 28-32.
47. *Herald*, December 16-17, 29-30, 1870; *Times*, December 16, 17, 30, 1870; *Ann. Rep., Bd. of Health*, 1871-72, pp. 16-17.
48. *Times*, April 22, 23, May 3, 5, 8, 31, June 11, July 3, 24, 1880; *Tribune*, April 22-23, May 5-17, July 3, 1880; N.Y. *State Laws*, 103rd sess., chap. 521, May 29, 1880, I, p. 729.
49. A.I.C.P., *Fortieth Annual Report*, 1883, p. 9; *Herald*, January 5, March 4, 1881; April 8, 1884; *Times*, January 29, 1881; April 8, 1884.
50. Isaac N. Stokes, *The Iconography of Manhattan Island* (New York, 1915-28), vol. V, p. 1983; N.Y. *State Laws*, 107th sess., chap. 448, June 2, 1884, pp. 523-24; 108th sess., chap. 456, June 9, 1885, pp. 764-96.
51. N.Y. *State Laws*, 110th sess., chap. 288, May 6, 1887, pp. 362-63; 112th sess., chap. 211, May 2, 1889, pp. 259-60; *Sanitarian*, XVIII (1887), 355-56; XIX (1887), 34-43.
52. N.Y. *State Laws*, 104th sess., chap. 450, June 4, 1881, I, p. 614.
53. *Ann. Rep., Bd. of Health*, 1890, pp. 51-52.
54. See B. of H., Min., March 21, 1884, p. 33.
55. *Sanitary Aid Society for the Tenth Ward of the City of New York, Abstract of the Society's Work* (n.p., c. 1885), pp. 1-5 [New York Historical Society, pamphlet].
56. N.Y. *State Laws*, 108th sess., chap. 508, June 13, 1885, pp. 868-69; *Times*, May 16, 1885.
57. *Times*, March 18, 1888.
58. A.I.C.P., *Forty-Fourth Annual Report*, 1887, pp. 11-12.
59. *Ann. Rep., Bd. of Health*, 1891, p. 51; 1893, p. 158; 1895, pp. 25-29; N.Y. *State Laws*, 117th sess., chap. 479, May 4, 1894, I, pp. 963-64.
60. *Herald and Times*, December 11, 20, 1894.
61. *Ann. Rep., Bd. of Health*, 1895, pp. 20-21; N.Y. *State Laws*, 118th sess., chap. 567, May 9, 1895, II, pp. 1099-1114.
62. *Ann. Rep., Bd. of Health*, 1896, pp. 34-41, 63-69.
63. *Ibid.*, 1897, p. 17.
64. *Ibid.*, 1896, pp. 388-90.
65. *Daily Tribune*, July 16, 1896; A.I.C.P., *Fifty-Fourth Annual Report*, 1897, p. 77; *Campaign Book of the Citizens' Union, September-October, 1897* (New York, 1897), pp. 59-60 [New York Public Library, pamphlet].

The Flowering of Public Health

The City can have as much reduction of preventable disease as it wishes to pay for. Public Health is purchasable; within natural limitations a city can determine its own death rate. [*Annual Report, Board of Health, 1915, p. 25.*]

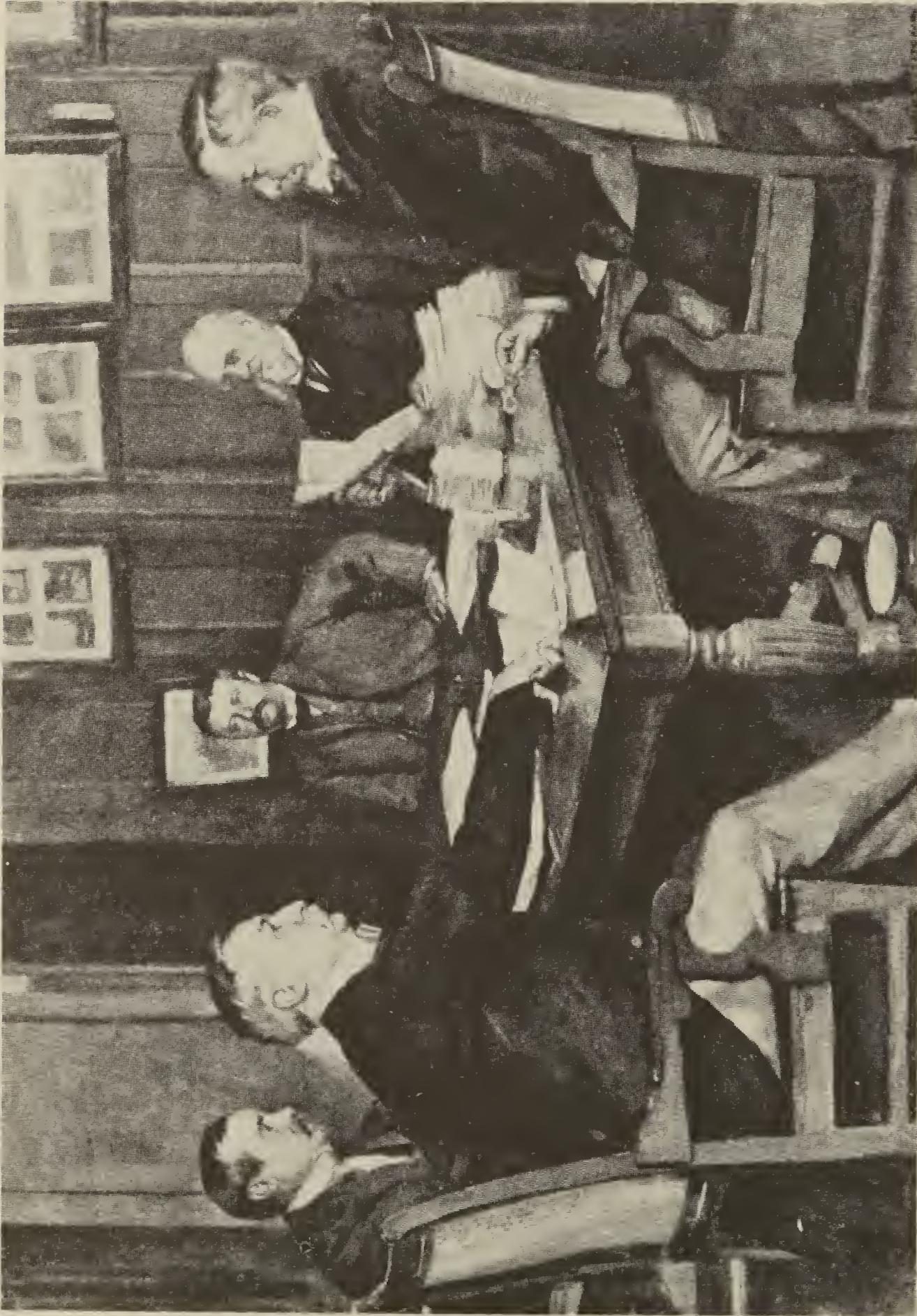
For most of its history, in New York as elsewhere, public health work had centered upon garbage, sewage, nuisances, and the major epidemic diseases. In dealing with the latter, health officials had been forced to rely largely upon quarantine, isolation, and the fumigation of infected premises. This picture was radically altered by the bacteriological revolution of the late nineteenth century and the developments in other social and scientific areas. If any one disease can be said to have initiated and symbolized the new approach to public health it was tuberculosis. Once Koch had demonstrated the pathogenic agent, the way was open to attack this great white plague which for so long had been looked upon as a constitutional affliction. The path was anything but obvious, however, since the old public health techniques were inadequate for the task of discovering cases, providing long-term care, and literally changing the way of life for tuberculosis patients. In their pioneering work with tuberculosis, New York City health leaders utilized large-scale educational campaigns, home visitations, diagnostic laboratories, and a host of new techniques, all of which were fundamental to dealing with venereal disease, mental ills, and the broad front of health problems which were to be encompassed by public health in the twentieth century.¹

In the last decade of the nineteenth century, the New York City Health Department under the leadership of President Charles G. Wilson rapidly had been taking advantage of the newfound science of bacteriology, but events from 1898 to 1901 temporarily slowed the process. On January 1, 1898, a new charter for New York extended the city's jurisdiction to include the present five boroughs, Manhattan, Bronx, Brooklyn, Queens, and Richmond. From the standpoint of the Health Department, the changeover

in some instances involved consolidating many small and inefficient health boards in essentially rural areas into the city system. It meant applying the relatively stringent city health regulations to small town populations accustomed to a more casual approach to health measures. It also meant standardizing a wide range of rules, regulations, and procedures for an urban and country population of almost 3,500,000. Under the best of administrations, the task would not have been easy, but for the following three years the city and its Health Department suffered from a high degree of political mismanagement.

In the four years prior to the new charter, 1894 to 1897, New York City had been energetically and efficiently managed by Mayor William L. Strong. Under his leadership, Theodore Roosevelt and Colonel Waring had drastically overhauled two major departments, police and street cleaning, and in the process cut off from the public trough a large number of political hangers-on and unscrupulous businessmen who had been profiting at the city's expense. It is possible that the public has only a limited tolerance for civic virtue and that boredom soon sets in, for in the elections of 1897 the old Tammany machine swept its mayoral candidate, Robert A. Van Wyck, into office. It is also possible that the middle-class reformers were placing too much emphasis upon economy and efficiency and too little upon the social or human obligations of political leaders. Whatever the case, the Tammany regime from 1898 to 1901 was one during which the Health Department at best marked time.

Mayor Van Wyck's first action was to appoint Nathan Straus, a prominent businessman and philanthropist, as health commissioner and president of the Board of Health. Straus, out of a concern for the high infant death rate in the tenement areas, a few years earlier had opened up a series of milk stations where the poor could obtain milk either free or at a nominal cost. These milk stations ultimately were taken over by the Health Department and were the forerunners of the child health stations. They also accentuated the need for regulating the quality of milk provided for the city. Along with Straus, the mayor appointed Drs. William T. Jenkins and John B. Cosby to serve as health commissioners. In general these appointments were approved. *The New York Medical Journal* praised Straus and declared that Jenkins had been a



The New York Board of Health. From left, Dr. A. H. Doty, Health Officer; Dr. George B. Fowler, Health Commissioner; Theodore Roosevelt, President, Police Department; Gen. Emmons Clark, Secretary; and Charles G. Wilson, President.

From Richard Wheatley, "Hygeia in Manhattan," *Harper's Magazine*, XCIV (1896-97), p. 391.

good health officer of the port. The *Medical Record* echoed these sentiments, but both journals made clear their assumption that a businessman like Straus would put an end to the sale of antitoxins by the Health Department.²

President Straus's honeymoon was brief. Within less than a month after his appointment he found himself in trouble with both the politicians and the medical profession. On January 22 Straus announced that he was temporarily abolishing the Mercantile Bureau. This body consisted of a group of ten women inspectors whose duty it was to examine child laborers (below the age of 14) and to check on working conditions. According to a rumor, the action was taken to eliminate the women inspectors and replace them with men—a rumor which may have had some credibility since Straus subsequently asked for a supplementary appropriation to pay the salaries of the inspectors.³ It is also likely that the city administration was responding to pressures from employers and parents, both of whom resented interference with their God-given right to exploit children.

While this incident probably gave Straus an inkling of what to expect from the city administration, it was his clash with the medical profession which really discouraged him. Had he been listening when Dr. Biggs gave the anniversary discourse before the New York Academy of Medicine the previous November, he might have anticipated some of his troubles. Dr. Biggs had pointed out that although the Health Department of New York City maintained a relatively good relationship with the medical profession, their respective points of view were "widely separated." The practitioner was concerned with the individual good of himself and his patient whereas the Board of Health sought the broader goals of the community. The truth of Dr. Biggs's assertion was made clear late in January when a bill was introduced into the New York Senate under the sponsorship of the New York County Medical Society proposing to reorganize the City Health Department. Senate Bill Number 5, or the Brush Bill as it was called, had two main purposes: first, to stop the sale of vaccine and antitoxins by the department; and second, to prevent it from making tuberculosis and certain other communicable infections reportable. In a resolution opposing the measure the Board of Health noted that the reorganization would deprive it of the services of the president

of the Board of Police Commissioners, whose cooperation was essential in enforcing health regulations. It noted, too, that vaccine virus was produced under government supervision in nearly every country in Europe and that the list of diseases which the Health Department was specifically forbidden to declare reportable were causing far more deaths than those which were reportable.⁴

When the Board of Health had taken the step in 1897 of declaring tuberculosis a reportable disease, a storm of opposition had arisen in the medical profession, and the Brush Bill was obviously a direct response to the board's action. Moreover, the success of the department in drastically slashing the price of vaccine and antitoxins had outraged private laboratories and those physicians with a financial interest in them. A representative of the County Medical Society declared that the city should not "enter into business competition with its citizens," and the editor of the *Medical Record* noted with approval that the society was trying to compel the Board of Health to stop engaging in business and to stick to its legitimate work. In meeting with the society's representatives, President Straus pointed out that the board produced diphtheria antitoxin simply to make it available. Since the antitoxin had a limited life span, it was necessary to make a constant supply, and Straus added that he had no intention of letting the surplus go to waste. He also cited the reduction in the cost of antitoxin, from \$12 to \$1 a vial, effected by the department's laboratory. The newspapers, traditionally suspicious of the medical profession, generally supported the Health Department in its fight against the Brush Bill, and the department was not without champions within the ranks of the physicians. Drs. Jacobi and Janeway of the County Medical Society openly opposed the measure and were supported by the medical boards of the New York, Willard Parker, and Riverside hospitals. The celebrated tuberculosis expert, Dr. E. L. Trudeau of Saranac Lake, also joined the opposition forces. The redoubtable Dr. A. N. Bell, who could always be counted upon, declared that the actions of the Medical Society of the County of New York had "blighted the most dearly cherished honor of the medical profession—the promotion of preventive medicine."⁵ With public sentiment clearly in opposition, the measure subsequently failed.

While the Brush Bill was under consideration, President Straus,

probably as a result of pressure from the mayor and a realization of the full implications of his position, suddenly tendered his resignation, according to one medical journal "alleging as the reason for his act the pressure of private business." A rumor had it that Mayor Van Wyck claimed that the books of the Health Department were in bad shape and that he had to send an accountant to straighten out its financial affairs. Straus's replacement by Michael C. Murphy, whose chief qualification for the job was his position as Tammany leader of the First Assembly District, clearly indicates that Straus resigned under pressure. Possibly in gratitude for his decision to withdraw without a fight, on March 5 at the ceremony installing the new president, Straus was given a gold badge inscribed "President of the Health Department of the City of New York—1898."⁶

Judging from the newspapers and medical journals, President Murphy and his confreres sought to go about their business as quietly and inconspicuously as possible, a sign of admirable discretion since much of the business consisted of using the Health Department as a source of political patronage. As might be expected, the Health Department took no bold policy steps, but contented itself with the administrative task of consolidating its new jurisdictions. Every effort was made to assuage the feelings of the business community and the medical profession. In selecting health officials for the various boroughs, the board claimed that it had picked men of good character and tried ability who were familiar with the communities within their jurisdiction. In requiring the removal of school sinks and their replacement with water closets, the building inspectors moved "as rapidly as possible, without inflicting hardship on the owners of the tenement houses. . . ." Since the owners of these decrepit buildings rented to the school board considered it a hardship to spend any money on them, one wonders how much progress was made. In taking action against the practice by orthodox Jews of keeping live chickens in tenements, the department carefully explained that it was not insensitive to the religious convictions of the people.⁷

Physicians were assured that during 1898 the production of diphtheria antitoxin had been reduced to prevent overproduction and the subsequent sale of the surplus, "a practice . . . which the Board is determined to discourage on the ground that the city

should not be led into transacting a business of this character." In reporting an expansion of the school health program, the board stated that school physicians were under no circumstances "to visit children at their homes, to prescribe for them, or to suggest treatment at the schools. The treatment must be received from the family physician, in the dispensaries, or in the hospitals."⁸

Since Dr. Biggs remained in charge of the laboratories, political influences in this division were probably minimal and the work continued as usual. Early in March he announced that the laboratory was prepared to give the Pasteur treatment to dog-bite victims, leading a medical journal to observe sarcastically: "The therapists of the New York City Board of Health are constantly widening their sphere of usefulness—and now announce that any one bitten by a mad dog can step up to the laboratory and be cured at the city's expense." Since there were only limited facilities for giving the Pasteur treatment on a private basis, the editor evidently felt it was better that patients should die rather than be treated free of charge. As the foregoing indicates, Dr. Biggs and his cohorts were a particular anathema to those physicians who sought to restrict the activities of the Health Department. One of them aimed a barb at Dr. Biggs in testifying on behalf of the Brush Bill: "The Health Board appears to have relied upon consulting pathologists for advice and guidance. Such men have little or no experience in treating the sick, and are therefore not qualified to give sound advice on broad questions affecting the public welfare."⁹

The new board's policy of marking time may well have been the better part of wisdom. With the medical profession up in arms, it behooved the Health Department to tread warily, at least until it had completed the task of extending its jurisdiction. As previously constituted, the department was subdivided into two bureaus, the Sanitary Bureau and the Bureau of Records. The former was subdivided into six major divisions: Sanitary Inspection, Contagious Diseases, Food Inspection and Offensive Trades, Bacteriology, Medical Inspection of Schools, and Marine Inspection. To help with administration, five assistant sanitary superintendents were appointed, one for each of the boroughs.¹⁰

In terms of reorganization, the worst problems were presented by Richmond, which previously had 8 separate village health

boards, and Queens where no less than 12 health boards had existed. To add to the difficulties, the jurisdictional boundaries of these former boards had never been clear, and they had frequently clashed with each other. Theoretically the local health officials had been responsible to the State Board of Health, but in practice they had often operated completely on their own. Most small communities at this time considered public health largely in connection with emergencies or crises, i.e., measures to be invoked in the event of a threatened epidemic. For this reason, health administration was lax, and little attention was given to collecting or preserving records. The casual attitude of the local board members did little to encourage physicians, midwives, and clergymen to report vital statistics nor did it contribute to the elimination of nuisances. With reference to the latter, the City Health Department reported that it had been necessary "to speak a new language to the outlying boroughs" on the matter of nuisances and sanitary regulations. While it felt that the "rigid rule" enforced in large cities was unnecessary in rural localities, the department had endeavored to introduce the basic principles of the sanitary system.¹¹ A politically controlled Board of Health was not likely to have been overzealous in enforcing health regulations, but insofar as the new areas were involved it may have been just as well. The most effective health rules are those which the public understands and appreciates; for the semirural population incorporated into New York City in 1898 health education was the first need

In its annual report for 1898 the Board of Health included an impressive list of accomplishments—thousands and thousands of inspections, thousands of nuisances removed, and major strides taken on every health front. This report, like all other annual reports, can be taken with at least a grain of salt. The vast majority of inspections must have been purely nominal, and, if we can judge from the limited number of cases prosecuted, little was done about any adverse findings. For example, the ten meat and fish inspectors made 399,939 inspections during the course of 1898. Seven fruit and food inspectors made 519,661 inspections, but although they condemned almost 2,000 tons of food, only ten arrests were made. The 18 offensive trade inspectors examined 35,632 slaughterhouses, markets, cattle yards, factories, rendering establishments, and other sources of nuisance, yet their work re-

sulted in only one arrest. Among the employees who appeared to have performed work were the shore inspectors. The duty of patrolling some 80 miles of shores was handled by 11 men, 6 operating in Queens and 5 in Richmond. During the course of the year they removed from the shores 10 human bodies, 14,652 dead animals, 18,628 pieces of meat and offal, and innumerable mattresses, beds, rags, and other debris.¹²

With respect to tenements, in a classic understatement the board declared that experience "has proven that in many cases there is not sufficient air space for the occupants of tenement-houses in the more densely occupied portions of the city." Although the work of inspecting tenement buildings was reported to have been performed with "marked thoroughness," only 245 residences were ordered vacated, and of these in 228 cases the owners complied with the health regulations and were permitted to keep their buildings occupied. In light of previous tenement house condition reports—and of subsequent ones—the inspection must have been nominal indeed. On the score of school health, the record is a little better. The number of part-time medical school inspectors was increased from 150 to 192. In the course of the year they examined 139,965 pupils and excluded 7,606 from school. The inspectors, all of whom were physicians, worked for one hour per day making a cursory examination of all children whom the teachers thought had a communicable disease. The chief aim of the inspection, which was restricted to the primary grades, was to keep those children with communicable infections out of school, and virtually no effort was made to see that they received treatment.¹³

Evidently the department did make an attempt to eliminate two major nuisances which had been a source of trouble for many years. With the question of jurisdiction no longer at issue, a start was made at cleaning Barren Island and Newtown Creek. Barren Island was the site of several factories engaged in converting offal, fish, garbage, and foul-smelling material into fertilizer. One of the worst plants, described as being in a "very filthy and offensive condition," was forced out of business, and several others were ordered to eliminate certain offensive procedures.¹⁴

Newtown Creek, which flowed along the boundary of Brooklyn and Queens, proved a much harder nut to crack. Into it flowed

the wastes from the many nuisance industries located along its banks plus a good part of the sewage from Brooklyn. Neither the local authorities in Brooklyn and Queens nor the State Board of Health had been willing to assume responsibility for cleaning the creek, with the result that each successive year saw its waters become more polluted. One section in Brooklyn was a tidal flat onto which poured the contents of three Brooklyn sewers. Dr. Charles F. Roberts, the sanitary superintendent, asserted that the odor from this area and from the waters of the creek in summertime was "almost indescribable. . . ." So much sulphurated hydrogen was produced that houses painted with white lead soon turned black. A proposal to prevent the discharge of sewage into the creek in 1893 had come to naught. A State Board of Health report of 1895, which had detailed all of the worst abuses associated with this stream, led to a state law in 1896 designed to provide a proper sewer system for Brooklyn. Elaborate plans had been drawn up and commissioners appointed when in July 1897 the Brooklyn Board of Aldermen rescinded their permission. Since it was clear that the Brooklyn authorities had no intention of dealing with the problem, Roberts proposed that the New York City Department of Public Improvements assume control. While solution of the sewage problem was necessarily a long-range one, the Health Department did start pressuring the commercial plants along the creek banks to correct the worst abuses.¹⁵

Under Dr. Biggs's direction the division of laboratories continued to expand its activities. The routine bacteriological examination for diphtheria had become widely accepted by this date; increasingly physicians were submitting blood and serum for the Widal test for typhoid, and sputum specimens for possible tuberculosis. The laboratory was supplying relatively large quantities of vaccine and antitoxin serums for diphtheria and tetanus, and researchers were engaged in seeking the pathogenic organisms for variola and vaccinia and in making cultures of pneumococcus and streptococcus bacteria in hopes of developing antitoxins. In connection with its tuberculosis work, the Health Department secured a special appropriation to send poor patients to private institutions, and during the year 279 tuberculosis victims were provided with hospital care. The success of this program, in terms of the patients'

health and the indirect benefits from removing active communicable cases from their crowded homes, led the department to urge the establishment of a municipal tuberculosis hospital.¹⁶

To facilitate the collection of vital statistics for the three and a half million New Yorkers, an assistant registrar was appointed in each of the five boroughs. Brooklyn, like New York City, had an old and well-established registrar's office, and its incorporation into the city system presented few problems. As might be expected, the main trouble spots were Queens and Richmond. In some cases only a few records had been preserved and in others the local officials refused to surrender them. Some recalcitrant former health officers continued to issue burial permits long after their jobs were abolished. Nonetheless, the administrative machinery was established and the process of educating the physicians, midwives, and clergymen got underway.¹⁷

During the early part of the year a noticeable increase in air pollution occurred, a fact which the Health Department attributed to the greater use of soft coal and wood shavings for fuel. Inspectors were assigned to each district in the city during the fall and a decided improvement was made.¹⁸ The Board of Health concerned itself largely with administrative matters, and most of its policy decisions were of a minor order. It tabled a suggestion that a bicycle squadron of nurses be organized and amended an 1895 regulation prohibiting the use of slates and sponges by school children in order to allow the use of "antiseptic slates" which could be erased without moisture. The board also authorized an agent of the Society for the Prevention of Cruelty to Children to serve as "special inspector of the Board of Health without salary" to facilitate the inspection of baby farms and lying-in asylums. In submitting its official report, the board pointed out that although it was carefully examining all milk entering the city and all sources of milk produced within it, there was no way of inspecting milk from outside sources until it reached the city limits.¹⁹

In one of its most innovative actions, the Board of Health sent a lengthy report to the mayor dealing with the sale of drugs and proprietary remedies. The board's report quoted from studies made by the New York and Massachusetts state health boards showing extensive adulteration and large-scale fraud in connection with home remedies. The percentage of alcohol in a number of

tonics ranged from 18 to 40 percent. One of them, Whiskol, advertised as a nonintoxicating stimulant, contained 28.2 percent alcohol. Almost half of all preparations investigated were either misrepresented or adulterated. To rectify the situation, the Board of Health recommended that manufacturers be required to list the components of their medicines on the packages and that all drug stores in the city be placed under the supervision of the Board of Health.²⁰

The second year of President Michael Murphy's administration, 1899, was a relatively quiet one. The outstanding event was a major bubonic plague scare. Two cases of plague were discovered on board a British steamship which arrived on November 18 from Brazil with a cargo of coffee. The health officer of the port was willing to permit the vessel to dock in Brooklyn, but the Board of Health, after a special meeting, denied permission. Although the Chamber of Commerce and the coffee merchants sided with the health officer, the Board of Health remained adamant. It even refused to allow the cargo to be lightered until the health officer certified the vessel was clear of infection and the owners agreed to roast the coffee and destroy all bags under the supervision of the Health Department.²¹ In light of today's knowledge, these actions were unnecessary, but the board's firm action at that time won general approval.

By 1900 it is clear that political influences were steadily pervading the city administration and that the Health Department was not exempt. The annual report continued to give glowing accounts of the number of inspections made and of nuisances abated, but all in all the work was largely routine. Since many employees were conscientious individuals whose appointment had preceded the Tammany regime, it is likely that the department did continue to function with a fair degree of efficiency. Its drive to prevent the use of soft coal led to a number of arrests, although as a result of the strike in the anthracite mines, the sentences of most of those convicted were suspended. In a very heartening step, the engineer in charge of an electric dynamo for one of the power companies was arrested for maintaining a nuisance by disturbing the rest and sleep of neighboring residents. The Health Department also successfully appealed to the higher courts to confirm its right to prohibit poultry slaughtering in specific areas. Possibly reflecting the

changing political climate, problems were encountered with unscrupulous individuals impersonating health inspectors for the purpose of blackmail. One of them was convicted and sentenced to 60 days in jail.²²

Reacting to the rising public consciousness of the role of bacteria in disease, in July the department undertook a large-scale program of disinfection. On July 7 the entire sanitary and disinfection corps was mobilized for a mass assault on the Italian quarter of the lower east side (Elizabeth and Mott streets in particular). The inspectors went from house to house spraying every conceivable source of germs. Four days later, in response to a petition from 100 property holders, the same procedure was followed in the "Little Italy" section of Harlem, an area lying between Second Avenue and the East River between 104th and 115th streets. The next day the sanitary squadron descended on "Little Africa," a section bounded by Lexington Avenue and East River between 97th and 99th streets. Here, "nearly everything in sight, including droves of curious pickaninnies who followed the disinfectors about, was liberally sprinkled with germ-destroying liquid." News of the arrival of the sanitary squad was reported to have set everyone to cleaning their houses and burning refuse.²³

The Tammany politicians, who had been fairly cautious during the early months of their administration, gradually became bolder. The *Times*, never missing a chance to strike at Tammany, reported that the mayor had replaced the head of the Street Cleaning Department with a "favorite of Mr. Croker," explaining that the former head had made the mistake of endeavoring to follow in the footsteps of Colonel Waring.²⁴ The water supply in Brooklyn had been inadequate for many years, and the private companies supplying Queens and Richmond had long furnished poor quality water at a high price. In 1900 Tammany sought to contract with a private firm, the Ramapo Water Company, to supply additional water to the city. This action led to an outcry and may have been responsible for an amendment to the city charter on April 5 placing strict safeguards on the authority of the water commissioner to enter into such contracts.²⁵ This same year the AICP expressed its indignation at the manner in which the city was running the public baths. The budget request for operating the Rivington Bath was \$52,000. The AICP made a formal offer to manage the

bath for \$17,500 and guaranteed to do a better job. It noted in passing that the exorbitant budget requested for the bath made no provision for two of the most important items—soap and towels. While these examples of patronage and graft did not directly involve the Health Department, a pamphlet issued by the City Club of New York in 1900 accused Tammany of seeking authorization to appoint more inspectors in the Health Department in order to provide political jobs.²⁶

Early in 1901, under authority provided by an amendment abolishing the bipartisan Police Board, Mayor Van Wyck appointed Michael Murphy as police commissioner and gave his former job of health commissioner to John B. Sexton. Sexton was even less qualified for the position than Murphy. When a reporter asked Sexton for his opinion about a recent discovery by the celebrated bacteriologist, Robert Koch, he responded: "Who is this man Koch?" Criticism of the Health Department mounted steadily in the ensuing months. Part of it may have stemmed from the approaching municipal election, but it is all too evident that the Health Department was suffering from political encroachment. The *Times* bitterly castigated what it referred to as the demoralization within the department, asserting that it was saved from "absolute uselessness" only "by the loyalty and devotion of a few veterans of the service whose ideas of duty were gained under previous administrations. . . ." ²⁷

Aside from political considerations, the major problem confronting the Board of Health in 1901 was a sharp rise in the incidence of smallpox. In March a special appropriation of \$10,000 was requested to build additional pavilions on North Brother Island to care for the sick. On July 27, an additional \$20,000 was requested for the same purpose. With these funds three pavilions were erected at Riverside, and tents were provided at the Kingston Avenue Hospital. In August the board, after discussing the recent discovery that the anopheles mosquito was the vector for malaria, passed a series of resolutions designed to eliminate the disease. It noted that malaria was quite prevalent in Richmond, Queens, and the Bronx, and could easily spread into the other two boroughs. The new regulations required hospitals and institutions to report all cases, requested private physicians to do so, and provided for the distribution of a circular entitled,

“The Causation and Prevention of Malarial Fever.” The circular described precisely how the disease was transmitted and gave advice on screening and how to eliminate mosquito breeding grounds.²⁸ The latter task, reducing the mosquito population, required an extensive drainage program which would take many years to complete, but at least the Health Department was beginning to deal with malaria on a rational basis.

The year 1901 saw one other significant step. The Bureau of Records had made excellent progress in the preceding years under the direction of the able registrar, Dr. Roger S. Tracy. Tracy died in 1901 and was replaced by Dr. William H. Guilfooy. Before his death, Tracy had recommended the adoption of the international, or Bertillon, classification of causes of death, and the Board of Health had resolved to put the new classification system into effect on January 1, 1901.²⁹ While the change did not improve the collection of data, it did make it possible to compare the New York statistics with those of other cities in western Europe.

The most important event for both the city and the Health Department in 1901 was the election of a reform government under Mayor Seth Low. On November 11, shortly after the election, Dr. Prudden wrote to Mayor-elect Low urging the appointment of Dr. Biggs as Health Commissioner. In his letter he pointed out that Biggs had nearly resigned when Tammany took over but had decided to stay on despite disheartening conditions. At present, Prudden wrote: “The subordinate positions in the whole department are filled with the district leader’s appointees and the work has greatly deteriorated.” Nonetheless, the machinery was basically sound and with a good commissioner the department could again function effectively. Dr. Biggs, however, was not in good health, and he was faced with heavy demands from his private practice and his family obligations. When he was unable to accept, the position was given to Dr. Ernst J. Lederle. At its first meeting in January 1902, the new board created the job of “general medical officer” for Dr. Biggs, one which was free of administrative problems and political pressures but which involved him in all major decisions.³⁰ For the next 12 years Dr. Biggs played a decisive role in formulating departmental policy, and his work helped to make the New York City Health Department preeminent in the United States.

With strong support from the city administration, Drs. Lederle, Biggs, and others undertook a major overhaul of the Health Department in 1902. The political appointees who had infiltrated into the lower-echelon positions were weeded out, and an entirely new spirit infused the staff. The city was in the throes of a major smallpox epidemic when Lederle took over. A massive vaccination program was instituted which involved employing between 150 and 200 extra vaccinators. Within six months over 800,000 individuals had been vaccinated, and the outbreak was under control. The large number of patients accentuated another serious problem, the condition of the city's contagious disease hospitals. Private hospitals were still reluctant to accept patients with major communicable diseases, and the facilities provided by the city were never adequate. Under the previous administration the condition of the three major city hospitals for patients of this type, Riverside, Kingston Avenue, and Willard Parker, had steadily deteriorated. A businessman who had been sent to the smallpox hospital described it as comparable "to the Black Hole of Calcutta," and the poor were again resorting to the nineteenth-century tactic of hiding their sick to avoid having them sent to hospitals. A preliminary survey in 1902 showed the hospital physical plants were in bad shape, and an appropriation of \$500,000 was obtained from the Board of Estimate. In addition to renovating and expanding the existing institutions in Manhattan and Brooklyn, plans were made to construct hospitals and disinfecting plants in Queens, Richmond, and the Bronx. At the end of the year Dr. Biggs could write that the completion of this work would "mark a new period in the history . . . of contagious diseases in New York."³¹

A change in the municipal government this year contributed notably to the city's health care. The revised city charter for 1902 provided for a Board of Trustees for Bellevue and the Allied Hospitals. The hospitals, Bellevue, Harlem, Gouverneur, Fordham, and the emergency institutions, previously had been administered by the Department of Public Charities, which under earlier Tammany rule had been notorious for graft and corruption. Three charitable groups, the AICP, United Hebrew Charities, and the St. Vincent de Paul Society, were allowed to submit a list of names to the mayor. Although Mayor Low was not re-

stricted to this list, he selected the members from it, inaugurating a new era for these institutions.³²

The school health program was greatly improved on July 1 when the school physicians were placed on a full-time basis and their salaries increased from \$30 to \$100 per month. In addition to their former responsibility for checking on all children designated as suspicious cases by the teachers, they were now to examine every child once every seven to ten days for eye, skin, or other obvious infections. More significantly, on November 6, the Board of Health requested Miss Lina L. Rogers to appear before them. After a brief interview, she was appointed school nurse and given an official badge, "a very handsome gold shield." Credit for this action goes to Miss Lillian D. Wald of the Henry Street Settlement. She had pointed out from the beginning of the school inspection system that it was foolish to examine children without seeing that they received treatment. To convince the Board of Health, she had offered the services of Miss Rogers. Although Miss Rogers was responsible for 4,500 pupils in one of the worst slums, her success was so evident that by December, 11 more nurses were appointed at a salary of \$75 per month. In this same year the department also began a major attack upon trachoma. Appearing before the Board of Estimate on October 15, Dr. Lederle stated that 18 percent of school children suffered from this eye disease, and he requested \$21,800 to employ eye specialists. Recognizing the grave need for treatment, the Health Department opened an eye hospital and clinic in one of the old buildings of Gouverneur Hospital on December 16, 1902.³³

A few months before Dr. Lederle took office, Dr. Park wrote a strong article condemning the high bacterial count in New York's milk supply, and his findings undoubtedly stimulated the Health Department to undertake a major drive against the standard practice of adulterating milk. Early in 1902 over 50 percent of all samples tested showed some form of adulteration; by October the percentage had been reduced to 39, a figure still too high but one showing a marked improvement. A legal question which needed definition related to the degree of control the department could exercise over suppliers residing outside the city. When tests showed that one of these dairies was substituting coloring matter

for cream and using formaldehyde to preserve its skimmed milk, the Health Department revoked its permit to sell milk in New York City. The owners of the dairy then took the matter to court where, after a lengthy battle, the United States Supreme Court in 1905 ruled in favor of the Health Department.³⁴ The department's action in 1902 was the first step toward assuming responsibility for the city's entire milk shed, an area comprising six states.

Along with the general overhaul of the department, the Bureau of Records was remodeled, fireproof vaults were provided, and work was started on indexing the old records. Procedures for buying supplies were improved, specifications were standardized, and contracts were awarded to the lowest bidders at open auctions. The indiscriminate issuance of child labor certificates was stopped, and the educational and physical requirements for obtaining them were strictly enforced. In addition to its major task of reorganization, the Health Department encountered a serious problem in 1902 as a result of the subway construction. The subcontractors frequently broke sewerage lines and allowed the sewage to flow into the excavations. As if these festering pools of sewage were not enough, local residents used them as a handy place to deposit their garbage and refuse, particularly in the manufacturing districts "where tons of refuse had to be collected and carted away." No toilet facilities were provided for the workmen along the entire route of subway excavation. With the advent of warm weather, conditions became so bad that the Health Department was forced to take special action. The contractors were required to provide sanitary facilities for their men and, to enforce this and other sanitary regulations, the department kept a squad of inspectors and sanitary police patrolling the entire 14 miles.³⁵

The department was relieved of one major responsibility this year. As a result of a legislative commission survey, a municipal Tenement House Department was created on January 1, 1902. The incredible filth and appalling conditions which the survey revealed belied all the cheerful assertions in previous years of thorough inspections performed by the health inspectors. Among the worst abuses were "vile privies and privy sinks; foul cellars full of rubbish . . . garbage and decomposing fecal matter; dilapidated and dangerous stairs," and a host of other evils. The new depart-

ment promptly registered the names of tenement owners so they could be held responsible and, temporarily at least, forced them to repair plumbing facilities and eliminate the worst conditions.³⁶

Throughout the following years the Health Department under Drs. Lederle and Biggs continued to make progress. The office of chief clerk greatly improved the quality of supplies and services purchased by the department, an inventory system was established, three officers were assigned to inspect all repairs and new construction performed by contractors, and the financial records of the department were corrected. When it was discovered that certain physicians were signing free slips for antitoxin and then selling it to their patients, warrants were issued for the arrest of 40 of them. Although only one was convicted, drugstores which had been turning in "almost nothing but free-slips, suddenly made considerable returns for cash sales. . . ." At the same time that he was cracking down on unscrupulous physicians, Dr. Lederle recommended to the mayor that, since privately manufactured antitoxins of good quality were available, the department should stop selling to persons outside the city. In making this recommendation, Lederle undoubtedly was following his own convictions and at the same time faithfully reflecting the attitude of the medical profession.³⁷

Further progress was evidenced in the widening scope of the school inspection system, and in an increase in the number of school nurses from 12 to 33. The work of the summer corps was systematized by having the nurses and physicians visit every tenement home where a birth had been recorded the previous summer. In May a pulmonary tuberculosis sanitarium was opened at Riverside Hospital on North Brother Island and plans were made for opening a dispensary on Manhattan. Construction of new facilities for the contagious disease hospitals was pushed ahead, and steady pressure was exerted on milk dealers at all levels.³⁸

Despite, or because of, the major reforms effected during Mayor Low's administration, in 1903 the Democrats swept back into office, electing George B. McClellan, son of the former general, to the mayor's office. His first action was to replace Dr. Lederle with Dr. Thomas Darlington. The editor of the *Medical Record*, Dr. Thomas L. Stedman, criticized McClellan for removing an efficient and capable commissioner and replacing him with

“a new and inexperienced. . . practicing physician, untrained in sanitary science. . . .” Despite the qualms about his ability, Darlington worked with Dr. Biggs and performed creditably. Fortunately for the Health Department, Charles F. Murphy had succeeded Richard Croker as political boss of Tammany. During a severe bout of typhoid fever, Murphy had been attended by Dr. Biggs and had come to admire and respect him. Consequently, Tammany gave full support to all of Dr. Biggs’s proposals, and the department remained virtually free of politics until 1918.³⁹

As indicated, Dr. Darlington’s appointment brought no major change in the Health Department and on all fronts the department continued to improve the caliber of its services. The indexing of the vital records moved along rapidly and was given an impetus by two special appropriations in 1905 and 1906 amounting to \$20,000. School health, milk inspection, tuberculosis, and other programs were expanded. In 1905 over \$1,000,000 was appropriated by the Board of Aldermen for sites and construction of Health Department buildings. During this same year a new six-story laboratory building was opened at the foot of East 16th Street. Commissioner Darlington was even able to persuade Mayor McClellan to ride in a new gasoline-driven ambulance in order to convince him of the need for such a service. Inspection of all dairies shipping milk to the city was begun on a systematic scale during 1905, and the use of school nurses to treat pediculosis and minor skin diseases steadily reduced the number of children excluded from the schools.⁴⁰

The most important event in 1906 was the opening of the municipal tuberculosis sanitarium in Otisville. The occasion was marred by an injury to Dr. Darlington while visiting the sanitarium. A yoke broke and the horses of his carriage ran away. Although unconscious for an hour, he suffered no permanent damage. On July 15, shortly after his visit, the first patients entered the sanitarium.

Some 40 years earlier, when kerosene began to replace coal oil in lamps, many explosions occurred from the adulteration of kerosene with naphtha and other more volatile fuels. As automobiles became popular and gasoline stations appeared on the scene, a series of explosions occurred in the sewers of Manhattan. Investigation by the Health Department’s inspectors revealed two sources

of trouble: many gasoline stations had defective storage tanks, and attendants in nearly all stations were guilty of pouring gasoline used for cleaning purposes into the sewers. The department promptly required safety devices for storage tanks and issued warnings about the careless handling of gasoline.⁴¹

The emphasis which the Health Department had been placing upon the value of a good milk supply gradually conditioned civic and political leaders to accept in principle the distribution of free milk. The milk depots originated in the 1890s by Nathan Straus had proved valuable, and other philanthropic agencies and individuals began to support them. In February 1907 John Spargo, the muckraker and reformer, wrote to the *Times* urging the city to assume full responsibility for the milk stations. While not prepared to go this far, the Board of Aldermen in May voted city funds for the erection of additional infant milk stations in certain city parks. The resolution specified, however, that the operating expenses of these stations were to be provided by philanthropic endeavors.⁴² Once having committed itself to the principle, it was only a matter of a few years before the city began taking full responsibility for the milk stations.

A citywide garbage strike late in June 1907 posed a serious threat to the city's health. The garbage men had good grounds for their action, and the newspapers were generally sympathetic to them. Nonetheless, as the piles of garbage accumulated in the warm weather, something had to be done. On June 28 the mayor ordered the Health Department to exercise its authority to reduce nuisances. The department promptly mobilized all available employees and put them to work removing the garbage. Employees from as far away as Otisville were brought into town, and strikebreakers were hired from personnel agencies. When a number of Health Department laborers refused to work as strikebreakers, Dr. Darlington promptly fired them. Dr. Walter Benschel, who was placed in charge of the street cleaning operation, firmly declared on June 29: "God help the man who interferes with my work!" Despite some rioting and minor injuries, the task of removing garbage pushed ahead until July 2 and 3, when the mayor agreed to negotiate with the union and the regular men returned to work. During all of this time, as a safety precaution the Health Department had been sending out its disinfectors to spray the accumu-

lated piles of garbage with a bromine solution. The upshot of the strike was the resignation of the street cleaning commissioner and his replacement by Dr. Walter Bensel, the Health Department's sanitary superintendent, who had been in charge of street cleaning during the strike. Under his direction, the Street Cleaning Department was reorganized, the practices which had irritated the employees eliminated, and the city streets once again restored to a satisfactory condition. On Bensel's return to the Health Department in November, the mayor and the city newspapers joined in commending his work.⁴³ While strikebreaking is not ordinarily a popular practice, the actions of the Health Department in this instance seem to have redounded to its credit.

Two other developments are worth noting in 1907. A state law in June gave the Health Department full authority over midwives practicing in the city. The department promptly established minimum standards for the practice of midwifery and required its inspectors to make a thorough check on each candidate before granting her a permit to practice. Through its control of midwives, the department was able to promote the use of silver nitrate in preventing eye infections in newborn babies. The second development consisted of reorganizing the work of the inspectors in the Contagious Disease Division. Whereas formerly a school inspector discovering a contagious disease case would call for a diagnostician, who in turn would be required to summon the district inspector, the work of the three men was now consolidated. The city was divided into smaller districts, with one inspector assigned to each. This inspector handled school inspection and took responsibility for all measures necessary in dealing with contagious disease cases.⁴⁴

Throughout these years the Health Department remained relatively free of scandal. In 1906 a committee of the Citizens' Union and another from the city Comptroller's Office examined the financial records of the department and found them in excellent shape. Although there had been some murmurs against the appointment of Dr. Darlington, he ran an excellent department and consistently fought for his employees and their health programs. When Darlington asked for \$350,000 in February 1907 to open a scarlet fever hospital, the mayor publicly rebuked him, complaining that Darlington kept going over his budget and relying upon

public pressure to force the Board of Estimate to grant him the necessary funds.⁴⁵ The incident speaks well for Darlington as commissioner, and also indicates the high public regard for the Health Department.

The department began a major policy shift in the spring and summer of 1908. Traditionally it had waited for sanitary nuisances to make their presence known or for the appearance of a contagious disease before taking direct action. Many individuals such as Lillian Wald, Lina Rogers, and others had long urged a more active role in preventing disease, but it was the drive and energy of Dr. S. Josephine Baker that finally carried the day. While working in the Bureau of Municipal Research, she was struck by the high mortality among children below the age of five—almost one-third of the total deaths—and she began urging a program to prevent what she felt was a needless slaughter of infants and young children. The necessity for a major attack upon the high infant mortality rate was becoming recognized, and when in May 1908 Commissioner Darlington circularized public and private health-care agencies suggesting that they mobilize and coordinate their efforts, he received an enthusiastic response. Three successive conferences involving health leaders, educators, and hospital and philanthropic agency administrators led to the creation of a permanent organization. The next step was to coordinate the work of various divisions within the Health Department. This was done in the summer of 1908 when Dr. Baker was appointed director of the Division of Child Hygiene. The division, into which school inspection and the summer corps were incorporated, consisted of 192 medical inspectors, 195 nurses, and assorted supervisors, administrators, and clerical workers.⁴⁶ With the establishment of this division, the Health Department was firmly committed to a program of preventive medicine.

The following year, 1909, saw Tammany and the reformers once again squaring off. The medical profession went all out in support of Otto T. Bannard, the vice-president of the Charity Organizations Society. Full-page advertisements in the newspapers signed by many of the leading physicians, including Drs. Jacobi, Holt, James, and Janeway, urged his election. Bannard, who had been prominent in the tuberculosis eradication program and tenement house reform, advocated strong public health measures, but

in the election he was decisively beaten by the Tammany candidate, Judge William L. Gaynor.⁴⁷ The defeat of Bannard was not as serious for the cause of public health as it first appeared, for Tammany politicians fully recognized the political value of health, and they were equally aware of the public respect for the Health Department. Moreover, political boss Charles Murphy continued to cooperate with Dr. Biggs, and this may well account for Mayor Gaynor's appointment of Dr. Lederle to replace Darlington in 1910.

The political picture during Lederle's second administration, 1910-13, is not too clear, although it is evident that Lederle must have had to wage constant battles and to make a number of strategic retreats. Dr. Baker, as head of the Division of Child Hygiene, managed to get along well with the Tammany politicians, who always "treated her like a lady." Since her nurses were not under civil service, Tammany ward heelers often sought to push their "cast-off sweethearts" on Dr. Baker, but her policy was to refuse politely unless the women could work with children. She found Tammany politicians easier to get along with than the reform administrations. Because of their casual regard for regulations and bureaucratic procedures, they would act upon her requests without delay. The Health Department benefited, Dr. Baker felt, from the same factors which counted for Tammany's hold on the people, "large spending and innate humanity."

Dr. Baker pointed out that her problems were minimal since the Division of Child Hygiene had nothing to sell and provided no opportunities for graft. The Division of Food Inspection was in an entirely different position, and, according to Dr. Baker, was in constant trouble. The opportunities for payoffs were great, and the department was under constant pressure to appoint political candidates. The temptations confronting even the most honorable inspectors necessitated constant vigilance on the part of the supervisors. When one capable official decided to clean up the graft among milk inspectors, a large dairy offered him a high salary to remedy conditions in its plant. Having removed him from the Health Department, they quietly dropped him from the payroll a year or so later.⁴⁸

Periodically it became necessary to deal firmly with corrupt food inspectors. In 1911 Dr. Lederle fired five of them, one of

whom, Isaac Gruber, retaliated by claiming that he had enough evidence of fraud to "set off a bomb under the Health Commissioner." Nothing came of Gruber's charges, and when the furor died down, Mayor Gaynor issued a statement praising Dr. Lederle. Graft was just one of the problems connected with food inspection. At the end of his administration Dr. Lederle wrote of the "crying need" for more inspectors. As of 1913 the food division consisted of 61 men who were responsible for inspecting all food supplies except milk for a city of over 5,000,000 people.⁴⁹ The most surprising aspect is not the existence of occasional graft but that this small force accomplished as much as it did.

The aura of politics which surrounded the Health Department bore even more heavily upon agencies and other departments which impinged upon public health. In 1907 the Russell Sage Institute of Pathology, a private health research group, had been given facilities on Blackwell's Island and allotted a small annual appropriation from the city for research on disease. Charities Commissioner Michael Drummond, whose department controlled the Blackwell's Island complex, demanded that the directors make an accounting of the institute's financial affairs. In the fight which ensued, the directors of the institute charged that Drummond had removed a number of distinguished physicians from the advisory board and replaced them with campaign workers. The result was a decision by the institute's directors to sever all connections with the city. The Department of Charities was always a haven for Tammany ward heelers and a means for taking care of the machine's constituents. Drummond undoubtedly looked upon the institute simply as another source of patronage, and it probably meant nothing to him that his action had caused the city to lose a valuable agency. This same year, 1911, witnessed an attack on the health officer of the port, Dr. Alvah H. Doty. The position was a juicy plum, even for an honest official, and the hearings clearly indicate that the criticism of Doty was politically inspired. In reviewing the newspaper accounts of the hearings, the charges that Doty's office was not too efficient and that he was guilty of certain questionable practices appear to have some validity. Against this, the Quarantine Office had been effective in keeping diseases away from the city, and Doty had strong support from the New York Academy of Medicine, the American Medical

Association, and virtually the entire medical profession.⁵⁰ Indeed, the roster of names testifying in his behalf reads like a 1911 who's who in New York City medicine. Since the hearing was designed as an excuse for replacing Doty, the testimonials were of little avail.

In sharp contrast to the garbage strike of 1907, when the men struck again late in 1911 the city administration refused to make any concessions. Large numbers of strikebreakers were hired, and the police were sent out in full force to prevent interference with them. Mayor Gaynor blandly informed the newspapers that he was not hiring strikebreakers—he was merely replacing those men who had quit! On the fourth day, while the attempt to break the strike was still in doubt, Dr. Lederle informed the street commissioner that he had only one day to get rid of the mounting refuse. The latter redoubled his efforts, and two days later, November 15, the *Times* reported that he had an army of 3,260 men and 1,344 carts in the streets. Within a few days the strike was completely broken, and the commissioner announced that all but 140 of the 1,147 strikers had been dismissed.⁵¹ It is interesting to speculate why Tammany, which had dealt leniently with the strikers in 1907, should have been so ruthless in 1911. Yet unions were literally a red flag to businessmen, who considered them antithetical to their right to do what they wanted with their own property, and Tammany may have wished to preserve its working relationship with business.

Notwithstanding the need to tread warily among the political pitfalls, the professionals within the Health Department steadily sought to widen the sphere of the department's activities. With the change in administration, Dr. William Guilfooy was able to make a determined effort to compel physicians and midwives to report births and deaths. In 1910 and 1911 over 200 physicians and 12 midwives were successfully prosecuted and fined. As the laboratories came to play an increasingly important role in health affairs, in 1910 they were given semiautonomous status as a division. On October 1, 1911, an ordinance banned the use of the common drinking cup in schools and in a wide range of public institutions, and four months later the law was amended to include all public places. A corollary to this measure was another sanitary regulation adopted on January 4, 1912, prohibiting the

use of the common towel. A major stride was taken in milk inspection when the Board of Health decreed that after January 1, 1912, all milk sold in New York City, except for certain special grades, was to be pasteurized.⁵²

The year 1912 saw one of the finest accomplishments of Dr. Lederle's administration, and possibly the crowning work of Dr. Biggs's career in the city, when the Board of Health required hospitals and public institutions to make full notification of all venereal cases and ordered physicians to report the number of patients treated. The board had been discussing this subject for over three years and acted only with reluctance, since venereal disease was "inextricably interwoven with vice and immorality. . . ." The following year a private organization gave the Health Department \$10,000, with which the department employed a small staff and inaugurated its first venereal disease program.⁵³

Under the energetic leadership of Dr. Baker, the Division of Child Hygiene rapidly expanded, and by the time Dr. Lederle's second administration ended early in 1914, the division had become a bureau with a total of 697 employees. It was operating 56 infant milk stations, five clinics for children suffering from defective nasal breathing and hypertrophic tonsils, and six dental clinics. The existence of these clinics showed that, despite opposition from many members of the medical profession, the Health Department was committed in principle to seeing that children with physical defects received proper treatment.⁵⁴

The Bureau of Child Hygiene was no exception, for expansion characterized nearly all divisions of the Health Department during these years. In 1900 the department had an annual budget of about \$1,000,000 and employed less than 1,000 persons. By 1910 the budget had increased to \$2,750,000 and the employees to 2,500. Three years later the estimated budget for 1913 was \$3,882,000.⁵⁵ This rapid growth brought with it managerial and administrative problems, and in 1913 Dr. Lederle undertook a major reorganization. The Sanitary Bureau, which had included nearly all divisions of the Health Department except for records and vital statistics, was stripped of four divisions. Two of them, the contagious and communicable diseases divisions, were combined to form the Bureau of Infectious Diseases. The other two divisions, child hygiene and food inspection, were each given bureau status. In

addition to these three new bureaus, there was the Sanitary Bureau, much reduced in size, and bureaus of Hospitals, Laboratories, Records, and General Administration. The anomaly of having separate divisions of contagious and communicable diseases within the Sanitary Bureau arose by an historical accident. Traditionally contagious diseases had been handled by the Sanitary Bureau. As the Health Department began to fight tuberculosis, malaria, and other disorders, a Division of Communicable Diseases was created largely from the Division of Bacteriology and placed in the charge of Dr. John S. Billings, Jr. Meanwhile control of diphtheria, smallpox, scarlet fever, and measles still remained in the Division of Contagious Diseases.⁵⁶ The consolidation of these two divisions into one bureau was a logical and necessary step.

In tracing the events from 1898 to 1914, an emphasis has been placed upon the remarkable progress made during these years. But while the Health Department budget was increasing, the city's population was experiencing a similar growth, and unfortunately health problems in expanding urban areas increase in far more than an arithmetical ratio. The successive health commissioners seldom missed an opportunity to point out the inadequacy of their personnel for the many jobs at hand. Earlier Dr. Biggs had spoken of the building program for the department's contagious hospitals as inaugurating a new era in medical care. A survey of the city's contagious disease hospitals by the Public Health Committee of the New York Academy of Medicine in 1911 showed that Dr. Biggs had been far too optimistic. Willard Parker Hospital had 225 beds yet it occasionally held over 600 patients, many of them lying two to a bed. Richmond and Queens were still without facilities for patients with communicable diseases, and only a few wooden wardrooms were provided at Riverside for the Bronx. None of the buildings were screened, and flies were a perennial problem. Despite this overcrowding, the committee estimated that only about 15 percent of the reported cases of diphtheria and scarlet fever were admitted to the hospitals. On the brighter side, a determined assault was being made to improve health conditions in the tenement areas. The infants' milk stations were laying the basis for a comprehensive baby care program, and a few clinics had been opened to remedy the thousands of skin, eye, ear, teeth, and other defects annually reported by the school med-

ical inspectors.⁵⁷ Nonetheless, life for most tenement dwellers was still both short and grim.

In the fall of 1913, Mayor Gaynor died and was succeeded by John P. Mitchel. On January 1, 1914, Mitchel announced that he was reappointing Dr. Lederle as health commissioner. Shortly thereafter, Lederle announced his resignation, and Mitchel replaced him with an outstanding medical leader, Dr. Sigismund S. Goldwater. Goldwater was a distinguished hospital administrator and architect who at the time of his appointment was serving as superintendent of the Mount Sinai Hospital.⁵⁸ While Lederle had done a good job, the appointment of Goldwater and his successor, Haven Emerson, inaugurated a new and productive era for the Health Department. For the next four years the department operated at a new high in terms of efficiency, embarked upon a host of new programs, and gave convincing evidence of its leadership in municipal health.

Immediately upon taking office on February 2, 1914, Dr. Goldwater announced that in addition to the Medical Advisory Board he intended to create a citizens' advisory council consisting of members from civic, social, and welfare organizations. Representatives from these groups met with health leaders in the New York Academy of Medicine headquarters three days later and a health committee was established. This body appears to have been the nucleus for Goldwater's Advisory Council which he announced on April 12. By 1916 it had grown to 240 members and represented almost every significant organization within the city. His next step was to order all bureau chiefs to devote full time to their departmental duties and to forbid them from engaging in the private practice of medicine. In commenting upon his order, Dr. Goldwater stated: "Public Health administration thus becomes a career—though, it must be acknowledged, not a particularly remunerative one—for a limited number of qualified men in the City of New York." Recognizing that health reform should start at home, Goldwater began a program under which all departmental employees received thorough physical examinations. In the process a number of individuals were discovered to have unsuspected diseases, and the Health Department recommended that the program be extended to all city employees. In the interests of morale, a lunchroom was established for the staff and

recreational facilities were provided on the roof of the department's main building for use during the noon hour. Other steps along these lines included providing a better pension plan, reorganizing the departmental Board of Promotions, and standardizing leave-of-absence procedures. The measures taken by Goldwater to improve the department's esprit de corps were balanced by his expectation of more and better work. In all the bureaus, he noted at the end of the year, "the pace has been quickened," and the officers and employees "have been asked to make sacrifices to which they have not been accustomed."⁵⁹

In May Goldwater created a Bureau of Public Health Education, the first such agency to be part of a municipal health department. To the delight of the taxpayers, personnel for this new agency were recruited by transferring workers with special talents for writing or lecturing from other branches of the department. Dr. Charles Bolduan, the assistant sanitary inspector, was selected to head the new bureau. Whereas the former policy with respect to sanitary and food inspection had been to investigate complaints, Goldwater decided to anticipate them by requiring the sanitary and food inspectors to examine systematically all tenements, factories, food establishments, and so forth. As a hospital administrator, Dr. Goldwater understandably pressed for more city hospital facilities. Construction was started on a contagious disease hospital for Queens and a site selected for another in the Bronx. To promote both economy and efficiency, the diagnostic laboratories, which had remained under control of the Bureau of Infectious Diseases, were placed under the director of laboratories, thus completing the consolidation of all laboratories into one bureau.⁶⁰ In making these changes, Dr. Goldwater saw that they were well publicized, and he emphasized to the public that the reorganization of the department and expansion of its activities involved no additional expense.

Up to this point Goldwater received strong support from the newspapers and the general public and at least the tacit approval of the medical profession. In May he proposed a bold program whereby physical examinations would be given to everyone in the city. He pointed out that early detection of degenerative diseases could add from three to five years to the life expectancy of New Yorkers. The Bureau of Child Hygiene was already seeking to

anticipate the health problems of children, he said, but "why should medical oversight terminate with the child?" What the Health Department needed was a Bureau of Adult Hygiene. This same month he recommended combining all municipal hospitals into one department under a single commissioner, and suggested that the hospitals enlarge their role.⁶¹ Well ahead of his time, Dr. Goldwater envisioned hospitals as medical centers devoted to maintaining the health of the community rather than as purely curative institutions. In accordance with his views on the totality of health care, and after working with the Health Department for a few months, Dr. Goldwater held a conference with his staff on September 30 at which he proposed an entirely new organizational structure for the department. Under the existing setup, highly centralized bureaus, which were far removed from field workers, were responsible for both policy and administration. Aside from the remoteness of administrators from their field staffs, each bureau was sending its employees into the same areas; in some cases three or four workers from as many bureaus visited one patient, one home, or one building. As a result of the September 30 meeting, Dr. Goldwater directed Dr. Alfred E. Shipley, chief of the Division of Research and Efficiency, to develop a plan for an experimental health district.

In November 1914, Health District No. 1 was established on the lower east side of Manhattan. It consisted of a densely populated area between Pike, Clinton, and Division streets and the East River. Within the 21 blocks encompassed by the district, no less than 35,000 people lived, most of them of Russian or Austrian origins. The headquarters were located at 206 Madison Avenue and the staff consisted of one medical district inspector and three nurses. By the end of 1915 the experiment was deemed successful. The small force of health workers stationed permanently within the district had developed an intimate knowledge of and an excellent working relationship with residents. Among the innovations in record keeping in the new district were the house cards and family record cards. Through this system, a complete record was kept on each family and on each residence. By assigning a number of families to one nurse and having her assume several functions, the number of home visits had been drastically reduced. The efficacy of the district plan was shown by an increase from 100 to

651 in the number of babies enrolled in the milk stations and by an almost 100 percent correction of the physical defects found among children in the local school. Rather than serving as a prosecutor in cases where food handlers, janitors, and other workers failed to comply with health regulations, the district health officer introduced a health education program. He invited groups of these individuals to the health office and explained the best health procedures. Social and charitable organizations, both public and private, were invited to use the health center facilities for improving and coordinating their activities.⁶² Dr. Goldwater's wish to return to hospital administration prevented him from extending the health district concept, but his heir apparent and successor, Dr. Haven Emerson, applied it on a larger scale.

Not the least of Dr. Goldwater's broad changes during 1914 was a complete rewriting of the Sanitary Code. Obsolete regulations were eliminated, others were revised to bring them up to date, and over 20 new sections were added. The latter dealt with such topics as patent medicines, safety devices, cold storage of food, reporting of diseases and cases of suspected food poisoning, mosquito breeding grounds, and health conditions in industrial and processing plants. In the process of reworking the Sanitary Code, the department laid down the basic requirements for retail food sanitation. These regulations, which included physical examinations for food handlers, still exist in substantially the same form today.⁶³

Whatever may have been public reaction to the enlarged sphere of the department's activities, individual groups and vested interests were bound to resent any tightening of the public health regulations. In December 1914, following two accidental deaths involving elevators, Dr. Goldwater urged that safety automatic closing devices be required on all elevators. The president of the New York Real Estate Board bitterly assailed the proposal, accusing the department of becoming the "personification of police power" and declared that it was willing to curtail personal privileges and sacrifice property rights "on the problematic possibility" of saving an individual life. At a meeting of the Society of Medical Jurisprudence the Health Department was accused of virtually committing the city "to a policy of Socialism" and its health programs were described as "ruinous to the business of the medical

practitioners of the city." As long as the department's medical inspectors merely reported thousands of physical defects among school children, the medical profession had no objection, but the opening of clinics to correct these conditions was another story. A headline on January 8, 1915, proclaimed: "Druggists Protest Health Board Law." This cry of outrage resulted from a regulation ordering patent medicine makers to list on their labels a statement of the ingredients. The argument of the druggists, one completely at variance with all evidence, was that the existing national and state laws already protected the consumer.⁶⁴

Undeterred by these criticisms, Dr. Goldwater pushed ahead with his reforms. On January 1, 1915, all inspection work connected with milk, food, and drugs was placed under a new agency, the Bureau of Food and Drugs, thus eliminating the former procedure whereby inspectors from three separate divisions (food, milk, and sanitation) were often required to visit the same premises. In February he established a Division of Industrial Hygiene to study and supervise industrial hazards. In conjunction with it, an occupational clinic was opened on March 1 for examining bakers and other food handlers. In June a Division of Statistical Research was established under the direction of Dr. Shirley W. Wynne, and to help correlate morbidity and mortality statistics with social and economic data, the city was redistricted in accordance with the census tracts. Displaying the fresh and imaginative approach to health which characterized the Goldwater administration, on August 1 the new division promptly made a census of illnesses in Health District No. 1, the first such survey ever taken in New York, and possibly the first in the United States. While these activities were going on, Dr. Goldwater began a campaign against the use of alcoholic liquors. He first issued a public statement blaming alcoholism for much of the crime and poverty and then announced a few days later that he was appointing a special committee of the advisory council to assist in the campaign.⁶⁵

In his first annual report Dr. Goldwater had stressed the fact that his innovations were costing the city nothing. He proudly noted that his budget for 1914 showed a surplus of \$170,000. In 1915, as a result of a budgetary cut, the department closed its five special nose and throat clinics for school children, a step which the Public Health Committee of the New York Academy of Medi-

cine heartily approved. A newspaper story in September 1915 reported that the Health Department's estimated budget, which had just been submitted to the Board of Estimate, was \$59,000 lower than in the previous year. Yet the report for the year 1915, in which Goldwater probably had a hand, complained that the shortage of doctors and nurses in all areas forced the department "to labor at great disadvantage. . . ." It could not achieve the high standard to which it aspired because of "the lack of a sufficiently liberal social program generously supported by the Board of Estimate." This same report contained the classic statement: "Public health is purchasable; within natural limitations a city can determine its own death rate. Health insurance is as reliable and profitable an investment for the municipality as it is for the individual."⁶⁶ It is evident that Goldwater was seeking to show that the department was making the most efficient use of its funds. At the same time he may have been urging unofficially for an enlarged budget. Thus his budget request may have represented what he thought he could get rather than what he needed.

Early in March 1915 the newspapers printed rumors that Dr. Goldwater was anxious to return to his job as superintendent of Mount Sinai Hospital. His major interest was in hospitals and hospital administration, and his personal finances may have entered into the picture. He was reported to have left a \$25,000 a year job to become health commissioner at a salary of \$7,000. In the following months various names were mentioned as his successor. In October the position was offered to Dr. Victor G. Heiser, a well-known United States Public Health Service officer, but he was said to have asked for a salary of \$10,000 per year. At the end of October the mayor announced that Dr. Haven Emerson would take office as health commissioner on November 1.⁶⁷ Dr. Emerson had served under Dr. Goldwater as sanitary inspector and deputy health commissioner, and, if Goldwater did not urge Emerson's appointment, he must certainly have welcomed it.

Dr. Goldwater's brief tenure of office was one of remarkable progress. Within a short space of time he established a rapport between the department and a wide range of civic and professional organizations, he revised and reorganized the entire department, overhauled the Health Code, created a Bureau of Health Education, pushed the department into taking a more active role in

health prevention, and instituted the first of the health districts, an innovation which eventually led to a radical change in the department's method of operation. The strong sense of purpose which he infused into the department's staff carried over well beyond his administration, and his policies were insured of continuation by the selection of his deputy health commissioner to succeed him.

The most notable event in Dr. Haven Emerson's administration was his decision to extend the health district plan to the entire borough of Queens. On May 1 Queens was divided into four health districts under the direction of a chief of the Division of Health Districts. The chief had his own staff, consisting of a medical supervisor and clerks. Each of the four districts had a health officer, clerk, supervising nurse and staff, medical inspectors, and clinic physicians. Generally the operation of the Queens health districts followed closely along the lines already established in Health District No. 1 in Manhattan. The practice of having nurses deliver birth certificates, which had greatly increased the number of babies registered at the infant milk stations in Health District No. 1, was equally successful in Queens. Close cooperation was established with private agencies, and a major effort was directed toward health education. Health literature was distributed on a wide scale, lectures were given in Yiddish, and efforts were made to involve community groups and private physicians in the local health programs. To improve the district centers, and possibly win support from the medical profession, the Public Health Committee of the New York Academy of Medicine was requested to make a study of the district health center plan. In making this survey, the committee used 30 students from the School of Health and Nursing of Teachers' College, Columbia. The report which followed was generally favorable and a number of suggestions from it were incorporated into the system.⁶⁸

Early in Dr. Emerson's administration a major overhaul of certain city departments was proposed. Henry Bruère, the city chamberlain, proposed consolidating control of all municipally operated hospitals into the hands of the Health Department. At this time three separate agencies were maintaining hospitals: the Department of Bellevue and Allied Hospitals ran Bellevue, Gouverneur, Harlem, and Fordham; the Health Department operated

Willard Parker, Riverside, Kingston Avenue, and the Otisville Sanitarium; and the Department of Public Charities conducted two general and one special hospital on Blackwell's Island, a children's hospital on Randall's Island, three general hospitals in Brooklyn, and a tuberculosis sanitarium on Staten Island. Bruère pointed out that there was much overlapping of function among the three departments; for example, each one had its own tuberculosis program, and two of them maintained social work staffs. This excellent proposal, which had the backing of Drs. Goldwater and Emerson and strong support from the mayor and other civic leaders, unfortunately did not clear the legislative hurdle. Bruère's idea of consolidating hospital control, however, eventually was incorporated into the city government.⁶⁹

Aside from the efficiency which he felt would be achieved by consolidating the municipally operated hospitals, Bruère was quite impressed with the work of the Health Department. He pointed out that in the period from 1914 to 1916 the department had raised salaries and greatly expanded its services with only a negligible increase in its annual budget. After citing its many outstanding accomplishments, he credited them to the department's "skillful, public-spirited and energetic administration. . . ."⁷⁰

Early in June 1916 a major poliomyelitis epidemic broke out in the city. The disease was no stranger to New York, but its incidence in former years had been negligible. Faced with a deadly and crippling disease of unknown etiology, the Health Department decided to give the outbreak full publicity. The department virtually had no choice, since the outbreak stirred up a wave of panic all out of proportion to its seriousness. Polio had been a reportable disease since 1910, and orders were issued emphasizing the necessity for immediate notification. As soon as cases were reported, the department instituted isolation and quarantine procedures. On June 30 the surgeon general of the United States Public Health Service was notified of the epidemic, and on July 2 a state of great and imminent peril was declared. This latter step carried with it authorization for the department to spend whatever funds were necessary. In August it was decided to delay the opening of public schools until September 25. Emergency clinics and hospitals were established, and the medical resources of the city were mobilized to meet the danger. By the beginning of September the

epidemic was waning. The number of cases gradually dwindled in the following weeks, and on October 31 the emergency was declared past. From June to November 8,991 cases and 2,449 deaths were reported. In the course of the epidemic the department spent a total of \$301,204.50. The problem of crippled children was left largely to private charity, although the department did collaborate. One of the most effective private groups was Lillian D. Wald's Henry Street Settlement which sent its nurses into every home visited by polio. This institution, founded in 1893, pioneered in the public health nursing movement and rendered invaluable medical and social services to the tenement dwellers of New York.⁷¹

Late in May, shortly before the outbreak of polio, a major scandal was unearthed in the meat inspection division. An investigation revealed widespread bribery, which had apparently been going on for many years, involving the chief veterinarian and seven of his inspectors. The upshot was the dismissal of the inspectors and indictments against 12 operators of slaughterhouses. In addition to these veterinarians, the Health Department reported that another six inspectors, one clerk, and one laboratory assistant had been dismissed for "receiving bribes, drunkenness and making false reports."⁷²

Although budgetary restrictions had forced the closing of the department's special clinics for school children, with help from private sources several dental and eye clinics were opened in the public schools. On July 29 the name of the infant milk stations was officially changed to baby health stations. The new designation reflected the gradual transition of these stations from milk distribution centers to agencies for educating parents in child care. As part of its program for upgrading the department's staff, a branch of the Municipal Library was established in the central headquarters, the present Haven Emerson Library.⁷³

The year 1917 was a relatively uneventful one for the Health Department. As the work of the health officers in the five health districts increased, it became apparent that the job could not be handled on a part-time basis, and early in the year all health officers were placed on full-time appointments. In cooperation with private agencies, two clinics for aftercare of poliomyelitis patients were organized, one in Queen's Plaza and the other in the Flushing

District Health Office. In addition, each health district opened an advisory venereal disease clinic. These clinics provided diagnostic service, gave advice and instruction, and referred patients to private physicians or to dispensaries.⁷⁴

In connection with its mosquito control program the department claimed in 1917 that it had finally completed ditching all salt marshlands within the city limits. As the year drew on the prospect of war began to preoccupy Dr. Emerson and his staff. Late in March he offered the facilities of the department to the federal government in the event of hostilities. Once the war began, the Sanitary Bureau cooperated with the armed forces in checking on sanitary conditions in the camps. In August, although a rumor that German agents were infecting court plaster with tetanus germs was disproved, a warning was issued against the use of cheaper grades. Dr. Baker, who never missed an opportunity to promote the cause of child health, referred to children as the nation's "second line of defense" in appealing for a more effective school lunch program.⁷⁵

During this period, Dr. Emerson ran into a number of personnel problems. Early in January of 1917 Dr. John S. Billings, Jr., deputy commissioner of health and director of the Bureau of Preventable Diseases, and George A. Roberts, chief clerk of the department, both resigned. Significantly, although Dr. Emerson denied a rumor that Billings had resigned as a result of friction within the department, Billings refused to make any comment. In August Dr. Paul Luttinger, a bacteriologist in the research laboratory, claimed he was fired because he had written a report concluding that alcohol in small quantities was not harmful. Dr. Emerson, a staunch prohibitionist, admitted that he had not permitted publication of the report, but asserted that Dr. Luttinger's work generally did not meet the department's standards.⁷⁶ Despite these minor problems, Dr. Emerson retained support from the leading public health reformers and the department continued to function effectively.

In what may have been an effort to weaken its authority, a delegation of physicians and druggists representing Brooklyn and Queens appeared before Mayor Mitchel in May urging an amendment to the city charter to reorganize the Health Department. Their main proposal was to create a separate health commissioner

for Brooklyn and Queens. Two months later Tammany announced a platform for the coming city election which included a plank calling for separate health commissioners for each borough. Possibly to forestall the drive to eliminate the metropolitan health department, Dr. Emerson announced on September 8 that he was appointing Dr. B. Frank Knause as deputy commissioner and sanitary superintendent for Brooklyn at a salary of \$6,000 per year. The election in November was a complicated one, with four candidates for mayor. Judge John F. Hylan was the Tammany candidate; former Mayor Mitchel ran on a fusion ticket; and Morris Hillquit and William M. Bennett represented the Socialist and Republican parties respectively. The Tammany candidate swept the field with almost 300,000 votes, Mitchel and Hillquit divided about 290,000 votes almost evenly, and Bennett received only 54,000 votes.⁷⁷

The advent of a Tammany administration on January 1, 1918, marked the end of what had been a productive and innovative period in the Health Department's history. Mayor Hylan and his cohorts were not able to dismantle the Health Department in accordance with the Tammany platform, but they did remove Dr. Emerson on January 16, 1918. In the years which followed, the Health Department survived largely because of its solid bureaucratic structure, its excellent public image, and the work of a large number of dedicated professional health workers.

Notes to Chapter 11

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12

The Years of Travail

Ten years ago it was beyond question that New York City had the best municipal health department in the world. In 1918 came a change, and for the first time in thirty years the blight of political influence fell upon the splendid social machinery. [Charles-Edward Amory Winslow, *New York Times*, November 17, 1927.]

By January 1918 the United States was fully involved in World War I and the Health Department could scarcely avoid its repercussions. As nurses and doctors were pulled into medical service, it became more difficult to maintain an adequate medical staff. The increased demand for food led the Bureau of Food and Drugs to shift its emphasis from the elimination of unwholesome foods to one stressing the need to conserve food and eliminate waste. Troop movements and shifts in the civilian working population promoted the spread of diseases, and the presence of military camps placed additional work on the overburdened Health Department. To add to these problems, the influenza epidemic of 1918 took up a great deal of time and energy.¹ Further complicating matters was a deterioration in the city's political affairs. Mayor John F. Hylan, who took office on January 1, 1918, represented the old-line Tammany politicians, and he was far more concerned with politics and patronage than with a well-ordered city administration.

The Health Department at this time was not without its internal problems. The introduction of the health districts represented a radical shift in administrative structure, one which involved reducing the status of the bureau heads. Since most of these individuals had served for years and could rightfully claim credit for helping to make the department one of the best in the country, they would scarcely have been human had they not objected to being supplanted by district health officers. Whatever advantages the new administrative structure had, it could not be introduced without disrupting the relatively smooth-functioning bureaucracy

already in existence, and it was bound to lead to ruffled feelings and personal tensions. Moreover, defining the precise authority of the local health officers was no easy task and it involved making a constant series of difficult decisions. The personnel problems Dr. Emerson encountered during his administration may well have reflected tensions resulting from these administrative changes.

Mayor Hylan promptly began announcing his new appointments when he took office in January, but he delayed action with respect to the health commissioner until January 15. With hundreds of supporters hungry for jobs, Hylan had designs on the Health Department, but its reputation saved it from an immediate frontal assault. On January 15 he announced that Dr. J. Lewis Amster was to be the new health commissioner. Amster was president of The Bronx County Medical Society, an active worker in the Democratic Party, and a close friend of Boss Murphy. At the time of his appointment he was relatively unknown; he had taken no role in the public health movement nor had he taken a stand on any of the public health issues.²

Early in April Mayor Hylan made his move against the Health Department by ordering Amster to remove seven of the nine bureau heads. Among them was Dr. Baker, head of the Bureau of Child Hygiene, whom the mayor accused of working for the Rockefellers.³ Amster, uneasy about such a drastic step, recommended that the Civil Service Commission investigate the legality of the various bureaus within the Health Department. He apparently hoped to take himself off the spot by suggesting that the department had exceeded its authority in creating additional bureaus. In Mayor Hylan's case it is clear that, with at least tacit support from Amster, he intended to abolish the bureaus and reorganize the department along borough lines. On April 9 James E. McBride, the Tammany chairman of the Civil Service Commission, began holding secret hearings on the legal status of the bureaus. The effort to keep the hearings secret was a wise one from Tammany's standpoint, since they were to be used as an excuse to fire the bureau heads, but news of the attack upon the Health Department caused a storm of disapproval to sweep through the city. Medical societies, civic groups, labor unions, and newspapers all denounced the mayor's action. Even the New York City Woman Suffrage Party wrote to Mayor Hylan oppos-

ing his proposal to abolish the Bureau of Child Hygiene as a supposed economy measure. When it became known that the hearings were to be secret, the general reaction was one of even greater outrage. Confronted by a united opposition, Hylan shifted his grounds and claimed he was investigating charges of corruption in the department.⁴

Amster, who played a nebulous role in all of these affairs, was evidently growing worried as public indignation arose. On April 18 he informed the newspaper that the work of the Health Department was being hindered by the investigation and said he had told the mayor that abolishing the bureaus would jeopardize the health and welfare of New York's citizens. The same qualms were also besetting Alfred E. Smith, the president of the City Board of Aldermen. Smith, a shrewd politician who was setting his sights on the governorship, met with Chairman McBride of the Civil Service Commission on April 20, whereupon McBride promptly issued a preliminary report and announced that the rest of the hearings would be open to the public. This preliminary report claimed that the Bureau of Public Health Education was nothing but a press agent for the Health Department and recommended that it be abolished. Although Amster signed the report, he subsequently issued a statement saying he had no personal objection to the activities of the bureau.

The outstanding work of the Public Health Education Bureau was widely recognized, and once again medical, political, social, and labor groups expressed their indignation. At the subsequent hearings, Drs. Goldwater, Baker, Jacobi, and Miller testified on behalf of the bureau. Even Dr. William Park, director of the Bureau of Laboratories who had remained aloof from all previous political maneuverings, wrote to McBride on April 22 urging him to speed up the hearings so that the department could return to its normal operations. On April 27 McBride released a report from Dr. Baker recommending ways in which over \$100,000 could be saved in the Bureau of Child Hygiene. The following day he was accused of doctoring the report, and Dr. Baker was quoted as stating that she could not personally or officially recommend any reduction in the work of her bureau.⁵

To add to the pressure upon Mayor Hylan, the United States surgeon general sent a telegram urging him not to curtail the

activities of the City Health Department. Hylan, confronted by more opposition than he had anticipated, struck back by ordering Amster to remove Drs. Jacobi and Goldwater from the department's Medical Advisory Board. By this time, Amster was becoming completely disenchanted with his role. A combination of political loyalty and naiveté had made him willing to go along with reorganizing the Health Department in order to make a few political appointments, but Hylan's crude political tactics which threatened to wreck the entire machinery were more than he could stand. On April 29 he resigned with a blast against the mayor. He accused Hylan of making Dr. Frank J. Monaghan, his private physician and a singularly inept individual, secretary to the Board of Health and using him to bypass the commissioner's office. He also criticized the mayor's efforts to remove Goldwater and Jacobi, his refusal to permit the department to fill staff positions, his failure to approve a recommendation for funds to carry on the work of the antitoxin laboratory, and his general interference with departmental administration.⁶

Undaunted, Mayor Hylan promptly replaced Amster with Dr. Royal S. Copeland. While Amster was a political innocent, Hylan, knowingly or not, had replaced him with a real professional. Dr. Copeland had political ambitions of his own, and he was not about to be a scapegoat for Hylan's mistakes. When Hylan demanded the firing of seven bureau directors, Copeland responded with a public statement praising the magnificent job being done by these same individuals. At the same time, as a concession to Hylan, he sought to give a measure of respectability to McBride's attempt to discredit the Health Department. Shortly after Copeland took office, McBride accused Dr. Lucius P. Brown, director of the Bureau of Food and Drugs, of proposing a legislative bill which would have lowered the quality of milk. When Brown attempted to refute the charge, Copeland immediately suspended him, and subsequently announced he would be given a public trial. For the next few days the question of whether Brown should receive a civil service hearing or a public trial was left unsettled. After first stating that Brown would be given a chance to confront his accusers at an open trial, on May 29 Copeland set a civil service hearing for Brown on charges of "neglect of duty, inefficiency and incompetency. . . ." By the time the hearing was held, early in

July, the furor about McBride's investigation was dying down, and Copeland and Hylan may have decided to let Brown alone. At the hearing Dr. Copeland praised Brown's work and said the only question at issue was whether or not his good work was achieved "in a manner conforming with conventional ideas of office routine." The hearing dragged on until August 10 when the charges were dismissed and Brown was reinstated.⁷ Ironically, if McBride was really interested in corruption, he might well have found it in Brown's bureau, since a subsequent investigation a few years later revealed that widespread graft had characterized meat and milk inspection for many years.

While this was going on, Dr. Copeland was busily distracting attention from Mayor Hylan's gaffs by ostensibly taking leadership on a variety of health matters. On May 7 he announced that after visiting with the mayor he had written letters to all federal officials concerned with the war effort offering the services of the City Health Department. For the next two weeks he managed to get a great deal of publicity out of this ploy. The last week in May he promoted a Health Week, with equally felicitous results. On May 18 he issued a statement that he was going to confer with the city's labor leaders for advice on how to improve the sanitary conditions of the working men.⁸ With public attention focused on these and other matters, Copeland was quietly moving the department in the direction Hylan wished it to go. On May 8 a newspaper report stated that Dr. Charles F. Bolduan, director of the Bureau of Public Health Education, intended to resign. The next day Copeland expressed regrets at losing Dr. Bolduan, but refused to answer queries as to whether or not he would have preferred charges against him if he had not resigned. Bolduan, who had gained a national reputation for his excellent work, had been under heavy attack and may have simply wished a less controversial position. In any event, if Copeland did not actually force him out of office, he did nothing to keep him in it. In August Dr. B. Frank Knause, deputy commissioner of health who had been with the department for 20 years, resigned. Copeland used the opportunity to make Dr. Monaghan acting deputy commissioner. Monaghan, it will be recalled, was Mayor Hylan's personal physician whose appointment to the job of secretary to the board had irritated Dr. Amster.⁹

Although Copeland's diversionary tactics and his more subtle approach to the patronage question tended to allay public indignation, a steady pressure was maintained on Hylan to ease his attack on the Health Department. Early in May a group of physicians had criticized him for his failure to fill 121 vacancies in the department, and on May 9 the New York Board of Trade urged him "not to impair the efficiency of the city's Health Department in wartime. . . ." Possibly as a sop to public opinion, McBride was thrown to the wolves; on June 8 his resignation as chairman of the Civil Service Commission was announced.¹⁰ The frontal assault against the department had failed, but one battle does not make a campaign. While openly proclaiming his support for public health and the Health Department, Dr. Copeland was quietly undermining the safeguards against political infiltration.

During these hectic events, the health districts inaugurated by Drs. Goldwater and Emerson disappeared from view. Although Hylan's original intention to abolish the bureaus and decentralize the department on a borough basis had failed in the face of general public opposition, Copeland managed to salvage part of it early in September when he announced that the Health Department had been reorganized so as to give the boroughs a degree of autonomy. Dr. Frank J. Monaghan now became sanitary superintendent and was made responsible for borough administration with the help of five assistant sanitary superintendents, one for each borough. The bureau chiefs were to confer with the sanitary superintendent on any controversial issue. In the event of a disagreement, the matter would then go to the commissioner.¹¹ The new organization, from the standpoint of Hylan and Copeland, worked out quite well. It weakened the bureau heads and gave more autonomy to the boroughs, a step which Hylan wanted, and at the same time it freed Copeland from much of the administrative work and left him time to concentrate on his political aims.

While the reorganization was under way, in August public attention was dramatically shifted away from the internal affairs of the Health Department by the advent of influenza. The first cases were brought in on a Norwegian ship which docked in Brooklyn on August 14. Drs. Copeland and Leland Cofer, the health officer of the port, promptly issued a statement that there was "not the slightest danger of an epidemic." The disease, they

added cheerfully, seldom attacks "a well-nourished people." Apparently neither of the men were acquainted with the contemporary Board of Health studies, or the newspaper stories about them, which showed that about 20 percent of New York school children were undernourished. Both men maintained an attitude of cheerful unconcern until August 20 when Dr. Copeland conceded that Spanish flu in a mild form was present in the city. Their complacency seemed justified for the next few weeks, since only a few scattered cases occurred. In the middle of September, however, the number of cases took a sharp upturn, and Copeland gave Dr. Louis I. Harris, director of the Bureau of Preventable Diseases, authority to do whatever was necessary to avert an epidemic. On September 18 Spanish influenza and pneumonia were both made reportable diseases. In the ensuing weeks the cases rapidly multiplied and the number of deaths soared correspondingly. Starting with a single death on September 15, the daily death toll from influenza increased to 48 on September 30, 126 on October 6, 297 on October 13, and to over 400 by October 16. The number of deaths per day held between 400 and 500 from October 16 to October 26, when it dropped to 399. From this date the deaths fell off steadily until the outbreak ended late in November.¹²

Throughout the epidemic, Dr. Copeland remained quite sanguine, probably operating on the assumption that maintaining public morale was one of his major functions. With strong support from Dr. Josephine Baker, he steadily resisted pressure to close the schools, arguing with considerable justification that schools were far more sanitary than most slum homes. As a result, New York was the only major city to keep its schools open. This policy proved successful, since few children caught the disease and the action had a calming effect upon the rising public hysteria. Dr. Copeland applied the same logic to the theaters on the ground that they, too, provided a means for health education. Early in October he ordered department stores to close early and urged businesses to stagger their closing times to avoid undue crowding during the rush hours. On October 13, a day when the number of influenza deaths reached 300, Dr. Copeland appointed an Emergency Advisory Committee, consisting of experts in the various health areas. In the ensuing days, the Health Department

concentrated upon utilizing its nurses and physicians as efficiently as possible, enforcing sanitary regulations, urging citizens to wear gauze masks in public, pressuring landlords to supply adequate heat to all tenants, and appealing for volunteers to work in the hospitals.¹³

By the beginning of November the worst was over, and on November 14 the Health Department announced that the epidemic was a thing of the past, although a few scattered cases could still be expected. Three days later Dr. Copeland explained how his measures had enabled the city to escape a major catastrophe, although he did give credit to the work of the department during the previous ten years. The epidemic may not have been catastrophic, but the final count showed there had been 130,606 cases of influenza involving 10,972 deaths and 11,730 cases of pneumonia with 10,228 deaths.¹⁴ Dr. Louis I. Harris, chief of the Bureau of Preventable Diseases, did not share the commissioner's cheerful outlook. In reviewing the department's handling of the epidemic he criticized the general lack of preparedness, the disorganized hospital facilities (a point Dr. Goldwater had made earlier), and the wasteful use of physicians and nurses. Striking at the fee system, he wrote:

Shall we permit the spectacle to be forgotten of doctors and visiting nurses who crossed each others tracks, several visiting in the same districts and even the same buildings, while in such houses men, women and children were dying for want of medical care, because under the present system of medical practice, the doctors were responding to calls from homes where a financial return could be expected?

In a conclusion which must have shocked many of his medical colleagues he declared: "The socialization of the medical and nursing professions to place them under government control should no longer be deferred."¹⁵

Dr. Harris' outspoken remarks were not likely to endear him to either Commissioner Copeland or Mayor Hylan. Early in January 1919 Copeland proposed to remove the Division of Industrial Hygiene from the Bureau of Preventable Diseases. Whether this step was taken to weaken Dr. Harris' authority or to make the

division more amenable to political pressure is difficult to say. Whatever the motive, labor and civic leaders immediately denounced the proposal as another effort by the mayor to politicize the Health Department. Judging from the newspapers, Dr. Harris had a fine reputation among organized labor and in the community at large, and the public outcry reflected a show of support for him as much as anything else. Whatever the case, Copeland accepted the inevitable and backed down on the issue.¹⁶

Possibly as a result of this affair, on March 31 Copeland announced that he intended to resign. He told reporters he had accepted the position as commissioner only as a patriotic duty, and that as soon as he had fulfilled his obligations he would leave. At the same time he hinted that Dr. Monaghan would be his successor.¹⁷ In the meantime he became concerned over the growth of drug addiction. In February Dr. Charles F. Stokes, a former surgeon general of the navy, had estimated the number of addicts in New York City to be 100,000 and claimed that prohibition would increase their number. The following month Dr. Copeland also warned of the effect of prohibition on the drug problem. In January 1919, he said, drug manufacturers had sold more cocaine in New York City than in all of 1918. A few days later he accused certain physicians of writing as many as 200 prescriptions for narcotics per day at 25 cents a prescription. Early in April the police and FBI agents made a series of massive raids and seized large quantities of drugs. The following day Dr. Copeland announced that he was opening a clinic for addicts, and expressed the hope that narcotic users deprived of their normal supplies would resort to the clinic rather than turn to violence. The large number who turned up at the clinic led the department to open a second one in Brooklyn.

The clinics followed the practice of dispensing limited quantities of narcotics to registered addicts. Unfortunately many addicts supplemented their clinic ration by securing additional drugs illegally. To add to the department's difficulties, a clash developed between those who assumed that drug addiction should be treated as a criminal offense and those like Dr. Copeland who insisted that addicts represented a medical problem. To Copeland's credit, he fought valiantly to keep control of drug addiction within the Health Department. In December, when the Board of Estimates

denied his request for \$38,000 to keep the Riverside Hospital drug treatment center open, he again threatened to resign. This threat, like the previous one, appears to have been designed for its effect, for he continued to hold the office for another three years. Despite a number of obstacles, Copeland maintained the drug addiction center until April 1, 1920, when the funds were exhausted. The Health Department did not give up completely at this time, but its efforts gradually dwindled away. A note of despair was sounded in the department's *Annual Report* for 1920 in connection with its efforts to deal with addiction. Over 95 percent of the patients treated at Riverside had proved uncooperative: "The deserving kind of drug addict, of which we hear but never see, . . . has never yet been admitted to Riverside Hospital for treatment." Further therapeutic measures should be discontinued; all that could be done, the *Report* concluded, was to institutionalize "such cases as are of a truly pestilential character. . . ." ¹⁸ Over 50 years have now passed since these tragic words were written and the situation has changed little. The public still views addiction as a criminal act and researchers are still looking for a medical solution.

As a shrewd politician with some interest in public welfare, Copeland was always quick to espouse causes which had wide appeal. When a milk strike occurred early in 1919, he promptly issued a statement reassuring the public. Late in the year he stated that 300,000 undernourished New York children were prime targets for tuberculosis and declared that he intended to fight to lower the cost of milk. After accusing the milk industry of illegally setting prices, he announced that the Health Department would sell grade B milk at 15 cents a quart. In the succeeding months he carried on a public battle with the milk industry. To bring pressure to bear on the milk distributors, the city announced in March that stations would be established where milk would be sold for 10 cents a quart. After lengthy negotiations with the industry, it was agreed that the large distributors would sell grade B milk to the city at 8½ cents a quart and the Health Department would start a campaign to educate the poor on the value of milk. As part of its drive to provide milk for children in the tenement districts, on September 1, 1920, the Health Depart-

ment took over the milk laboratory and eight milk stations which had been operated for many years by Nathan Straus.¹⁹

One of the devices Copeland used to promote the use of milk was to institute a Milk Week. In June 1921, for example, Dr. Copeland proclaimed a Milk Week and announced that he and Mayor Hylan would drink a quart of milk each day at lunch to emphasize its food value. When a milk strike began in November of this year, Copeland promptly sided with the strikers and condemned the milk distributors for refusing to negotiate. The following day he threatened to take over the entire industry. When these tactics failed to bring the dealers to the negotiating table, he then threatened to enforce sanitary regulations so strictly as to put many of them in jail.²⁰ Whatever Copeland's motives, his stand brought him a great deal of publicity, and few politicians have ever been harmed by fighting for lower consumer prices and for supporting the laboring man. The previous year he had taken an active role in attempting to settle a transportation strike which was threatening the city's food supply. The high esteem which the workers felt for Copeland was demonstrated by the cheers he received on addressing a strike meeting. During a railway strike in the fall of 1921 he declared that he was prepared to seize the city's entire food supply if necessary for the public welfare.²¹

Strikes in the coal fields in 1920 created another crisis in New York City. As coal shortages developed in October, Dr. Copeland told the newspapers he was prepared to requisition all available coal supplies in order to keep the people warm. As the situation worsened, the Health Department established a coal bureau to see that the supplies were given a fair distribution. Landlords who failed to provide heat to tenants were warned of possible jail sentences. Copeland was in a strong position since a 1919 law had given the department authority to enforce regulations with respect to heating buildings. Throughout the crisis Dr. Copeland kept issuing daily communiqués on the status of the coal supply. In the winter of 1922-23 labor problems on the railroads brought another shortage, and Dr. Copeland once again stepped into the breach. On this occasion he tangled with railway officials, concluding one verbal exchange with the rhetorical statement: "The public wants coal, and it wants it now."²²

Another issue upon which Dr. Copeland achieved a good deal of political mileage was housing reform. Early in March 1920 he denounced those ruthless landlords who were maintaining unsanitary tenements and charging high rents. He indicated that the Health Department would be willing to collaborate with the municipal courts in preventing evictions from such tenements, maintaining as his personal conviction that no tenant should be evicted from an unsanitary domicile. The following day the *Times* alertly asked why Dr. Copeland had permitted the existence for so long of unsanitary tenements. The Health Department at this time also was concerned with the serious housing shortage brought on by wartime restrictions on construction. In March it undertook a survey of selected areas within the metropolitan area, and, as might be expected, discovered considerable overcrowding. Dr. Copeland, on his own initiative, contacted a group of financiers and bankers about making building funds available to small home owners at low interest rates.²³

On July 16 Copeland returned from a public health meeting in Europe to announce that New York was "physically and morally cleaner than any European city," a statement somewhat at variance with his denunciation of the filthy and crowded tenements a few months earlier. He pointed out, however, that a flood of immigrants could be expected and that the city would need an additional 100,000 new homes. In September he announced he would propose to the State Legislature that they create a Central Housing Commission to deal with all rent and housing problems. This agency, as he envisioned it, would zone all property, specify the type of homes to be built, determine rents, and, if necessary, take over vacant property. Later in the month he appealed to the public to pressure the Legislature on the housing issue. If the city could build docks and lease them out, he asked, why could it not build homes? In the succeeding weeks he continued to stress the developing housing shortage. When the Welfare Committee of the Board of Aldermen denied this to be the case, early in February 1921 he ordered 50 health inspectors to survey the tenements and determine how many persons would be homeless if all sanitary and health regulations were enforced. Copeland's campaign carried the day, and the Board of Aldermen agreed on February 15 to give a ten-year tax exemption to property owners

who built homes or apartments costing less than \$5,000 per unit between April 1920 and April 1922.²⁴

Toward the close of World War I and in the years immediately following, a series of typhus and other epidemics spread through the undernourished and war-ravaged peoples of Europe. In light of the flood of immigration from Europe in the three decades before the war, the return to normalcy raised the specter of thousands of disease-ridden immigrants pouring into New York City. With this in mind, the Board of Health sent Dr. Copeland to Brussels in May 1920 to attend two meetings, the Congress of the Royal Institute of Public Health and the Inter-Allied Housing Conference, and to observe conditions in European port cities. Upon his return, the Health Department established a special program to prevent the importation of typhus and the other disorders. Working with the quarantine authorities, strict regulations to prevent the introduction of rats from incoming vessels and the landing of lice-infested immigrants were immediately put into effect.²⁵

The danger from typhus became a reality early in February 1921 when several sick passengers on a vessel arriving from Italy were found to have the disease. On February 7 Dr. Copeland and his bureau heads conferred with the directors of the main shipping companies and agreed upon a more rigid inspection program. Four days later Copeland reported the presence of 39 typhus cases in the city and stated that he had asked President Wilson to ban all immigration from typhus-infested ports. On February 12 the Health Department established its own examining station in the 39th Street Ferry Terminal. Immigrants were first examined by the federal authorities on Ellis Island and were then conveyed to the city examining station. As the backlog of immigrants awaiting examination at Ellis Island began to pile up, several steamship companies sent their ships to Boston and Philadelphia. Immigrants passing the quarantine inspection in these cities were then sent by railroad to New York. In consequence the Health Department opened a second examining station in Grand Central Terminal.²⁶

As it became clear that the danger from immigrants was national in scope, United States Public Health Service officials were sent abroad to help enforce American quarantine regulations. In

February the Public Health Service began the process of taking charge of the New York quarantine station. Unfortunately, the service had neither the funds nor personnel to handle the many tasks assigned to it, and, as additional typhus and smallpox cases were diagnosed, Copeland became increasingly critical of the federal quarantine program. Recognizing that the fault did not lie with the Health Service, he urged Congress to increase the service's appropriation and announced that the City Health Department would maintain its own program until the danger was past. In March the department held a clinic in Williard Parker Hospital, the municipality's main contagious disease institution, to familiarize private physicians with typhus and its symptoms. In view of the very real danger from typhus, Copeland's prompt action in this instance is to his credit. During 1921, for example, 136,307 immigrants passed through the Health Department's examination stations; of these, 1,410 were found to be infested with lice. Moreover, Copeland gave strong support to the Public Health Service and lobbied effectively to gain more funds for it.²⁷

In January 1922 Commissioner Copeland expressed his alarm over the tendency of native mothers to have less children than foreign-born mothers and declared that there should be no talk of birth control so long as this condition existed. The following December, Senator-elect Copeland beat a strategic retreat in the course of addressing a meeting in a lower east side Manhattan synagogue by asserting that immigrants and their descendants were often better Americans than native-born citizens.²⁸ By this time Dr. Copeland had moved into a larger political arena and was preparing to take on the responsibilities of a statesman on the national scene.

In addition to the major developments during Dr. Copeland's tenure of office, the Health Department and its commissioner dealt with a host of minor matters. During the winters of 1918-19 and 1919-20 mild outbreaks of influenza occurred. In both instances the department instituted rigorous measures to deal with the disease, including staggered working hours to reduce crowding on subways, restrictions on theater crowds, and close sanitary inspections of public buildings. The year 1921 saw a serious outbreak of scarlet fever which taxed the limited resources of the

Health Department. A total of 13,516 cases with 385 deaths were reported. The following year a major campaign was started against diphtheria with the intent of immunizing every child between the ages of six months and six years.²⁹ During these years some efforts were made to deal with venereal disease, but the virtual refusal of private practitioners to report their cases combined with the hesitancy of the department to push what was still a highly controversial subject meant that little was accomplished.³⁰

The Bureau of Child Hygiene continued to perform notably under the dynamic leadership of Dr. Baker. Its Division of School Inspection criticized the deplorable condition of many school buildings, noting the lack of washing facilities, inadequate toilets, and poor lighting. Despite a shortage of personnel the division reported that diseases such as trachoma and ringworm had been reduced drastically and a full-scale attack was being made upon pediculosis.³¹

Taking cognizance of the rapidly increasing number of automobiles on the streets, in September 1920 Dr. Copeland urged that eyesight and hearing tests be given to all applicants for driver's licenses. Two months later he recommended periodic inspection of automobiles and their drivers. The proposed automobile inspection was part of an antinoise campaign which Dr. Copeland was initiating at this time. In addition to trying to reduce the noise of automobiles, Dr. Copeland also sought to change the zoning laws to prevent noisy industries from moving into residential districts.³² Whether or not he realized it, in seeking to reduce the city's noise level, he was fighting a losing battle. The success of staggered working hours in minimizing crowding on mass transit during influenza epidemics led Dr. Copeland to espouse the program on a permanent year-round basis. The force of logic only rarely influences the course of society's actions, and so his proposal came to nought. He might have won more public support had he emphasized the point made by one of the transit commissioners that close physical contact during rush hours had a corrupting influence on the morals of the city's youth. Another of Dr. Copeland's excellent ideas was to continue daylight saving time, which had been adopted as a wartime measure.

As health commissioner, Dr. Copeland was frequently called

upon to express himself on a number of current matters. In a gesture which undoubtedly pleased both men and women, he stoutly defended the feminine fashion of silk stockings and high heels, and condemned the then fashionable long skirts, which literally swept the streets, as perfect germ catchers. On the subject of women smoking in the streets, Copeland expressed his disapproval but stated that he would not oppose it.³³

Two significant changes were made in the Sanitary Code during Dr. Copeland's administration. On January 26, 1922, the department extended its supervision to include X-ray laboratories. While this supervision was more or less nominal, the laboratories were required to obtain a permit from the department. The right to grant permits implied the power to withhold them, and thus the Health Department strengthened its position vis-à-vis the laboratories. On August 10 the application of a 1 percent solution of silver nitrate in the eyes of all newborn babies was required of attending midwives and physicians. This regulation climaxed an educational campaign which had been going on for over 20 years, and the law confirmed what had become a general practice.³⁴

One of the major functions of a director is to see that his particular department obtains sufficient funds. In this respect Dr. Copeland deserves a high grade. He consistently fought for increased budgets, and he carried the fight into the public domain. Early in 1920 he issued a statement that the Health Department was losing its best staff members to private agencies. In the fall of that year he appealed for an increase of over \$2,000,000 in the department's budget for 1921. Not content with making his formal request to the Board of Estimate, Copeland appeared before groups such as the Rotary Club seeking public support. The effectiveness of these tactics is demonstrated by the growth of the department's budget. In 1919, the first full year of his administration, the budget was approximately \$4,000,000. By 1922 the departmental expenditures amounted to \$5,592,716.75.³⁵ Considering that these were years of financial stringency resulting from the postwar depression, Copeland performed notably in this area.

In the fall of 1921 Mayor Hylan won reelection and promptly announced he was appointing Dr. Copeland to another four-year term as health commissioner. A year later, September of 1922,

Dr. Copeland was named the Democratic nominee for the United States Senate. After first declaring that he was happy as health commissioner, Dr. Copeland conferred with Mayor Hylan who was able to convince him that his talents were needed on the national scene. During the campaign, Copeland made public health a major issue. No one in Congress, he declared, was concerned with public health matters nor understood the danger to America posed by European epidemics. If elected, he promised to make "the physical welfare of the American people" his prime concern. In an upset victory, he defeated the Republican candidate and won the election. On February 1, 1923, he handed in his resignation to Mayor Hylan. As had been rumored at the time of his election, Dr. Frank J. Monaghan was chosen to succeed him.³⁶

It is not easy to assess Copeland's administration. On the face of it, he was an outspoken fighter for public welfare: he fought hard for lower milk prices; he used his authority to see that tenements were adequately heated and coal supplies were equitably distributed; he sympathized with strikers at a time when strikes were equated with bolshevism; he advocated public housing; he tried to deal with drug addiction as a medical problem; and he supported many progressive ideas. At the same time, he had a keen sense of public relations and managed to get maximum publicity for all of his efforts. Without doubt, he rode welfare and health issues to political success. In the process, he stopped the steady movement toward professionalization which had characterized the department and opened the way for political interference. The health district program was allowed to lapse, and the establishment of borough health offices was calculated to make health officials more responsive to local political pressures. The loss of good men such as Drs. Bolduan and Knause may not have been directly attributable to Dr. Copeland, but one suspects he was happy to see them go. He paved the way for Hylan's personal choice, Dr. Monaghan, to become his successor by making him deputy commissioner, and under Monaghan's administration, the Health Department went steadily downhill.

Copeland's main failing may have been his political ambition. He needed Hylan's support, and, since politics is the art of compromise, he was not averse to making political concessions insofar as the Health Department was concerned. Once politics began to

intrude on health concerns and undermine professional standards, the effect was to destroy the staff's esprit de corps and lower the entire tone of the department. A good health commissioner needs to be aware of and sensitive to political relations, but his goals should be professionally oriented. It would have been better for the New York City Health Department if Dr. Copeland had chosen some other pathway to political eminence.

Judging from the newspapers, medical journals, and reports, the three-year administration of Dr. Monaghan was a relatively quiet one. Lacking the flamboyance of Copeland, Monaghan was content to rock along, keeping Mayor Hylan happy by appointing a Tammany politician as secretary to the Department of Health and by opening jobs in the department to political patronage. Nurtured in this fertile soil, the graft that had gained a foothold during Copeland's regime flourished. Yet on the surface, all was well; a few troublesome questions were raised and an occasional rumbling of discontent was heard, but the full scope of the graft and corruption was not revealed until 1926 when Mayor Hylan was replaced.

In the meantime Dr. Monaghan, like his predecessor Copeland and his patron Hylan, managed to climb aboard popular issues. He was named to represent the citizens of New York City on the Fair Price Coal Commission, an agency formed in 1923 at Governor Alfred E. Smith's suggestion. A year later Mayor Hylan instructed Monaghan to see that the poor were supplied with coal and that no profiteering was permitted. On October 30, 1925, Dr. Monaghan announced during another coal crisis that tremendous strides had been made in the previous 48 hours to see that ample coal supplies were available for the poor. He carefully specified that this action had been made possible by the cooperation of the big coal dealers.³⁷ In light of subsequent revelations of corruption in meat, milk, and food inspection, one can be reasonably sure that in their fight to help the poor, neither Copeland nor Monaghan had any intention of harming business interests.

The air pollution created by the smoke from bituminous coal was another safe and easy health hazard which Dr. Monaghan could tackle. Although the Sanitary Code forbade the use of soft coal, shortages created by strikes in the anthracite fields forced

the Health Department to ease its restrictions, and throughout his administration Monaghan was constantly giving directions as to the best means for using bituminous coal. In November 1925 he announced that the department had arranged a soft coal burning demonstration to show how its combustion did not necessarily involve dense clouds of smoke. In 1924 the question of the danger from automobile exhausts was raised, and Dr. Monaghan reassured the public that an automobile engine running properly did not release any carbon monoxide, a statement which must have surprised and delighted the automobile manufacturers. New York City, he continued, probably had the purest air of any big city. Five days later, as a result of the deaths of five Standard Oil employees from tetraethyl lead fumes, the Board of Health banned the use of leaded gasoline. Dr. Monaghan immediately announced that the department would make a study of the health hazards involved in its use.³⁸

When the State Commission on Housing and Regional Planning came to New York City in October 1923, Dr. Monaghan warned that the critical housing shortage was likely to precipitate epidemics of typhus and other diseases. A few weeks later he wrote to the commission that eliminating the emergency rent laws would have this same effect. Already, he added, the number of families occupying one- or two-room apartments was appalling. While uttering these grave warnings, he paradoxically added that overcrowding was decreasing, an improvement he credited to the tax exemption laws on new residential construction. With remarkable perception, he noted that overcrowding occurred mainly in the cheaper housing areas. Four months later, as a member of a special committee appointed by the mayor to study housing conditions, he signed a report, along with the commissioners of public welfare and of tenement houses, which stated that only one-tenth of 1 percent of the city's population lived in congested areas; that rents were relatively low; and that few if any unsanitary conditions existed. This report was completely at variance with everything Copeland and Monaghan had been saying for the previous five years, and it flatly contradicted the findings of the report issued in December 1923 by the State Commission on Housing.³⁹ If the report of Monaghan and his

fellow committee members could be taken at face value, December 1923 would have been the only time in the last two centuries when housing was not a major problem in New York City.

The discovery in Hartford, Connecticut, of a number of so-called physicians who were practicing on the basis of degrees obtained from a diploma mill led Monaghan to start an investigation in New York. This investigation led to the establishment in January 1925 of the Division of Investigation of Medical Practice which later became the Division of Legal Medicine. At first the division concentrated on complaints against irregularities in medical practice and abuses in connection with X-rays. Gradually it assumed responsibility over X-ray laboratories, massage parlors, and over all complaints relating to abortions, medical frauds, false medical advertising, and so forth.⁴⁰

While Dr. Monaghan was initiating the investigation into fraudulent medical practices, he took time out to inform subway riders that the habit of reading on subways represented a danger not only to their eyesight but to their lives. The fatigue and other symptoms induced by eyestrain were likely to make them susceptible to other diseases.⁴¹ Early in August 1923, Mayor Hylan came down with a heavy cold, which he had apparently caught while attending President Harding's funeral. By September he was critically ill with "pleuro-pneumonia." The mayor at this time was staying in Saratoga Springs, and Dr. Monaghan was in close attendance. Throughout September Dr. Monaghan, who was reportedly spending most of his time at Hylan's bedside, issued periodic communiqués on his patient's condition, and on September 20 was able to announce that Hylan was on the road to recovery. To assist him, Dr. Monaghan had a nurse, Mrs. Edna S. Steiger, who was listed on the Health Department's payroll as a hospital investigator.⁴² During this trying time, the Health Department survived the temporary loss of Dr. Monaghan's services with minimal difficulty.

The health commissioner's preoccupation with these diverse matters undoubtedly accounts for the failure of the Health Department to prepare annual reports for the years 1923 and 1924. The situation was remedied in the last year of his administration when his staff began compiling reports for the two previous years.

The report for 1923 was printed in June 1925. Although Dr. Monaghan claimed the 1924 report was sent to the Board of City Records in July, in a letter of transmittal accompanying the report, Dr. Louis I. Harris, Monaghan's successor, stated that it was not submitted until January 12, 1926. After noting that the report dealt with matters existing prior to his administration, Dr. Harris added: "The statements in relation to food and milk inspection in particular reflect a point of view with which I am not in accord in the light of recent disclosures."⁴³ The report's account of the activities of the Division of Milk Inspection for 1924 leaves the impression of an efficient, energetic group of inspectors zealously checking on the city's milk supply. Since virtually the entire staff hurriedly resigned or else were fired when the new administration uncovered bribery and graft on a massive scale, Dr. Harris' comment was a masterpiece of understatement.

The Bureau of Public Health Education for 1924 also issued a glowing testimonial to its own efforts, claiming to have published half a dozen regular communications and thousands of pamphlets, leaflets, posters, and monographs. This summary, too, seems to bear little relation to the actual facts. The Bureau of Child Health in its reports was not so sanguine. Although citing encouraging statistics showing a steady improvement in child health, it noted that the enrollment of school children was increasing yearly while the number of school medical inspectors remained the same. In consequence, progress in school health had lost its momentum and the work was lagging.⁴⁴ When Dr. Josephine Baker resigned in May 1923, early in Monaghan's administration, the Bureau of Child Hygiene suffered, in the words of the New York Academy of Medicine, "an almost irreparable loss." Officially her resignation was attributed to ill health, but one wonders whether the gradual deterioration in the Health Department did not have something to do with her decision.⁴⁵

While the Bureau of Child Health was appealing for more funds, in preparing his budget for 1924 Dr. Monaghan asked for \$4,358 less than he had been given during 1923, an action which must have won him a gold star from the mayor and many taxpayers, but one which showed little understanding of the city's health needs.⁴⁶ As an interesting commentary on the Health

Department's lack of initiative in this and other health matters, on September 23, 1923, the Department of Public Welfare opened the city's first municipal Cancer Institute.

In addition to its regular budget, the department for several years had successfully appealed for supplementary appropriations on an emergency basis. One advantage to emergency appropriations was that they could be used to hire non-civil service personnel, which may explain why the city administration was so willing to vote the additional funds. Taking note of this, the Public Health Committee of the New York Academy of Medicine suggested in 1924 that the department discontinue emergency requests by enlarging its regular staff so as to take care of any crises.⁴⁷

The annual requests for emergency appropriations became a major point of criticism of the Health Department beginning in June 1924. *The Searchlight*, a publication of the Citizens' Union, listed all the emergency requests from 1920 to 1924 and suggested that at no time had a real emergency existed. Dr. Monaghan virtuously accused the Citizens' Union of playing politics with the city's health. The editor of the *Times* was inclined to agree with the Citizens' Union thesis that the so-called health emergencies were designed to provide well-paid jobs for young doctors of the right political affiliation. In the course of the long public debate, the Citizens' Union accused the Hylan Civil Service Commission of withdrawing over 1,000 jobs from civil service and employing 590 political favorites. In July the Civil Service Reform Association joined the attack, accusing the Health Department of employing over 200 individuals in violation of the civil service law. The association announced in November that it was bringing suit against the department for illegally employing 169 "special experts." It pointed out that many of them had been on the payroll since 1920, their temporary status having been renewed every six months. The question received national publicity in December when the secretary of the National Civil Service Reform League reiterated the charge and called the Health Department's actions "a clear-cut demonstration of the spoils system in all its glory." In February 1925 the Civil Service Reform Association won its case when the courts ruled against

the Health Department and threatened to issue an injunction if the department continued to hire illegally.⁴⁸

It is clear that the threat of an injunction had little effect. The Civil Service Reform Association declared in March 1925 that over 200 illegal appointments had been made since January 1. This same month Walter T. Arndt, secretary of the Citizens' Union, blasted away at the department with a whole series of charges, the truth of which was soon to be demonstrated. He accused Copeland and Monaghan of destroying the Bureau of Industrial Hygiene and of virtually discontinuing all public health educational work. The department was described as a haven for relatives of administration officials. As an example, he cited the case of the mayor's sister-in-law who was employed by the Health Department "with no discernable regular duties." While charges and countercharges were being hurled back and forth, Monaghan announced he was organizing a "public health reserve corps." This was to be a nonpolitical group open to all reputable city residents. Its members would be given badges, and they were to call people's attention to any violations of the sanitary laws. A month or so later he explained that the reserve corps would include "representative groups from all the industries."⁴⁹ The net effect of this agency, it turned out later, was to place control of the sanitary regulations in the hands of the industries under regulation.

In April the Republicans accused the milk inspection division chief of selling relatively worthless stock to several milk companies during Copeland's administration. Subsequent events indicate that the charge was probably true, but at the time Monaghan and Hylan were able to dismiss it as a purely political attack. During the following summer the Health Department secured another emergency appropriation to undertake a massive vaccination program. Once again the Civil Service Reform Association charged that Monaghan was using the money for political patronage, citing the fact that he had disregarded a civil service list in appointing a group of special inspectors. In September the Non-Partisan Citizens' Committee joined the fray, with a bitter attack on the Health Department for using its rat-catching program to provide political jobs. The committee claimed that over a two-year period the

Health Department had spent \$340,000 to catch 4,756 rats. It may have been a small consolation to know that the rat-catching jobs had been fairly and evenly distributed among the various Tammany clubs.⁵⁰

The accumulating evidence of corruption during Mayor Hylan's administration, compounded by the way in which he had brought disrepute to the Health Department, for long the city's pride and joy, led Tammany to replace him in the election of 1925 with James J. Walker, a popular young Democrat. Following his election in November, Walker promptly announced that he would remove Monaghan and take the Department of Health out of politics. In the succeeding weeks Mayor Walker conferred with the state commissioner of health, the New York Academy of Medicine, and other medical groups. After gaining maximum publicity and credit for consulting with the medical profession, on January 1 Walker appointed Dr. Louis I. Harris, the former head of the Bureau of Preventable Diseases, to the position of health commissioner.⁵¹ Harris was an excellent choice. He had served for many years in the Health Department, was active in the American Public Health Association, and was respected by the medical profession and by his fellow workers in the department. His thorough understanding of the Health Department was particularly valuable at this time, since a major overhaul and house cleaning was essential before the department could regain its national reputation.

Notes to Chapter 12

1. *Ann. Rep., Bd. of Health, 1918*, pp. 53, 104.
2. *Times*, January 16, February 10, 1918; *Sun*, January 16, 1918.
3. In her autobiography Dr. Baker states she thought Mayor Hylan confused her with Katherine Bement Davis, a former commissioner of correction who had worked for the Rockefeller Foundation. S. Josephine Baker, *Fighting for Life* (New York, 1939), pp. 97-102.
4. *Sun and Times*, April 10-17, 1918; *N.Y. Med. Jnl.*, CVII (1918), 799-800.
5. *Sun and Times*, April 18-23, 27-28, 1918.
6. *Sun*, April 29-30, 1918; *N.Y. Med. Jnl.*, CVII (1918), 847-48.
7. *Herald*, June 2, 1918; *Sun*, May 28-30, July 6, 23, August 11, 1918; *Times*, May 1-5, 29-30, July 6, 23, August 11, 1918.
8. *Herald*, June 2, 1918; *Sun*, May 12, May 16, June 2, 1918; *Times*, May 7, 12, 16, 18, 27, June 2, 1918.
9. *Times*, May 8-9, June 8, August 17, 1918.

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10. *Ibid.*, May 6, 9, June 8, 1918; *Sun*, June 8, 1918.
11. *Times*, September 18-19, 1918; *Sun*, September 18, 1918.
12. *Times*, August 14-20, September 5, 12-13, 15-22, 1918; *Sun*, August 15, September 12, September 16-22; *Ann. Rep., Bd. of Health, 1918*, pp. 210-11.
13. *Ann. Rep., Bd. of Health, 1918*, pp. 156-57; Baker, *Fighting for Life*, pp. 154-56; *Sun* and *Times*, October 4-5, 9-13, 15, 18-23, 27, 30, 1918.
14. *Sun*, November 7, December 14, 18, 1918; *Times*, November 14, 17, December 2, 1918; *Ann. Rep., Bd. of Health, 1918*, pp. 213-14.
15. Louis I. Harris, "The Ultimate Benefits to Be Derived from the Epidemic," *Public Health Reprints*, IV, no. 73 (1919), p. 2.
16. *Sun* and *Times*, January 11-13, 15-16, 20-22, 25, 1919.
17. *Ibid.*, March 31, April 1, 1919.
18. *Sun*, April 1, 13, July 22, 26, 1919; *Times*, February 17, March 1, April 10-11, July 22, 26, December 6, 1919; *Ann. Rep., Bd. of Health, 1920*, p. 257; see also, *Herald*, October 10, 1920.
19. *Sun*, January 2, 17-20, December 4, 1919; March 12, 17, 21, 23, 30, April 9, 1920; *Times*, January 5, December 4, 9, 18, 1919; March 12, 15, 20-22, 25, 27, 30, April 2, 9, 1920; *Ann. Rep., Bd. of Health, 1920*, pp. 23-24.
20. *Sun*, June 6, October 31-November 15, 1921; *Times*, June 5, November 3-12, December 13, 1921.
21. *Sun*, April 21, 1921; *Times*, April 12-15, 19-20, October 16, 18, 24, 1921.
22. *Sun*, October 15, 19, 21, November 13, 15, 1920; August 30-31, 1922; January 8, February 1-2, 4, 1923; *Times*, October 17, 19-20, 27, November 13, 16, 1920; August 29, 31, November 30, 1922; January 7, February 2, 4, 1923; *Ann. Rep., Bd. of Health, 1920*, pp. 20, 47-48.
23. *Sun*, March 10, 21, 1920; *Times*, March 10-11, 1920; *Ann. Rep., Bd. of Health, 1920*, pp. 19, 49-50.
24. *Sun*, July 16, September 15, 23-24, 27, 1920; *Times*, July 16, September 15, 23, 1920; February 6, 8, 16, 1921.
25. *Times*, April 30, 1920; *Ann. Rep., Bd. of Health, 1920*, pp. 19-20, 44-45.
26. *Sun*, February 10-12, 15-16, 18, March 1-2, 7, 12, 1921; *Times*, February 11, 1921; *Ann. Rep., Bd. of Health, 1921*, pp. 26-28.
27. *Times*, February 18-26, 28, March 1-13, 24, May 24, 1921; *Ann. Rep., Bd. of Health, 1921*, p. 27; Royal S. Copeland, "Import Diseases as They Affect the Work of the New York City Department of Health," *American Journal of Public Health*, XII (1922), 202-04.
28. *Sun*, January 23, 1922; *Times*, January 22, December 3, 18, 1922.
29. *Sun*, January 24-25, 29, 1919; February 1-2, 10, 1920; *Times*, January 24, 29, 1919; January 2, February 1-2, 14, 1920; July 2, 1922; *Ann. Rep., Bd. of Health, 1920*, pp. 35, 45-46; 1921, pp. 42-44.
30. *Ann. Rep., Bd. of Health, 1920*, pp. 97-98.
31. *Ibid.*, pp. 186-87.
32. *Sun*, November 15, 1920; *Times*, September 10, 26, October 10, November 14, 1920; February 17, November 23, 1922.
33. *Sun*, December 4, 1919; February 3, 8, 1921; May 12, 1922; *Times*, February 3, 1921; February 26, May 12, September 2, 1922.

34. *Ann. Rep., Bd. of Health, 1922*, p. 21; Hanson Blatz, "History of the Office of Radiation Control," N. Y. C. Health Department ms., pp. 1-3.
35. *Ordinances, Resolutions, Etc., Passed by the City Council, 1918*, XXI, p. 167; *Ann. Rep., Bd. of Health, 1919*, pp. 16-17; 1922, pp. 21-22; *Herald*, October 6, 1920; *Sun*, April 2, 1920; *Times*, April 12, October 6, 1920.
36. *Sun*, November 15, December 8, 1921; September 30, October 2, November 7-8, 10, 1922; March 7, 1923; *Times*, October 31, November 15, December 8, 1921; September 30, October 1-2, 23, 25, November 8-9, 1922; February 1-2, March 8, 1923.
37. *Times*, November 14, 1923; November 27, 1924; October 30, 1925.
38. *Herald*, April 15, 1923; *Sun*, October 28-31, 1924; October 17, 21, November 23, 1925; *Times*, April 15, 22, 1923; October 26, 31, 1924; October 17-18, 21, November 22, 1925.
39. *Sun*, December 5, 1923; *Times*, October 16, December 6, 1923; March 5, 1924.
40. *Ann. Rep., Bd. of Health, 1926*, pp. 135-36; 1930-31, pp. 218-20.
41. *Times*, November 21, 1923; March 30, 1924.
42. *Ibid.*, August 10, September 6, 11-12, 14, 20, 1923; October 3, 1924; see also the *Sun*, which carried daily reports on Hylan's condition.
43. *Ann. Rep., Bd. of Health, 1925*, p. 54; 1926, p. 7.
44. *Ibid.*, 1924, pp. 126-27, 140-42; 1925, pp. 20-21.
45. *Times*, May 4, 30, 1923.
46. *Herald*, September 16, 22, 1923; *Times*, September 16, 23, 1923.
47. N.Y.A.M., "Report of the Public Health Committee, 1924," pp. 23-24.
48. *Sun*, June 2, July 19, 1924; February 20, March 24-25, April 21-22, 1925; *Times*, June 2-3, 6, 22, July 19, November 10, December 30-31, 1924; February 21, 1925.
49. *Sun*, March 24-25, 1925; *Times*, March 23-25, April 30, 1925.
50. *Times*, April 20, 23, August 24, September 29-30, 1925.
51. *Sun*, November 4, December 2, 22, 28, 1925; January 1, 1926; *Times*, November 5, 11, 15, December 1, 15, 21, 25-26, 29, 1925; January 1, 1926; N.Y.A.M., "Report of the Public Health Committee, 1925," p. 10.

13

Reorganization and Progress

It cannot be denied that public health is ultimately dependent upon partisan politics in New York. . . . The Health Commissioner, in my incumbency and now, is hedged about with barnacles and parasites who are a disgrace and hindrance to the work of the department. [Dr. Louis I. Harris, quoted in *Times*, March 19, 1929.]

In terms of public relations, few health commissioners entered office under such favorable auspices as Dr. Louis I. Harris, but it is doubtful if any other commissioner faced greater problems. On taking office on January 1, 1926, Dr. Harris announced his intention of eliminating politics from the Health Department and of establishing effective working relationships with medical societies, newspapers, voluntary health and welfare groups, and the Department of Education. At the end of the first year he had achieved all these goals. For example, the Public Health Committee of the New York Academy of Medicine (NYAM), in strongly endorsing Dr. Harris' administrative changes, stated that never before in its history had it been able to work so closely with the Health Department.¹

Dr. Harris began his work by tackling the greatest and most pressing problem, the widespread departmental malfeasance. On January 4 he abolished the Special Service Division, an agency created by Copeland for dispensing Health Department permits, but which Dr. Harris described as an instrument for wholesale graft and corruption. At the same time he dismissed his predecessor's secretary, Thomas J. Clougher, the individual who controlled the appointment of inspectors and who was later found to be a key figure in the department scandals. A third decisive action on this day was to return the Milk Division to its former status as part of the Bureau of Food and Drugs.² During the two previous regimes, several administrative units which could be used for patronage purposes had been brought directly under control of the commissioner's office. Among these were the Milk Division,

chemical laboratory, Division of Industrial Hygiene, Veterinarian Division, and the Otisville Sanitarium.

Between January 4 and 19, all of these agencies were restored to their original positions in the administrative structure. To prevent favoritism or corruption in connection with the granting of permits, on January 6 a Permit Board was created, consisting of the directors of three bureaus. The members of this board had to agree unanimously before granting any requests for milk, dairy, or poultry slaughtering permits. In the course of examining the correspondence and papers in his office, Dr. Harris discovered that many of the records pertaining to the issuance of permits to slaughterhouses and other processors had disappeared. It also became clear that the Milk Division inspectors had been exercising only nominal supervision over the city's milk supply. On January 17 Dr. Harris placed an embargo on the dairy products from 11 midwestern shippers after having learned that they were paying off the inspectors. At the same time he dismissed the chief of the Milk Division. Early in February, after examining the records of the public health reserve corps, Dr. Harris disbanded it. He could find no records to show how its budget of \$6,000 had been spent, and he found that the membership consisted largely of the same milk dealers and food vendors who were involved in the bribery and graft.³

As Dr. Harris and his staff began digging into departmental affairs, more and more evidence of chicanery was uncovered. Late in April Dr. Harris announced that milk dealers, slaughterers, and restaurant owners had been victimized to the extent of \$3,000,000 per year by an organized ring operating within the Health Department. He estimated that poultry slaughterhouse permits were sold for as much as \$10,000. Further examination of his predecessor's files revealed that the appointment of milk and food inspectors had been in the hands of Monaghan's secretary, Thomas J. Clougher. In June the director of the Bureau of Food and Drugs resigned. The newspapers reported that he was disheartened over the disclosures of corruption in his bureau, but he could scarcely have been oblivious to what was going on. One of the means by which Copeland and Monaghan had made the department subject to local political pressure had been to decentralize the Health Department through the creation of borough offices. Dr. Harris' first

step toward eliminating this source of danger was taken in June, when the acting director of the Bureau of Food and Drugs abolished the offices of borough chiefs within his bureau. The mounting evidence of illegal activities soon led to criminal charges. One of the first to be convicted was Clougher, the former secretary, who was given five to ten years for bribery. On July 1 indictments were brought against seven inspectors, and Dr. Harris informed the newspapers that he thought some high-ranking Health Department officers were involved in the scandal.⁴

The growing evidence of large-scale graft led the Citizens' Union and other groups to demand a thorough investigation of the entire Health Department. Early in August Mayor Walker appointed a former judge, Charles M. Kelby, as special counsel to help Dr. Harris with his investigation. Meanwhile Dr. Harris had turned his attention to the city's 15,000 lunchrooms and restaurants, where he quickly discovered that about 5,000 of their owners had been paying from \$2 to \$5 per week to minor health officials. By the time Kelby began his work, Dr. Harris had already remedied the worst abuses. Many department employees, anticipating the results of the investigation, hurriedly filed for retirement pensions before evidence could be found to disqualify them. Nonetheless, during the course of the year 33 employees were suspended for taking bribes, 25 were allowed to resign, and 6 resigned precipitately. Another 15, including some of high rank, were dismissed after trials.⁵

Late in 1926 Dr. Harris appeared before the Board of Estimate and requested an additional 102 milk and food inspectors. Impressed by his arguments but not completely convinced, the board voted to provide funds for 75 new employees. On February 1, 1927, Dr. Harris announced that the 55,000 dairies and 800 creameries supplying milk and dairy products to the city henceforth would be inspected twice a year instead of once every three years.⁶ While Dr. Harris was pushing ahead with his reforms, special counsel Kelby was slowly accumulating additional evidence of gross misconduct. In August 1927 Kelby submitted his completed report. It demonstrated beyond doubt that the taking of graft was a general practice among inspectors in the food inspection division. In support of this charge, Kelby cited 148 instances of criminal activity. A subsequent grand jury investiga-

tion in the Bronx indicted five individuals, and a number of others escaped prosecution only by turning state's witnesses. The grand jury report criticized the regulations which permitted inspectors on their own authority to close food-processing plants, declaring that it placed too much power in their hands. Dr. Harris, however, had already anticipated this criticism and altered the system. In his report, Kelby further noted that between 1921 and 1925 the Health Department had secured about \$1,000,000 in special appropriations to deal with epidemics of "a virulent nature." In his comments about these emergency funds, it is clear that Kelby shared the widespread suspicion that the money was used as a slush fund.⁷

As might be expected, the year 1926 was one of upheaval and employee turnover for the Bureau of Food and Drugs. So many staff members resigned or were fired in the chemical laboratory that for several months work was at a standstill. By July 1, however, the vacancies had been filled with competent help and the laboratory was ready to function again. Because of the large backlog of work, it was decided to destroy all samples brought in by inspectors no longer employed by the department and to place a limit on the number of new ones accepted. In support of Dr. Harris' drive to provide a sound milk supply, for two months the entire staff concentrated upon milk and milk products. Gradually, as an effective working system was established, the laboratory began analyzing a wide range of food and drug samples, and by the end of the year it was in full operation.⁸

Like all good commissioners, Dr. Harris was keenly aware of the need for an adequate budget. His predecessor, Dr. Monaghan, had been content to rock along, with the result that in the early 1920s there had been a relative decline in the amount of city funds allocated to the Health Department. This fact was pointed out by the Committee of Public Health Relations of the NYAM which analyzed the city's expenditures and demonstrated statistically that the amount spent for public health had not been commensurate with the city's growth. As soon as he took office, Dr. Harris began pressuring for more funds. In September 1926 he requested an increase of \$1,285,394 in the department's budget for the coming year, much of the money to be used to employ an additional 200 nurses and inspectors. Horrified by such a proposal

but still impressed by Dr. Harris' arguments, the city fathers increased the Health Department budget by \$327,500, making a total of \$6,119,244 allocated for the year 1927. Fortunately the city budget director, Charles L. Kohler, had served as secretary to the Board of Health for a number of years and could understand the needs of the Health Department. In consequence, another increase of \$232,000 was granted the following year.⁹

Despite an overwhelming burden of work from cleansing the Augean stables and fighting for more funds, Dr. Harris found time to deal with some perennial problems and to initiate action in new areas. In order to relieve pressure on the subways during the rush hours, studies were made in cooperation with the Metropolitan Life Insurance Company of the travel habits of more than 800,000 individuals working in Manhattan below 72nd Street. From these studies came a recommendation for staggered work shifts. A major drive was launched against violators of the smoke ordinances, and an intensive study of housing was made in two tenement districts. Whereas Dr. Monaghan had found poor housing limited to only one-tenth of 1 percent of the population, the survey in 1926 found a "striking" amount of overcrowding and inadequate facilities. An attempt was made to deal with the excessive infant mortality and high tuberculosis rate among Negroes in the San Juan Hill district by establishing new clinics with special medical and nursing services.¹⁰

When the Metropolitan Board of Health was established in 1866, the vast majority of dairies and food processors were small independent businessmen, and the schedule of fines for violations of the sanitary regulations was based on this assumption. In the intervening years the rise of large-scale business enterprises had negated the punitive value of these fines to a point where they had become purely nominal. Consequently, many concerns found it cheaper to pay regular fines than to remedy the abuses. To deal with these chronic violators, Dr. Harris established a trial board consisting of three executives. The board was empowered to close any establishment where repeated offenses were found.¹¹

One of Dr. Harris' most significant actions was to secure the cooperation of the New York Academy of Medicine, the New York Tuberculosis and Health Association, and the American Public Health Association in a joint study of the needs of the

department. After considering the recommendations and conferring with ex-commissioners Goldwater and Emerson, Dr. Harris at the end of 1926 submitted a tentative plan for reorganizing the Health Department.¹²

As part of his reorganization program, Dr. Harris recommended that the Bureau of Health Education be headed by a specialist, and he followed up early in 1928 by appointing the former director, Dr. Charles F. Bolduan, to the post. Harris next turned to the Bureau of Child Hygiene. This bureau had achieved national recognition during Dr. Josephine Baker's tenure, but during the administrations of Copeland and Monaghan it had simply marked time. Meanwhile, the city's infant and school-age population was rapidly expanding. Over the years it had become clear that public health nurses were playing a major role in carrying the health and educational work of the department into homes, schools, and factories. In recognition of this, in January 1928 a Bureau of Nursing was established, and Miss Amelia H. Grant was named director. This bureau included all nursing forces which had formerly been assigned to the Bureau of Preventable Diseases and the Bureau of Child Hygiene. In this same reorganization, the latter two bureaus were combined into the Field Medical Bureau under the direction of Dr. Herman T. Peck, who was made general medical director. Apparently the change did not work out too well, for in December the two bureaus were again separated and placed under the control of a deputy commissioner.¹³

In reorganizing the Health Department, as well as in making other reforms, Dr. Harris continued to receive full support from the New York Academy of Medicine's Public Health Relations Committee. In 1927 the committee sent a resolution to the mayor endorsing the principle of Dr. Harris' reorganization plan. In its report for the year 1927 the committee declared that some aspects of the Health Department's work were "especially commendable and worthy of support." Among these were certain changes in the Sanitary Code and the achievements of the department with respect to the city's milk supply. The marked improvement in the quality of milk, the report stated, was "a matter of public knowledge." As to the suggestion that milk be declared a public utility,

the committee members, firmly wedded to the doctrine of free enterprise, felt that the matter required "a great deal of further thought and consideration. . . ."14

The city hospitals, unlike many other areas of health care, had not fared too badly during the Copeland-Monaghan years, and during 1926 Dr. Harris was able to bring the department's hospitals up to a reasonably high standard. The following year the American College of Surgeons classified all Health Department hospitals as Grade A. For many years Dr. Goldwater and other health leaders had opposed the system under which the Welfare Department and Health Department each maintained hospitals and had advocated that all city-operated hospitals be placed under a separate hospital department. An anti-Semitic incident provided a strong push toward this goal. In 1927 three Jewish interns at King's County Hospital were subjected to a physical assault by six of their fellow interns, all reputed to be members of the Ku Klux Klan. Mayor Walker expressed concern and the incident was cleared up by an apology. In the course of the investigation, a wide disparity was observed in the quality of medical care provided in the various city hospitals, and it is possible that Walker used this incident to press for an overhaul of the hospital system. In May 1928 the mayor's Committee on Planning recommended placing all city-operated hospitals under one department, and shortly after Dr. Harris had retired from the scene, the recommendation was put into effect.¹⁵

Traditionally in American society a good part of what is today considered the responsibility of public health departments was performed by voluntary charitable agencies. It will be recalled that the child health centers in New York had their origins in the milk depots founded by Nathan Straus. Private agencies had arisen in connection with a number of health problems, most notably with tuberculosis. As New York grew, the number of voluntary health and welfare groups also proliferated and inevitably a great deal of overlapping and duplication ensued. To correlate the work of the various health and welfare associations, the Welfare Council of New York was organized. At its first annual meeting in 1927, the council included in its membership 332 of the approximately 1,200 welfare organizations. Dr. Harris, who had

long urged coordinating the city's health efforts, described this meeting as the most significant step that had been taken in many years.

During the 1920s various private agencies had sponsored health demonstrations to show the value of localizing health services. In a public address in 1928 Dr. Harris declared that privately conducted health demonstrations were "sapping the strength of the official health body." Inasmuch as the municipality had not been willing to spend money for health centers and the Milbank Memorial Fund and other private groups had successfully demonstrated their value, Dr. Harris was being unduly harsh. Yet he was correct in seeking to coordinate all health activities under one administration. In May 1928 Dr. Harris appointed Sir Arthur Newsholme, an internationally known British health administrator, to serve as a consultant. His main function was to coordinate the work of private and public health agencies and to advise on the reorganization of the Health Department.¹⁶

By the summer of 1928 Dr. Harris had completed 20 years with the Health Department, and his last two years as commissioner were undoubtedly strenuous ones. During his term as commissioner the department had been restored, refurbished, and returned to a reasonable degree of efficiency and honesty. For the first time the regulations with respect to the city's milk supply were rigidly enforced and the worst abuses in food inspection had been eliminated. A number of administrative changes had brought the department's organization into line with the city's changing needs, and it must have been with mixed emotions that Dr. Harris announced his decision to retire on August 1, 1928—a feeling of relief at laying down the heavy burden of office mingled with pride in his many accomplishments. On leaving the Health Department he became a consultant for the National Dairy Products Corporation, a fitting tribute to the remarkable job he had done in ensuring a sound milk supply for New York City.¹⁷

With the Health Department beginning to regain some of its former luster, it behooved Mayor Walker to choose an able successor to Dr. Harris. He wisely selected Dr. Shirley W. Wynne, a health professional who had served as Dr. Harris' deputy commissioner. The appointment of Wynne was generally greeted with approval, for it guaranteed that the policies established by Dr.

Harris would be continued. Probably the most significant event in the first few months of Dr. Wynne's regime was the creation of the Department of Hospitals. Proposals to amend the city charter for this purpose had been introduced in the waning months of Dr. Harris' regime, and the State Board of Charities had already appointed a committee to look into the possibilities. The mayor and responsible civic and health leaders favored the change. In their testimony before the committee they sought to allay the fears that the city hospitals by admitting paying patients would compete with private institutions and that nonresidents would be given access to municipal hospitals. Former Health Commissioner Goldwater pointed out that the acceptance of private patients would improve the tone and quality of care offered to nonpaying patients and would in no way represent a threat to private hospitals. The chief opposition to the proposal came from the Department of Public Welfare which recognized that losing control of its hospitals would mean the loss of considerable political patronage. In any event the proponents carried the day, and on October 10 Mayor Walker signed the bill providing for a separate Department of Hospitals with jurisdiction over 26 of the city's hospitals.¹⁸

Early in November, almost at the same time that the Hospital Department Bill was signed, the city was divided into 270 health areas, each with a population of about 25,000. The plan was devised by a committee of the Welfare Council, one of whose members was Dr. Wynne, and was given financial backing by the council and the Milbank Fund. A major aim of the plan was to make it possible to compare the relative health of the residents in each district and to facilitate in locating focal points of disease.¹⁹

In summarizing the activities of the Health Department at the end of 1928, Dr. Wynne described both the strengths and weaknesses of the department's work. Although increases in the budget during the past years had brought a great improvement in controlling diphtheria, typhoid, and tuberculosis, the department's tuberculosis clinics were still inadequate. None of them were equipped with X-rays or fluoroscopes and virtually all were located in old stores totally "unsuited for clinical purposes. . . ." He recommended that the public and private hospitals provide care for tuberculosis patients in their outpatient clinics, thus enabling the Health Department to concentrate on diagnosis and

preventive work. As they had in the past, voluntary agencies were supplying a good deal of health care, and the report for 1928 shows that 34 of the department's public health nurses were provided by outside agencies. Sheppard-Towner funds supported six prenatal nurses, the Bellevue-Yorkville demonstration provided ten field nurses, and another three were paid from funds provided by an Elks lodge. Additional nursing help was also given by the Milbank Memorial Fund, the East Harlem Nursing and Health Service, and the Bowling Green Neighborhood Association.²⁰

The biggest turnover in personnel had occurred in the Bureau of Food and Drugs where the work force had been expanded and many of the temporary employees replaced by individuals from the civil service lists. Reflecting the application of chemistry and technology to the food-processing industry, the report noted that the emphasis had shifted from spoiled food to the problem of fraudulent misrepresentation owing to the substitution of synthetics with little or no food value.²¹ Another instance of modernization occurred in a different area of the department's work. Shortly before Dr. Harris left office, the Bureau of Child Hygiene had started employing pediatricians with university connections to serve in the baby health stations in Manhattan. The effect was to turn these stations into teaching centers. In this capacity the health stations were able to provide better service and to give the medical students involved an awareness of preventive medicine.²²

Among the more serious weaknesses mentioned in the 1928 annual report was the lack of attention given to preschool children. The only preschool clinic operated by the department was supported by the Milbank Fund. The Bureau of Child Hygiene reported that it had over 1,200,000 school children to supervise with only 107 medical inspectors. The Department of Education was maintaining 158 open-air classes for so-called weakly children, but the selection of children for these classes was made by Education Department personnel. After noting that children in these classes had a high percentage of physical disabilities, the report acidly commented: "It is more than probable that if these defects were corrected, the children would improve even without any so-called 'open air class' attention." The Bureau of Child Hygiene added that its cooperation in a successful May Day Health Celebration had brought a great deal of publicity, but it questioned

whether the money was well spent, since so little was done to correct the physical defects uncovered among school children during the May Day examinations.²³

The Bureau of Preventable Diseases complained, too, of its inability to deal with the preschool group. While rejoicing at the progress made in fighting diphtheria, it pointed out that there was no way to immunize preschool children except by appealing to private physicians. Its Occupational Division again reported that the physical examinations given to food handlers by private physicians were largely nominal and cited the wide disparity between the diseases discovered by the department's physicians compared to those diagnosed by private practitioners.²⁴

In this same bureau, the Division of Industrial and Adult Hygiene appears to have existed in name only. Only 177 industrial plants were surveyed during 1928, and the total of 722 violations discovered in 163 of these plants indicates a general and widespread failure to observe factory health regulations. A few cases of suspected occupational diseases were examined and one or two minor surveys made of particular crafts. Considering the hundreds of thousands of men, women, and children employed in New York City, many of whom were working under sweat shop conditions, the operations of this division could scarcely have scratched the surface. Yet in terms of the *laissez-faire* attitude of the 1920s, the Health Department deserves credit for at least recognizing the problem.²⁵

The Bureau of Nursing, established in January 1928, was performing yeoman service. The major share of its nurses, some 248, were assigned to the school health program, another 126 were employed in visiting tuberculosis and other contagious disease cases, 68 worked in the baby health stations, and the remaining 106 were assigned to various clinics and other health programs.²⁶

The Bureau of Food and Drugs was primarily concerned with food and milk. The milk situation had noticeably improved in the late 1920s in part as a result of the introduction of the tank car which minimized the handling of milk and greatly reduced the danger of contamination. The 90 inspectors responsible for food and drugs, however, faced an almost insuperable task. New York City at this time had over 18,000 restaurants and another 110,000 establishments engaged in handling, processing, and distributing

food.²⁷ Since the nature of health inspectors' work provided ample opportunities for graft, the only defenses were to create a strong esprit de corps within the department and to present the public with the image of an honest and efficient governmental agency. Fortunately, Dr. Harris had made an excellent start in this direction, and his successor, Dr. Wynne, carried on the good work.

The Welfare Council of New York City, the central agency organized in 1927 to coordinate the work of the many voluntary associations, as one of its first measures, decided to undertake a survey of the quantity and distribution of health services in the five boroughs. The resulting study by Dr. Michael M. Davis, who subsequently became director of medical services for the Julius Rosenwald Foundation, and Mary C. Jarrett, chief of Social Service at Boston Psychopathic Hospital, was published in 1929 under the title, *A Health Inventory of New York City*. In the foreword, Dr. C.-E. A. Winslow suggested that the future development of public health depended upon the ability of the Health Department to provide constructive leadership for the voluntary agencies. He also suggested that the department's work should be further decentralized through the creation of district health offices, and then urged the need for more and better statistical data.²⁸

The two authors took as their base point an evaluation of the New York City Health Department commissioned by the American Public Health Association (APHA) in 1925. Dr. W. F. Walker, who compiled the data for the 1925 survey, rated the activities of the department on a hypothetical perfect score. On this basis the department was given an overall score of 63 percent, with individual activities ranking from 30 percent in the case of preschool hygiene to 90 percent for vital statistics. By adding the services performed by voluntary organizations for a one-year period covering 1926-27, Davis and Jarrett increased the Health Department's score to 71 percent.

The overall report was sharply critical of many aspects of the city's health program. It estimated that Manhattan, with only 30 percent of the population, received 62 percent of clinical services and 50 percent of the home visiting. It condemned the Health Department for not pushing ahead with plans for district health

centers. A major criticism in the report was the paucity of municipal funds allocated to health. In 1926 the health budget amounted to 87 cents per capita while in 1928 it rose to 91 cents. In other cities with half a million or more population, the per capita spending for health ranged from 59 cents to \$1.74. The comparable figures for Chicago and Boston, for example, were \$1.29 and \$1.53 respectively. Although New York had pioneered in child health, the authors found that the work of the department in this area had remained comparatively stationary since 1920. To fill the void, a number of voluntary agencies had moved in, but no effort had been made to coordinate and direct these child health programs. The Health Department was given credit for supplying leadership to voluntary groups in connection with their tuberculosis work, but the city was well below standard with respect to hospital beds for tubercular patients. While health authorities estimated that one bed should be available for each tuberculosis death (Chicago had two beds for each death), New York City in 1927 had 5,157 deaths and only 3,800 beds.²⁹

The venereal disease program, which was rated at 76 percent, had been improved in 1928 through the establishment of a coordinating body. Nonetheless, the authors were critical of the relatively few cases reported to the Health Department. A survey by the American Social Hygiene Society in Detroit during 1927 had shown a syphilis rate of 6.98 per 1,000 population and a gonorrhoeal rate of 6.50. In 1926 the reported cases in New York City were only 2.99 for syphilis and 0.79 for gonorrhoea. Another aspect of the department's work which came under criticism was the program in dental hygiene. The authors noted that the work was concentrated largely in Manhattan, where it was still inadequate, and that little effort was made to correlate the services of voluntary agencies.³⁰

The Health Department was considered notably lax for its failure to move into the newer areas of public health. The two authors pointed out that M. P. Ravenal in his book published in 1921, *A Half Century of Public Health*, had not even mentioned mental health, although an organized movement for mental health had started in 1910. The Health Department had made a few gestures in this direction, but it offered no effective program. The problem of cardiac diseases was left largely to private groups,

and the only service offered by the Health Department was in terms of health education.³¹ Although the APHA had made a series of recommendations to public health authorities with respect to cancer, the department had remained oblivious to this major cause of morbidity and mortality.

Rather ironically, in the field of health education, one in which the Health Department had provided early leadership, the APHA evaluation gave the department a rating of only 30 percent. The Bureau of Health Education had been established in 1914, had made strong progress until 1918, and then had steadily deteriorated until it was reorganized in 1928. In 1922 most of the voluntary organizations in the city had joined to form a Health Education Council to coordinate their activities, and this body took over some of the health education functions which had been allowed to lapse. In 1925 the Health Department reassumed responsibility for this work, but its funds were inadequate. An appraisal of the Health Education Bureau in 1926 recommended a budget of \$69,204 yet the bureau was given only \$17,227. Fortunately, the voluntary associations continued to perform well in this area, and by combining their services with those of the Health Department, Davis and Jarrett were able to give the city's health education program a rating of 80 percent.³² Nonetheless, as of 1928 the Bureau of Health Education still had no effective means for integrating the various city health education programs, it was not producing health education literature for the non-English-speaking population, and it had no means for evaluating the effectiveness of its own materials and methods.

To some degree the lax administrations of Copeland and Monaghan were responsible for the inadequacies of the Health Department, but granting that the department might have allocated its limited resources a little better, the basic problem was still a financial one. With the removal of hospitals from the jurisdiction of the Health Department in 1929, the budget dropped to \$5,121,028. In appealing for more money, Dr. Wynne declared that this amount represented 75 cents per capita, only one-half of the required minimum for a sound public health program. In a public address in February 1930 he compared the \$5,000,000 spent for preventive medicine with the \$75,000,000 for medical care in hospitals. The AICP raised the same issue during these

years when it contrasted the \$5,000,000 Health Department budget with the \$18,000,000 allocated to municipal hospitals.³³

Money was not the sole source of Dr. Wynne's problems. Former Commissioner Harris declared in March 1929 that partisan politics played a significant role in the Health Department. "The Health Commissioner, in my incumbency and now," he said, "is hedged about with barnacles and parasites who are a disgrace and hindrance to the work of the department." Dr. Wynne expressed the same idea somewhat more diplomatically when he wrote in the 1929 annual report, ". . . we are the unfortunate heirs of personnel traditions which hamper us from getting the fullest return from our work."³⁴

The year 1929 witnessed several important innovations. In June Dr. Wynne announced the introduction of the "squad system" into school medical inspection. Following a pattern pioneered in Detroit, school physicians worked in groups of three: a chest and orthopedic man, a nose and throat specialist, and a third physician to check vision and hearing. Two nurses were assigned to each group. In addition to providing a more thorough examination, this approach had the advantage of bringing together teachers, parents, physicians, and nurses, thus facilitating cooperation and simplifying the problem of follow-up work. The immediate result of the new system was the discovery that over 60 percent of school children suffered from one or more physical defects.³⁵

In February 1929 Dr. Wynne announced plans to place the East Harlem Health Center on a self-sustaining basis.³⁶ His announcement marked the beginning of a new era in the development of neighborhood health centers. As has been recorded earlier, the concept of district health centers was first developed by Commissioner Goldwater and was gradually extended by his successor, Dr. Haven Emerson. A combination of wartime pressures and political changes brought this municipal experiment to an end in 1918, but fortunately private initiative took up the slack.

In 1916 the Bowling Green Neighborhood Association established a health and social center on the lower west side in which a number of volunteer organizations collaborated. Two years later the AICP began work in the Mulberry district, an Italian

section lying between Canal and Houston streets and the Bowery and Broadway. The AICP's aim in founding the Mulberry Health Center was to provide a variety of social services for the 40,000 people living within the district, with health education given a high priority. The major effort was directed toward maternal health and child care up through the fifth grade, and the emphasis was placed upon preventive medicine. In 1920 all activities of the center were concentrated in a single building. By 1922 over half the expectant mothers in the district were under the supervision of the AICP nurses, and during this year 1,000 of the 4,000 children between the ages of two and six were given physical examinations. From the beginning the staff of the center stressed the value of sound diet. Beginning in 1921 a drive was made against the "appalling incidence" of rickets by intensive supervision of infants below the age of one. Considerable attention was also paid to dental hygiene, and a dental program was soon inaugurated. By 1923 the AICP could report that all children up to the sixth grade in the district's public and parochial schools were having their teeth cleaned twice a year and were being provided with remedial work. The AICP had long urged health supervision for the preschool group, and it declared with justifiable pride in 1929 that 94 percent of this age group in the Mulberry district had been brought to the health center.³⁷

In 1917 the AICP, with the support of Health Commissioner Haven Emerson, began a similar project in the Columbus Hill area, one which was almost solidly Negro. Here, too, the emphasis was placed upon maternal and child care through the preschool years. By 1925 the AICP reported that over 90 percent of the district families were using the center's facilities. The following year it pointed out that the center had demonstrated that the poor would use health facilities when they were available and that good health was sound economy.³⁸

In 1920 the Judson Health Center was established in Greenwich Village, another predominantly Italian area with a population of 40,000. Like the Bowling Green Center, this one was formed by a coalition of volunteer agencies, including the AICP.³⁹ A more important step was taken about this time under the leadership of the American Red Cross. With its wartime activities coming to a close, the New York chapter decided to move into

the public health area, and, at the suggestion of a committee in which Dr. Biggs was quite active, agreed to establish a district health center. In selecting a district, care was taken to find a typical city area, and a section of east Harlem north of 99th Street and east of Third Avenue was chosen. The approximately 100,000 people within these boundaries were about two-thirds Italian and the rest a mixture of Jews, Irish, and Negroes. Three voluntary agencies already operating in the districts, the AICP, the Maternity Center Association, and the Visiting Nurse Service of the Henry Street Settlement, agreed to cooperate with the Red Cross, and the Health Department offered to provide a clinic through its Bureau of Preventable Diseases. In 1921 the American Red Cross purchased three small buildings on East 116th Street and remodeled them to serve as headquarters for what became known as the East Harlem Health Center. The cooperative effort proved successful, and within three years no less than 22 separate agencies were operating within the center. Part of the financing was provided by the participating organizations, and the St. Timothy's League and the Laura Spelman Rockefeller Memorial Fund gave additional support. The value of the services provided by the center is clearly shown in the following statistics. In 1920 the death rate in east Harlem was 14.68, compared to 14.45 for all of Manhattan. Five years later the east Harlem rate was 11.66, compared to 15.20 for Manhattan.⁴⁰

While these community health centers were making significant contributions to the city's health, an even more significant project got underway. The Milbank Memorial Fund, established by Mrs. Elizabeth Milbank Anderson in 1905, decided to support three health demonstrations in New York State, one of which was to be in New York City. In 1923 the first two, a rural demonstration in Cattaraugus County and another in Syracuse, were started. The New York City demonstration, however, required more elaborate planning and did not come into formal existence until late in 1924. On the advice of its technical board, the Milbank Fund selected the Bellevue-Yorkville district, one comprising an area bounded by East 14th Street, Sixth Avenue, East 64th Street, and the East River. The Bellevue-Yorkville health demonstration began officially on November 14 with the organization of a Community Health Council consisting of some 65 agencies and

106 members, 46 of whom were physicians. On its part, the Milbank Fund proposed to contribute \$200,000 a year for five years. To supervise the demonstration, a board of 25 managers and an 8-man executive committee were chosen.⁴¹

The Bellevue-Yorkville district offered a fine opportunity to demonstrate the value of a sound public health program. Its population in 1925 was 175,000, of whom about 44 percent were foreign born. Of the latter, the leading foreign groups were the Irish and Italians with over 20,000 each and the Germans and Russians with another 5,000 to 10,000 each. A tenement survey in 1919 had shown that one block in the east forties contained 1,200 rooms, of which 600 had only so-called windows opening into other rooms. Of the other 600 rooms, only half had windows opening on to the street. As late as 1934 the New York Housing Authority classed 218 East Harlem tenements containing 1,900 apartments as fourth class. As this classification implied, most of the apartments had no ventilation, light, heat, or hot water, and all families on one floor shared a single toilet. Nearly 14,000 residents were without indoor toilets and over 15,000 had neither bathtubs nor showers. In the five years prior to the start of the demonstration, the death rate in the district averaged 17.4 compared with 12.0 for the entire city. During this same period the infant death rate was 93 per 1,000 as against 68 for the city.⁴²

For the new health center building, the Milbank Fund renovated the Milbank Public Bath at 325 East 38th Street which had been built for the AICP in 1904. In the meantime extensive preparations were made to coordinate the various health services, and in November 1926 the new health center opened its doors. Within two years the Bellevue-Yorkville demonstration was in full swing. It included a tuberculosis program, the first municipal preschool clinic, and baby, dental, and social hygiene services. The dental program, which emphasized education, was supported by the AICP. As the health center broadened its aims, school health care was provided through the first three grades, a mental hygiene clinic was opened in 1930, and the following year a children's cardiac diagnostic service was provided. Although the Health Department had responsibility for the health center, the financial backing of the Milbank Fund freed the department

from the normal restrictions on a municipal agency, and the resulting elasticity allowed health officials to experiment with methods, procedures, and organization. One of the more significant experiments was the introduction of generalized nursing as against the tradition of specialization. Broadening the functions of the public health nurse, however, necessitated a major administrative reorganization, one consequence of which was to base nursing districts upon the schools and children's homes.⁴³

During the seven years that the Bellevue-Yorkville demonstration was in operation, 1927-33, the Milbank Fund spent approximately \$900,000. In this period the tuberculosis rate was reduced from 130 to 92, infant mortality from 93 to 73, and the diphtheria rate declined 84 percent. Aside from the tangible benefits to the health of the residents in the Bellevue-Yorkville district, the demonstration gave conclusive proof of the value of district health centers. By 1929 it was perfectly clear from the work of Bellevue-Yorkville, East Harlem, and the other health centers that district health offices offered new avenues to public health. Accordingly, in July Dr. Wynne appointed a Committee on Neighborhood Health Development to plan a comprehensive system of health centers. The committee members represented almost every important organization concerned with health and welfare, including the NYAM, AICP, Welfare Council, State Charities Aid Association, Catholic Charities of the Archdiocese of New York, Charity Organization Society, and Brooklyn Bureau of Charities.⁴⁴

The committee promptly began a thorough survey of the welfare agencies and health needs in each area. In its preliminary report on October 28, the committee recommended the establishment of 16 neighborhood health centers at a cost of \$4,000,000. Mayor Walker responded by publicly pledging to spend \$5,000,000 to establish 20 centers. With this encouragement, the committee continued its work, and in its final report urged the creation of 30 health districts of about 200,000 persons each. To get the program underway, the city was urged to build four health centers per year at a cost of \$250,000 each. These centers would house the offices of the Health Department and provide space for voluntary agencies, thus concentrating health services. The committee suggested that the first municipal health

center be established in north Harlem, an area with the largest Negro population in the city and one with the smallest number of health agencies.⁴⁵

The appearance of the committee's final report early in 1930 aroused considerable interest. Under the leadership of Mayor Walker and Commissioner Wynne, plans were made in February for the establishment of 16 health centers during the next four years. An added impulse was given to the health center movement by the publication of the health inventory of New York City by Davis and Jarrett early in the year. The newspapers reported the authors' conclusions in considerable detail, and at least one stressed the paucity of the city's resources allocated for public health. Responding to strong public pressure, on June 13 the mayor and the Board of Estimate appropriated funds for 16 new health centers.⁴⁶

Unfortunately, the year 1930 was scarcely the time to initiate new and expensive programs. The collapse of Wall Street in the fall of 1929 signaled the onset of the Great Depression. As 1930 drew onward, unemployment increased and an atmosphere of despondency gradually spread through the land. Early in March the Welfare Council announced that unemployment was rising, and the medical director of Bellevue and King's County hospitals, Dr. Mark L. Fleming, blamed a sharp rise in hospital admissions on the worsening economic situation.⁴⁷ The advent of summer saw the beginning of the Great American Drought, and New York newspapers began headlining the growing food shortages. In August Dr. Wynne assured the public he had taken steps to insure an adequate supply of pure milk, but the food dealers warned that developing shortages meant higher prices. The Health Department countered by suggesting an "outrageous conspiracy" among certain food dealers to take advantage of New York consumers "at a time when the city is already suffering severely from unemployment." A month later Dr. Wynne and the assistant attorney general described the city's food system as "infested with unscrupulous gangsters and racketeers."

With tax revenues drying up and deficits looming, the Health Department found itself with authorization for health centers but virtually no money. A start was made, however, before the widening depression cut off all funds, and the first of the city health

centers, the Central Harlem Health Center, was opened in 1930 on West 136th Street. Despite the atmosphere of gloom, the Health Department, aided by private organizations, pushed ahead with its plans for the district health centers. The establishment of these centers, however, had to await the New Deal and the impetus to public health provided by Fiorello La Guardia and Health Commissioner John L. Rice.⁴⁸

In the reorganization of the Department of Hospitals, on February 1, 1929, all municipal hospitals and ambulance services were brought under one jurisdiction. The new head, Dr. William Schroeder, Jr., promptly set to work creating an administrative structure. His first step was to establish a single purchasing department, a wise move since accusations of graft in connection with the purchase of hospital supplies were not uncommon. He then placed Bellevue and King's County hospitals under one head, created a new department of psychiatry to supervise all psychiatric cases, and placed all hospitals dealing with contagious diseases under one director. During the year a survey of the city's hospitals showed many of them in need of major repairs and renovation. Any major overhaul of hospitals, however, had to await the future, since Dr. Schroeder was preoccupied with setting up his administration, standardizing procedures and forms, and establishing offices in the quarters formerly occupied by the Department of Public Welfare.⁴⁹

With the appearance of a Hospital Department came a change in the makeup of the Board of Health. Until 1922 the board had consisted of the health commissioner, health officer of the port, and the police commissioner. Two physicians appointed by the mayor were added to the board in 1923, and the health officer of the port was removed. In 1929 the commissioner of hospitals supplanted the police commissioner, and the following year the sanitary commissioner was added to the roster. Thus, as of 1930, the board consisted of the commissioners of health, hospitals, and sanitation plus the two physicians appointed by the mayor. Theoretically this should have given the board a broader base, but in actual practice the hospital and sanitation commissioners never attended, and the mayor continued to dominate the Board of Health. One other change is worth noting. The city charter of 1901 specified that the Board of Health was the head of the De-

partment of Health. An amendment in 1928 transferred this responsibility to the commissioner of health.⁵⁰ In effect the change allowed the health commissioner to suspend, fire, or dismiss any employee. Because of the wording of the charter, the Board of Health retained most administrative functions, but the powers of the health commissioner were strengthened.

From the time when horses' hooves and wagon wheels first clattered on cobblestones and the sounds of street cryers filled the streets, New York had a noise problem. In the intervening years the sound levels had gradually risen. The advent of railways and elevated trains first compounded the noise, and then came the internal combustion engine. The Health Department had concerned itself with the effect of noise upon health and well-being in the late nineteenth century, but the few tentative efforts in this direction had accomplished little. A series of articles in *Forum Magazine* helped focus national attention on the problem, and, in 1929 Dr. Wynne decided the time had come to make a thorough investigation. He appointed a commission to examine the question and to propose necessary remedies. By this action, the Health Department became the first governmental agency to attempt to deal with the issue. The commission, which included a good many doctors, was given technical equipment and manpower by Bell Telephone, Johns-Mansville Corporation, and other organizations. At the first meeting on October 30, the commission appointed five subcommittees, sent out questionnaires, and began mapping noise complaints on a geographic basis. A truck equipped to measure the decibel level was sent around the city, and a subcommittee began studying the effect of sound upon human beings. In its report issued in 1930, the Noise Abatement Commission stated that it had made considerable progress. Conferences with steamship, railway, and trucking companies had led to an agreement to reduce unnecessary whistling and horn blowing. Noiseless turnstiles were to be installed in subways, and the Health Code had been amended to give the police and health officials authority to regulate the use of loudspeakers. In terms of the major sources of noise as reported by the commission, these changes were only minor. The worst problems were created by blasting, 96 decibels; riveting, 97; subway expresses, 94; subway locals, 89; and elevated trains, 81.5.⁵¹ Although little was accom-

plished, Commissioner Wynne and his co-workers deserve credit for at least tackling what seems to be an almost unsolvable problem. Regrettably, as any visitor to New York knows, this slight tactical victory in 1930 was in a losing cause.

As the Depression worsened, the work of voluntary and government welfare agencies steadily mounted. The AICP declared that never before had the relief demands been so great as in the spring and summer of 1930. More significantly, over three-fourths of the families seeking help "had never before been known to the Association."⁵² At the federal level, President Hoover called a White House Conference on Child Health and Protection. At the request of this body, the Health Department began an inquiry into the relationship between poverty, inadequate milk consumption, and the quality of medical care among city children. Some 300 of the department's nurses were assigned the task of distributing questionnaires and gathering the necessary information. In connection with the milk supply, late in the year Dr. Wynne began a series of 2 A.M. raids by the entire force of milk inspectors. The force was called to duty late at night without any prior knowledge and ordered to inspect milk at the railway terminals, in the trucks leaving the terminals, and in the trucks distributing the milk.⁵³

Dr. Wynne's energetic actions were no doubt stimulated by the fact that he had come under a double attack during 1930. Early in the year the League of Women Voters made a one week survey of some 1,100 blocks and discovered 3,417 violations of the sanitary code.⁵⁴ In justice to Dr. Wynne, the enormity of the task of enforcing all sanitary regulations was well beyond the capability of the Health Department in 1930—or in 1966—without the full cooperation of the public. Since strict police action to enforce regulations is unacceptable in a democracy, health officials necessarily rely upon education and appeals for cooperation. When the appeals are answered, health officers are pathetically grateful; when they are not, the officials are either philosophic or outraged, depending upon their ages and personalities. In all likelihood, Dr. Wynne was not too upset by the findings of the women, since they supported his arguments for an increased budget and larger staff.

From the time the Health Department began moving into

preventive medicine through the use of vaccines and antitoxins, the medical profession had expressed its unhappiness over what it felt were encroachments upon private practice. Health commissioners were then and are today in a difficult role. As public officials they are responsive to political pressure, as health professionals they have a responsibility for public welfare, and as physicians they have an obligation to their profession. New York's health commissioners consistently had leaned over backward attempting to mollify their medical colleagues, constantly reassuring them that the department had no intention of encroaching upon private practice. Dr. Wynne was no exception in this respect. He repeatedly expressed his desire to cooperate with the profession and stressed that immunizations and physical examinations should be performed by private practitioners.⁵⁵ In order to encourage citizens to visit physicians for vaccinations and examinations, Dr. Wynne suggested that the doctors list their charges with their county medical societies. This relatively modest suggestion brought a storm of disapproval. Dr. Sylvester J. McNamara of the South Brooklyn Medical Society answered that the idea was arrogant and impertinent and that the commissioner had exceeded the powers of his office in making it. A week later the New York County Medical Society began action to remove Dr. Wynne from membership on the grounds that he had endorsed a toothpaste advertisement. Although some of the younger physicians supported him, he was refused a public hearing, whereupon he resigned from the society. In his defense Dr. Wynne wrote a newspaper article in which he criticized the high fees charged by physicians and surgeons. Outraged by this attack upon the sanctity of fees, the South Brooklyn Medical Society promptly adopted a resolution calling upon Mayor Walker to remove Wynne from office. Among other charges, the commissioner was accused of wasting public funds through public health clinics.⁵⁶ The fact that no other facilities existed to provide medical care for the lower-income groups was cheerfully disregarded by the Brooklyn physicians.

Beset by its own economic problems, the medical profession seemed to be giving little thought to the far worse financial status of the wage earners. The AICP reported at the end of 1930 that unemployment had climbed to 31 percent and that another 21

percent were working only part time. The association also noted a significant correlation between sickness and unemployment and commented that unemployment results in defective nutrition and the accumulation of "unheeded health needs. . . ." The Health Department nurses in this same period reported that in home visits they were increasingly having to deal with economic problems. Frequently health work had been forced "to take a secondary place because of these other needs which seemed more urgent."⁵⁷ Either oblivious to what was happening or else determined to maintain morale at all costs, United States Surgeon General George Cummings happily reported in September 1931 that the economic depression seemed to have no adverse effect upon the health and mortality rates. In response the New York United Hospital Fund indignantly cited the sharp increases in hospital admissions and visits to dispensaries during the previous three years and pointed out that many sick received no medical care because of their unwillingness to accept charity.⁵⁸

In 1931 the Committee on Public Health Relations of the NYAM met with Commissioner Wynne and, although the city was spending only 76 cents per capita for public health, it recommended only a slight increase in the 1932 budget. A major share of this increase was to be used to employ 72 dental hygienists, 20 dentists, and 7 supervisors. The city fathers, beset by even larger financial problems, granted only one-fourth of the extra funds requested.⁵⁹ Apparently the danger of encroaching upon private dental practice did not trouble the members of the New York Academy of Medicine. In sharp contrast to the physicians and surgeons who were zealously protecting their fees, the New York dentists in December 1931 proposed a system of treating the unemployed free of charge or at nominal rates.⁶⁰

Mayor Walker, who had proved quite sympathetic to the cause of public health, found himself under sharp attack in 1931. His administration in many respects had been lax and inefficient, and in March a citizens' group requested Governor Franklin D. Roosevelt to remove Walker from office. About this time rumors were prevalent that Dr. Wynne was about to resign. Dr. Wynne emphatically denied any truth to the rumors and, when asked about scandals in the Health Department, pointed out that most of the criticisms of the department had occurred prior to his

taking office.⁶¹ As a concession to his opponents, Mayor Walker remedied a few of the worst abuses in his administration and managed to stay in office for another year and a half.

The most dramatic event in 1931 was a major polio outbreak extending from July 1 to November 1. While not as serious as the epidemic in 1916, which affected over 9,000 children and killed 2,448, this outbreak did involve 4,138 cases and resulted in 504 deaths. In general it followed the same pattern as the one in 1916, although only 83 percent of the cases occurred among children under the age of ten as compared to 95 percent in the earlier epidemic. The percentage of patients discharged with visible paralysis rose slightly to 69.9 percent. Once the outbreak was recognized, the Health Department began an intensive campaign to educate the public and the medical profession about the disease, instructed its personnel to search out cases, increased its staff, and made extensive preparations to care for polio cases. Profiting from its experiences in the 1916 epidemic, the department avoided measures which tended to frighten the public: no one was forcibly removed to hospitals; theaters, playgrounds, and public places were allowed to remain open; and travel certificates were not required for interborough travel. By this time polio was recognized as a virus disease spread largely through nose and throat secretions and one which was primarily, but not exclusively, a disease of childhood.⁶²

As surgeons improved their techniques and surgery became more common, the number of blood transfusions moved steadily upward. In 1927 the Committee on Public Health of the NYAM had urged the Health Department to exercise control over blood donors and the agencies supplying them. The following year the committee looked into the question further and discovered that over 10,000 transfusions were being performed each year and that most of the blood was bought from 1,000 to 1,500 individuals. At this time no checks were made on any of the donors. In 1930 two sections were added to the Sanitary Code which required all blood donors and donor agencies to register with the Health Department. A further safeguard was added in April 1931 when the Bureau of Laboratories began examining the methods of blood typing used by private laboratories.⁶³

During these years the Sanitary Bureau conscientiously sought

to reduce noise levels and the air pollution arising from dense smoke. Complaints about noise were referred to the appropriate authorities: loudspeakers were under the jurisdiction of the Police Department; subway noises were the responsibility of the Board of Transportation; and noises arising from steam shovels, pile drivers, and so forth were referred to the health squad of the Health Department. The drive against smoke was largely one of education. A special squad of ten smoke inspectors was appointed in 1930, and these inspectors followed a policy of warning offenders and giving them instructions in proper stoking. If verbal and written warnings proved ineffective, the inspectors were authorized to issue a court summons. On October 1, 1930, the issuance of summonses by individual inspectors was replaced by a trial board to which complaints of the inspectors were referred. Judging from the records of the trial board, violators had little to fear from legal penalties. In 1931, a total of 1,016 violators appeared before the board. Only 112 of them were taken to court, and of these 70 were given suspended sentences and in 12 cases the action was withdrawn. Only 19 defendants were fined and the amount of fines totaled a mere \$465.⁶⁴

The year 1931 saw the conclusion of a three-year campaign designed to eliminate diphtheria from New York City. The work began in November 1928 when a Diphtheria Prevention Commission was appointed. This agency, which was given financial backing by such diverse groups as the Metropolitan Life Insurance Company, Milbank Memorial Fund, and the Health Department, began an intensive education program designed to contact every child and parent in the city. Using every possible media of communication, the commission succeeded in immunizing over 50,000 children from January 1929 to December 1931 at a cost of \$420,000. On the basis of diphtheria statistics prior to 1929, the Health Department estimated that the program had saved the lives of 1,400 children and enabled another 17,000 to escape the disease. With its major task accomplished, the commission turned its work over to the Health Department at the close of 1931 and went out of existence.⁶⁵

The last two years of Dr. Wynne's administration, 1932-33, were busy ones but relatively uneventful. Rising unemployment increased demands on the Health Department, while the tightening

financial situation led to further reductions in the department's budget. One of the few innovations was the start of the "Dr. Knickerbocker Says" series. These were short popular articles upon health topics which were released each week for publication in the newspapers. The articles, which were issued until 1945, were nontechnical and covered a wide range of health topics.⁶⁶

During these years the AICP conducted surveys in certain tenement areas and demonstrated that the rate of sickness was about one-third greater among the unemployed than among those working.⁶⁷ While these surveys were underway, the *Times* cheerfully reported on October 8, 1932, that the Depression was improving the health of New Yorkers. Its effect was to force a reduction in excessive drinking, overeating, and joy riding and to cause more wholesome walking and enforced rest. To the hungry unemployed and the desperately poor, the editorial must have made bitter reading. Three weeks later the same newspaper reported that slightly over 20 percent of New York school children were suffering from malnutrition. These findings led the Health Department to make a start in the direction of a nutrition service program by borrowing a nutrition consultant and a part-time nutritionist from the New York chapter of the American Red Cross. It was not until 1937 that the department was given funds to employ a nutrition consultant. Fortunately, in 1932 the AICP stepped into the breach and set up its own Nutrition Bureau.⁶⁸

Dr. Wynne, who seems to have borne his full share of problems, was sued for slander as a result of removing an inefficient superintendent from his position in the Kingston Avenue Hospital. The suit proved more of a nuisance than a threat, for when the case came to trial in 1932 it was dismissed. This year saw the completion of Dr. Wynne's twenty-fifth year of service with the Health Department, an event which was marked by a chorus of congratulations.⁶⁹

On August 31, 1933, a brief newspaper story reported that Borough President Samuel Levy of Manhattan had signed a \$3,229,000 contract for the construction of a new Health Department building. This action was the culmination of years of agitation. During its early history the department occupied dingy quarters in the Police Building on Mulberry Street. It later transferred to scattered rooms in the Criminal Court Building. The judges, how-

ever, complained of the odors from the chemical laboratory and of the danger from the bacteriological laboratory. In consequence, in 1899 the headquarters was moved to a building formerly occupied by the New York Athletic Club at 55th Street and 6th Avenue. In the succeeding years the department continued to occupy rented quarters, while constantly fighting for its own building. A report in 1919 that a new Health Department building costing \$1,000,000 was to be built on West 30th Street seems to have been based on wishful thinking. A more positive step was taken in 1926 when Dr. Harris announced that a site had been selected. Nothing further was heard for two more years, then in 1928 the story broke that a new building was to be erected on Centre Street between Leonard and Worth to house all offices and laboratories of the Health Department. A year later the newspapers published detailed plans for a \$5,000,000 eight-story building to house the Department of Health, the Department of Hospitals, and the medical examiner's office. By this date the long fight was nearing success. At the end of 1931 the Health Department reported that the architectural plans for a headquarters building in Manhattan were well along, but another two years elapsed before the construction contract was signed in August 1933.⁷⁰ It must have given some satisfaction to Dr. Wynne to leave office knowing that the project for a new headquarters building was nearing reality.

During his last year in office Dr. Wynne, with financial support from the Commonwealth Fund, requested the American Public Health Association to evaluate the work of the Health Department. The department did not fare too well in the resulting evaluation, but the underlying cause for most of the weaknesses cited in the final report was inadequate financing, a situation over which Dr. Wynne had little control. The field work for the APHA survey was performed by Drs. Carl E. Buck and Mayhew Derryberry, both of whom were well qualified for the task. Although New York had been criticized for spending only 91 cents per capita for health in 1928, by 1933 the health budget had fallen to about \$4,600,000, or 63 cents per capita. At the same time, a number of other cities such as Chicago, Detroit, and Baltimore, which ranked far ahead of New York, were allocating a dollar or more. The results of financial stringency are clearly re-

flected in the report. It noted the low morale among the employees and attributed it to the lack of raises and the reduction in starting salaries. Moreover, the department had half as many employees per 100,000 population as was needed; the Nursing Bureau was understaffed and the nurses underpaid; office equipment was out of date; and even the department's laboratories, which were given a high rating of 96, were described as inadequately housed and undermanned.⁷¹

On an overall basis the Health Department was given a rating of 75.3 on a scale of 100. Individual divisions rated from 96 in the case of the laboratories to 48 for the venereal disease program. From an administrative standpoint the department was criticized for its lack of directors. Only three out of its ten major bureaus had full-time qualified administrators; the rest were manned by part-time or acting directors. The report also recommended the employment of two full-time deputy commissioners to coordinate the work of the various bureaus. In allocating its funds, the Health Department was found to be spending too much on food and drugs, sanitation, administration, and laboratories. While conceding that the national recognition achieved by the laboratories justified their relatively large budget, the survey was critical about the amount spent in the first two categories. It also questioned whether or not such activities as Kosher meat control, blood donor registration, and mosquito control properly belonged under public health.⁷² In all justice, it should be pointed out that the Health Department had assumed responsibility in these areas only out of necessity, and that they were vital to public health.

Among the divisions with a high rating was vital statistics. Its main strength was in the collection of data, but the Health Department was criticized for its failure to analyze the statistics and use the results in formulating policy. Acute communicable diseases, maternal health, infant health, and food and drug inspection all scored quite high. Preschool hygiene, an area in which the city had always been deficient, was rated at only 55. School health, a field in which New York had led the way, was given only 76. The report cited the lack of coordination between the Health and Education departments, and the failure of the school health staff to enlist the cooperation of the parents.⁷³

It should be remembered that these ratings were based on a

hypothetical scale and were designed to point up weaknesses. Aside from its acute financial problems, the New York City Health Department was the largest and oldest municipal health agency. Its sheer size engendered a measure of bureaucratic inertia, and the years of genial corruption in the 1920s followed by a major economic crisis had inevitably taken their toll. Considering all of these factors, the department had survived the vicissitudes of the 1920s and early 1930s in surprisingly good shape. Dr. Park, who reached the retirement age of 70 in 1933, had managed to retain national leadership for his laboratories. Maternal and infant care was far better in New York City than was generally true for the rest of the United States. Overworked and underpaid as they were, during these years conscientious and able nurses, physicians, and technicians of the Health Department continued to perform yeoman service providing the city with far better public health than it was willing to pay for.

This same year, 1933, was a momentous one in terms of the city's politics. In the first place, Mayor Walker had resigned under pressure in September 1932. For a brief period Joseph V. McKee, an able and honest administrator, served as acting mayor. Tammany Hall, however, nominated John P. O'Brien, an unimaginative party man, to fill the rest of Walker's term of office. In the 1933 municipal election, McKee ran against O'Brien, thus splitting the Democrats and paving the way for Fiorello La Guardia to win on a Republican ticket.⁷⁴

With the election of a Republican mayor, the New York County Medical Society launched a new attack upon Dr. Wynne and the Health Department. Early in December it charged that the Health Department was filled with sinecures and political favorites and it demanded a "vigorous purging. . . ." Indicating its deep-seated resentment of what it considered to be a threat to private practice, the society specifically denounced the expensive proposals for health centers. Probably aware that his tenure of office was coming to a close, on December 16 Dr. Wynne announced that he would retire at the end of the year. In his statement he blasted away at the city for its niggardly public health appropriations and for the way in which politics was allowed to intrude upon the operations of the Health Department. He recommended that the health commissioner be selected on merit for a

ten-year term by a professional, nonpolitical committee and that he should be removable only upon specific charges. Mayor-elect La Guardia agreed in principal with Dr. Wynne, but significantly, he refused to comment upon Dr. Wynne's offer to remain in office until a qualified man was found. In his resignation statement, Dr. Wynne had spoken of finding the Health Department demoralized when he took office five years earlier. Understandably this brought his predecessor, Dr. Harris, into the fray. The latter did not take kindly to what was a gratuitous and unfair insult to his administration, and he responded by suggesting that he would be glad to reveal to the incoming commissioner the circumstances that "have brought the Health Department to its present low state."⁷⁵

The *Times*, in editorializing upon Dr. Wynne's resignation, declared that he was "one of the few high officials of the dying regime who would be missed." Since politics had "laid its clammy paw" upon his shoulder, it was understandable why he was sick of politicians. The editor doubted, however, that taking the department out of politics was the answer, preferring to center responsibility upon the mayor. At the end of December La Guardia announced that he was appointing Dr. Sigismund S. Goldwater, a former health commissioner, to head the Department of Hospitals and Dr. John L. Rice to fill the post of commissioner of health. Two better choices could scarcely have been made. Dr. Goldwater was the leading authority on hospital administration in the country, and Dr. Rice, as health officer for New Haven, had enabled that city to win the American Public Health Association Award for the healthiest city in its class for the previous three years.⁷⁶ The inauguration of La Guardia as mayor of New York City in January 1934 and the advent of the New Deal at the national level began a new era for public health.

In reviewing Dr. Wynne's five years as health commissioner, one must give him a good grade. He inherited a department from Dr. Harris which had just undergone a major shakeup, and on the whole he ran it well. Political influence permeated the entire administration of Mayor Walker, but Dr. Wynne managed to minimize its effects on the city's health work. America was sliding into the trough of depression during these years, and the Health Department could not escape the inevitable budget cuts, reductions

which came at a time when the demands for its services were rising sharply. Here again Dr. Wynne fought for his department and tried to make the best use of his limited resources. If he erred in claiming credit for some of Dr. Harris' work, he was on the side of the gods in his struggle with the medical societies. Any public health officer who uncovered a large amount of sickness and disease and made no effort to see that the victims received treatment would be remiss in his duty. The New York medical societies would have stood on far firmer ground in criticizing expensive health centers if they had been willing to face up to medical realities and had offered an alternative form of medical care for the poor.

Notes to Chapter 13

1. *Ann. Rep., Bd. of Health, 1926*, pp. 5-7; *Committee on Public Health Relations, Report of Activities for the Year 1926, New York Academy of Medicine* (New York, 1927), pp. 4-5 (hereinafter cited as N.Y.A.M., *Report of the Committee on Public Health Relations*); *Times*, January 1-2, 1926.
2. *Ann. Rep., Bd. of Health, 1926*, pp. 5-12; *Times*, January 5, 1926.
3. *Ann. Rep., Bd. of Health, 1926*, pp. 5-7; *Times*, January 7, 9, 17, February 14, 1926.
4. *Sun*, April 9, 23, May 3, June 21-25, July 7, August 2-7, 1926; *Times*, April 24, May 4, June 22, 26-27, 29, July 1, 1926; see also the newspapers for October 1926, when the milk scandal became a political issue.
5. *Sun*, August 9, September 7-8, 10, 12, 14, 16, 1926; August 9-11, 1927; *Times*, July 6, August 7, September 8, 11, 1926.
6. *Sun*, October 15, 1926; *Times*, October 16, 1926; February 1, 1927.
7. *Sun*, October 4, November 29, 1927; *Times*, July 18, August 9-10, 12, October 4, November 29, December 12, 1927.
8. *Ann. Rep., Bd. of Health, 1926*, pp. 112-13, 121-23.
9. N.Y.A.M., *Report of Committee on Public Health Relations, 1926*, pp. 9-11; *Times*, March 6, September 17, 29, October 19, 1926; October 6, 1927.
10. *Ann. Rep., Bd. of Health, 1926*, pp. 8-9; *Times*, April 10, 1926.
11. *Times*, September 12, 1926.
12. *Ann. Rep., Bd. of Health, 1926*, pp. 10-12.
13. *Ibid.*, 1928, p. 52; *Sun*, January 24, 1928; *Times*, January 25, 1927; January 24, 26, 1928.
14. N.Y.A.M., *Report of Committee on Public Health Relations, 1927*, pp. 4-6.
15. *Ann. Rep., Bd. of Health, 1927*, pp. 68-69; *Sun*, June 22-23, 29, July 23, 1927; *Times*, February 13, 1926; June 22-23, July 23, 1927; May 18, 1928.

16. *Sun*, February 23, 1928; *Times*, May 3-4, 1927; February 24, May 10, 1928.
17. *Sun*, May 17, July 25, 1928; *Times*, July 24, 1928.
18. *Sun*, May 18, June 14, 22, August 16, 1928; February 1-2, 16, 1929; *Times*, June 13-14, 20-21, August 15, 18, 20, October 31, November 10, 1928.
19. *Times*, November 4, 1928.
20. *Ann. Rep., Bd. of Health, 1928*, pp. 6-10, 64.
21. *Ibid.*, pp. 97-105.
22. *Ibid.*, pp. 36-37.
23. *Ibid.*, pp. 39-41, 47, 50.
24. *Ibid.*, pp. 52, 54-55.
25. *Ibid.*, pp. 57-58.
26. *Ibid.*, p. 64.
27. *Ibid.*, pp. 97-99.
28. Michael M. Davis and Mary C. Jarrett, *A Health Inventory of New York City, A Study of the Volume and Distribution of Health Service in the Five Boroughs* (New York, 1929), p. xiv; Ralph E. Pumphrey, "Michael M. Davis and the Development of the Health Care Movement, 1900-1928," ms. in possession of author, pp. 14-15.
29. Davis and Jarrett, *A Health Inventory of New York City*, pp. 24-25, 43-44, 48, 81-82, 113, 128.
30. *Ibid.*, pp. 132-33, 144, 171.
31. *Ibid.*, pp. 190-92, 239, 256.
32. *Ibid.*, pp. 279-80, 298.
33. *Ann. Rep., Bd. of Health, 1929*, pp. 7, 12-13; *Times*, February 1, 1930; A.I.C.P., *Annual Report, 1928-29*, p. 13.
34. *Times*, March 19, 1929; *Ann. Rep., Bd. of Health, 1929*, pp. 13-14.
35. *Ann. Rep., Bd. of Health, 1929*, pp. 55-60; *Times*, June 19, 1929.
36. *Times*, February 11, 1929.
37. Charles-Edward Amory Winslow and Savel Zimand, *Health Under the "El," The Story of the Bellevue-Yorkville Health Demonstration in Mid-town New York* (New York and London, 1937), p. 37; A.I.C.P., *Annual Report, 1918*, p. 5; 1918-19, p. 7; 1920, pp. 17-18; 1922, p. 8; 1923, p. 10; 1928-29, pp. 28-29.
38. A.I.C.P., *Annual Report, 1918*, pp. 11-12; 1925, p. 27; 1925-26, pp. 30-31; 1931-32, p. 38.
39. *Ibid.*, 1922, p. 18; Winslow and Zimand, *Health Under the "El,"* p. 37.
40. "History of District Services," October 30, 1962, N.Y.C. Health Department ms., pp. 2-3; A.I.C.P., *Annual Report, 1922*, pp. 17-18; 1926-27, p. 28; *Times*, July 20, 1924; July 17, 1927.
41. Winslow and Zimand, *Health Under the "El,"* pp. 38-39; N.Y.A.M., *Report of Committee on Public Health Relations, 1923*, pp. 10-11; "History of District Services," pp. 3-4; *Times*, September 29, 1924.
42. Winslow and Zimand, *Health Under the "El,"* pp. 14-15, 17-18, 21-25.
43. *Ibid.*, pp. 48, 58-59, 93; *Times*, October 18, 1926.

44. Winslow and Zimand, *Health Under the "El,"* pp. 179-84; *Ann. Rep., Bd. of Health, 1929*, p. 16; *Times*, October 31, 1929.
45. *Ann. Rep., Bd. of Health, 1929*, pp. 37-41; *Sun*, October 31, 1929.
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47. *Ibid.*, March 2, 1930.
48. *Sun*, August 8, September 9, 1930; *Times*, August 9, September 10, 1930; Winslow and Zimand, *Health Under the "El,"* p. 192; "History of District Services," p. 5.
49. *Department of Hospitals of the City of New York, First Annual Report, 1929* (New York, 1930), pp. 5-7; *Sun*, February 1-2, 16, 1929.
50. *Thirty Years in Community Service, 1911-1941, A Brief Outline of the Work of the Committee on Public Health Relations of the New York Academy of Medicine*, prepared by E. H. L. Corwin and Elizabeth V. Cunningham (New York [1942]), pp. 15-18.
51. *City Noise, The Report of the Commission Appointed by Dr. Shirley W. Wynne, Commissioner of Health, to Study Noise in New York City and to Develop Means of Abating It* (New York, 1930), pp. 1-3, 12, 29-31, 35-36; *Ann. Rep., Bd. of Health, 1929*, pp. 15, 33-35; *Forum*, LXXV (1926), xxi-xxiv; LXXIX (1928), 382-89.
52. A.I.C.P., *Annual Report, 1929-30*, pp. 13-15.
53. *Times*, September 14, November 24, 1930.
54. *Ibid.*, January 19, 1930.
55. For example, see *Times*, January 5, 1930.
56. *Ibid.*, September 27, October 4, 18, November 21, 1930.
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58. *Sun*, September 11, 1931.
59. N.Y.A.M., *Report of Committee on Public Health Relations, 1931*, pp. 195-96.
60. *Times*, December 3, 1931.
61. *Sun*, March 11-13, 1931; *Times*, March 11, 19, 30, 1931.
62. *Ann. Rep., Bd. of Health, 1930-31*, pp. 27, 32-33, 36-37, 39-44.
63. Corwin and Cunningham, *Thirty Years in Community Service, 1911-1941*, pp. 48-49; *Ann. Rep., Bd. of Health, 1930-31*, pp. 113-14, 211-17, 221.
64. *Ann. Rep., Bd. of Health, 1930-31*, pp. 168-69, 171-72.
65. *Ibid.*, pp. 186-87.
66. "Dr. Knickerbocker Says." New York City Health Department, Bureau of Health Education. See the two bound volumes of these articles in the Haven Emerson Public Library, which cover the years 1932-45.
67. A.I.C.P., *Annual Report, 1932-33*, pp. 6-7, 32-33.
68. *Sun*, October 8, 1932; *Times*, October 8, 29, 1932; A.I.C.P., *Annual Report, 1932-33*, p. 23; "A Public Health Nutrition Program, Retrospect, Introspect, Prospect," March 22, 1965, N. Y. C. Health Department ms., p. 1.
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70. *Sun*, August 13, 1919; *Times*, April 22, 1899; March 12, 1909; August 13, 1919; January 15, 1926; January 14, 1928; June 17, 1929; August 31, 1933; *Ann. Rep., Bd. of Health, 1930-31*, pp. 180-85.
71. "The Public Health Program in New York City; An Appraisal of the Activities of the Department of Health for 1933," American Public Health Association Study, N. Y. C. Health Department ms., pp. 1, 15-18, 23-24, 42-43.
72. *Ibid.*, pp. 6-7, 13-14, 23-24.
73. *Ibid.*, pp. 7-8, 37-38, 46, 116, 128, 142, 159-62, 187-93.
74. Allan Nevins and John A. Krout, *The Greater City, New York, 1898-1948* (New York, 1948), pp. 100-01, 113.
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Health Reform and Health Districts

We have chased politics out of the Health Department in just the same way that we're chasing microbes, germs and bugs out of the city. [Mayor Fiorello La Guardia, quoted in the *Times*, October 29, 1937.]

Although the years of the Great Depression are generally associated with spending and government deficits, at the depths of the crisis from 1931 to 1934, traditional economics with its insistence on balanced budgets and reduced spending still dominated political thinking. The slowing down of the economy brought with it a drastic reduction in tax revenues, providing a further argument for slashing governmental budgets at all levels. The Keynesian theory of economics that a nation could spend its way out of an economic crisis seemingly flew into the face of all American economic thought in the early 1930s and few reasonable middle- or upper-class individuals questioned the need for economic belt tightening. Regardless of their feelings about desirous or even necessary health steps, Commissioner Rice and Mayor La Guardia, like all health administrators and politicians, could not divorce themselves from the political climate. Both of them were dedicated to the cause of public health, but in 1934 they were confronted by what were then considered to be economic realities. Taxpayers viewed municipal and national budgets in the same light as their personal finances, and administrators responsive to the public had to tread warily around the subject of deficit financing.

La Guardia, whose personal experiences had imbued him with a strong sympathy for the lower economic groups, did everything he could to support health measures. On January 17, 1934, shortly after taking office, he announced that expectant mothers could receive prenatal care in the city hospitals, adding that he would cut expenses everywhere except in hospitals and public welfare. Dr. Rice, the new health commissioner, was also an able humanitarian and a public-spirited individual, but his first actions were designed



Mayor La Guardia and Commissioner Rice Welcoming Children and their Parents at the Opening of One of the Department's New Child Health Stations. From *Annual Report of the New York City Department of Health, 1937*, p. 28.

to eliminate deadwood, cut costs, and promote efficiency. After taking three months or so to survey his domain, he announced at the end of April 1934 that some 200 employees had been reported to the personnel board for various rule infractions, and that he expected the majority of them to leave the department either through resignation or dismissal. As an economy step, he asked all employees with 20 or more years of service to retire voluntarily, warning that those who refused would be referred to a medical board for determination of their fitness. At the same time he stated that he had agreed to a 10 percent cut in his budget, a reduction which would involve eliminating some 436 positions in the department.¹

Immediately the New York Academy of Medicine and the New York Tuberculosis and Health Association issued a joint statement expressing their concern over the proposed cuts and their hope that the action was a temporary one. The two organizations pointed out that the proposed budget for 1934 amounted to only 55 cents per capita as compared to 75 cents in 1932. They added that New York's health budget looked even worse when compared with cities such as Chicago, Detroit, Pittsburgh, and Buffalo, which, in the face of an equally grave financial crisis, were spending from 82 cents to \$1.03 per capita. As Dr. Rice began dismissing employees in May, a few of them joined together to take action to protect their jobs. Nine food inspectors (out of 34 who were dismissed) sued to compel the Health Department to reemploy them on the grounds that the department did not have enough personnel to enforce the Sanitary Code and was thus endangering the community's health. The jury, accepting without question the paramount nature of economics, dismissed the suit on the grounds that Commissioner Rice had acted in good faith in the interests of economy. Fulfilling his pledge to reduce spending by 10 percent, Dr. Rice returned \$445,000 of the department's total budget of \$4,595,000 to the city treasury at the end of the year.²

While acceding to the demands for economy in 1934, Dr. Rice strongly urged an increase of over \$500,000 in the budget for 1935. In this he was supported by Mayor La Guardia, Dr. Goldwater, the NYAM, and other groups. In December 1934, Dr. Goldwater informed the Board of Aldermen that any further cuts

in the hospital budget would seriously hurt the sick. When it was proposed to reduce X-ray and laboratory services, Goldwater declared emphatically: "The practice of medicine is not a game of blindman's bluff. . . ." Despite all the brave words, the actual expenditures for health in 1935 increased only slightly over the preceding year.³

Although Dr. Rice reduced expenditures, he did endeavor to make the most effective use of his limited resources. Recognizing his own need for administrative help, he appointed Dr. W. H. Best as deputy commissioner. At this time only three bureaus had full-time directors. Within the next two years all nine of the department's bureaus were provided with full-time heads. The work of the Bureau of Preventable Diseases was reorganized; two divisions, tuberculosis and social hygiene, were raised to the status of bureaus; and a division of epidemiology was set up under a trained epidemiologist. In the new Bureau of Tuberculosis administrative positions were created to handle the various clinics, X-ray work, and the central record office, improved relations were established with professional organizations and the Department of Hospitals, and qualified physicians were appointed to key positions.⁴

The Bureau of Food and Drugs was overhauled by eliminating superfluous supervisory positions and assigning more inspectors to field work. Incompetent employees, and a few dishonest ones, were dismissed, and the approach toward the bureau's work was altered, with the emphasis shifting from policing to educational methods. It was recognized first that many infractions of the Sanitary Code arose from ignorance, and second that effective policing would require a much larger force of inspectors. A new tactic was introduced of making fewer but more thorough inspections. The same principle was applied to food samples. Less of them were taken, but a higher percentage were derived from substandard or suspected foods. As a result of an outbreak of amoebic dysentery caused by cross connections between water and waste plumbing at the Chicago World's Fair in 1933, a Hospital and Institution Division was created. This division also concerned itself with the recurrent outbreaks of epidemic diarrhea among the newborn in hospitals.⁵

A major innovation in 1936 was the introduction of the odor test for milk. Through its own studies and those of various state

agencies, the department had found that a high bacteriological count in raw milk could easily be detected by the smell. Under the new system, whenever the odor indicated a high count, the milk was then subjected to laboratory tests.⁶

In modernizing the Sanitary Bureau, the first efforts were directed toward eliminating unnecessary tasks. One way the bureau reduced its work load was by revising the method for handling complaints. When they involved other city departments, the complaints were referred directly to the department concerned. Complaints about a lack of heat were handled first by a warning letter, which in most cases proved sufficient. By freeing inspectors from these routine chores, it was possible for them to devote more time to original investigations. A personnel training program was inaugurated through lectures and conferences, and inspectors were encouraged to attend a short course in sanitary engineering. Thanks to the Works Progress Administration (WPA), the bureau's mosquito control work made significant gains. A trained sanitary engineer was appointed to replace the part-time physician who had formerly supervised this work, and with the aid of laborers and engineers provided by the WPA, an extensive mosquito eradication program was mapped out.⁷

The WPA was also responsible for another important project undertaken by the Health Department in 1935–36. Starting in September 1935 with a staff of 91 WPA employees, the department began a major air pollution study. Field studies of soot fall in 140 locations throughout the five boroughs were conducted, samples of air-borne bacteria were taken from a wide variety of public places and institutions, and house-to-house surveys were made to determine the most common types of fuel and fuel-burning equipment. Three laboratories—chemical, bacteriological, and ultraviolet ray—were established to analyze samples. As the scope of the study broadened, the staff was gradually increased to a total of 180 by December 1936.⁸

The routine work of the Bureau of Preventable Diseases was reduced by turning all cases of reported criminal abortion directly over to the police. Previously the department had investigated before reporting individuals for criminal action. The scarlet fever quarantine period was reduced from 28 to 21 days, thereby shortening the hospitalization period. In September 1934 the bureau

also eliminated routine physical examinations of food handlers and instituted a policy of examining only those individuals suspected of having a communicable disease. These measures enabled the bureau to concentrate its efforts upon more important activities. For example, when polio struck in 1934 and 1935, medical inspectors were able to visit every reported case within a few hours and move over 80 percent of the sick to isolation hospitals. The bureau was also able to turn its attention to the problem of diarrheal outbreaks among newborn babies. While the death rate among infants from one month to one year had been cut in half during the previous decade, only a 12 percent reduction had been effected among infants from birth to one month. The obvious connection between outbreaks of epidemic diarrhea among the newborn in maternity hospitals and their high death rate led the bureau to look into the matter. From July 1934 to December 1937 some 27 of these outbreaks were investigated. With the influx of newcomers from tropical and semitropical climates came a corresponding increase in parasitic infections. To meet this threat, the bureau opened a parasitology clinic to check into the problem.⁹

The Bureau of School Hygiene, aided by WPA and Emergency Relief Bureau funds, expanded its dental program for children from kindergarten to grade 4. More extensive work was undertaken by the eye clinics and the cardiac diagnostic service. The first cardiac diagnostic center had been established in the Kips Bay-Yorkville Health Center for the benefit of children applying for working papers who had suspected heart problems. In 1936 its doors were opened to all children referred by school medical inspectors. Again with the help of the WPA, a staff of physicians was provided during the summer months to examine children about to enter school whose parents could not afford a private doctor.¹⁰

The Bureau of Records, like several other bureaus, underwent a complete reorganization. Thomas J. Duffield, a well-known statistician, was made director of the bureau in January 1935 and modern business machines were bought to replace the antiquated equipment. More significantly, many outmoded reports were eliminated and were replaced by current summaries and more meaningful analyses of the statistical data.¹¹

The Bureau of Nursing undertook an intensive educational

campaign to upgrade the training of its public health nurses. During 1934–35 more than 100 of them took courses in institutions of higher education. The generalized method of nursing was given a major trial in nearly all sections of Manhattan. Under the new system, certain nurses were assigned to clinics or record keeping, and others to either school nursing or home visiting. Nurses engaged in the latter were expected to handle all nursing duties. As an experimental program, in 1935 tuberculosis nursing services in the lower west side health district were assigned to the Mulberry Health Center which was in the process of developing a specialized tuberculosis nursing service. One purpose of the Mulberry program was to determine the relative effectiveness of specialized versus generalized nursing service.¹²

The Committee on Public Health Relations of the NYAM had several times sought to investigate maternal mortality in New York City, but it had been unable to do a proper job because of the inadequacy of hospital and public health records. With the help of the Commonwealth Fund, the committee made a three-year study from 1930–32. It discovered that many puerperal deaths were improperly attributed to cardiac failure or to shock, and it concluded that 65 percent of the deaths in this period could have been prevented. Of the unnecessary maternal deaths, 820 were blamed on physicians, 493 on the patients, and 30 on midwives.¹³

In conjunction with the Bureau of Child Hygiene, in 1934 an Advisory Obstetrics Council was established. This council persuaded the county medical societies to appoint committees to review all maternal deaths within each borough. Within the next two years it collaborated with the Health Department in raising the standards of prenatal care in health stations and in tightening control over midwives. All practicing midwives were required to take physical examinations, and those not in active practice lost their licenses. This action was somewhat belated, since midwives attended only 5 percent of all births in 1935, as compared to 40 percent in 1910. In addition to its efforts to improve maternal care, the Bureau of Child Hygiene also helped relieve undernourishment among children through its distribution of grade B milk at 8 cents a quart, and through its cooperation with the food distribution centers of the Emergency Relief Bureau. In view of the

large sums recently granted for the study of malnutrition, it is not surprising that in 1935 the New York Health Department concluded that there was "no satisfactory standard whereby malnutrition may be accurately defined."¹⁴

The major event of Dr. Rice's early administration was the creation of a Bureau of District Health and the establishment of seven health districts with full-time officers in charge. Dr. Margaret W. Barnard, the former medical director of the Bellevue-Yorkville demonstration, was appointed director of the new bureau. The choice of Dr. Barnard and the fact that bureau status was given to the health center concept indicates that Dr. Rice was firmly committed. The first seven districts were Mott-Haven in the Bronx, central Harlem, east Harlem, Bellevue-Yorkville (later Kips Bay), lower west side in Manhattan, and Williamsburg-Greenpoint and Red Hook-Gowanus in Brooklyn. These health centers were located in rented buildings, but immediately plans were made to erect permanent buildings. By the end of 1935, Public Works Administration (PWA) funds had been secured to build eight modern health center buildings and contracts were awarded for six of them. With the health centers established, the department began considering means for making them more effective. Very early the administrative supervision of the school medical inspection system was turned over to the district health officers. This step helped the department's staff to see that physical defects uncovered in the school examination were corrected. Proposals were made to utilize health centers near medical schools as training centers for Health Department personnel, medical students, and other health professionals. Since the health center concept involved cutting across traditional lines of authority, Dr. Barnard had to move carefully. Whatever responsibilities and authority were assumed by district health officers had to be taken away from the existing bureaus, a delicate situation which inevitably brought personality clashes. Despite this, the program moved steadily ahead, and by the end of 1936 a total of 22 health districts and administrative areas embracing the entire city had been organized.¹⁵

By 1935 the availability of PWA and WPA (Works Progress Administration) funds was having a decisive impact upon the Health Department. In addition to making it possible to expand

existing programs and inaugurate new ones, the department was now able to embark upon a massive building program. Late in 1935 the department moved into its first permanent quarters, the building on Foley Square which it occupies today. In May of that same year construction began on the Mott-Haven Health Center in the Bronx, the first of the new health center buildings. By 1937 no less than nine buildings had been completed or were well underway. For years the Health Department had been asking for funds to replace its old laboratory building. By the early 1930s the building had become so dilapidated that the United States Public Health Service declared it unfit for the production of serums and vaccines and revoked its federal license. In 1934 a \$700,000 grant from the PWA made possible the construction of the new eight-story Willard Parker Biological Research Laboratory adjacent to the old one on 16th Street and East River, and additional funds were provided for renovating the old structure.¹⁶

Under the decisive leadership of Dr. Goldwater, the Department of Hospitals took full advantage of the relief funds supplied by various federal agencies. Following a policy similar to that of Dr. Rice, Goldwater began his administration by cleaning out the deadwood and emphasizing economy and efficiency. He reported in March 1934 that he had already cut his department's expenses by \$522,701 and had not even touched Bellevue. He added that he had abolished 100 political sinecures, revised salary scales, and replaced many workers with more efficient personnel at lower rates. A week later he announced a cut in wages for nurses and stated that a sweeping investigation of Bellevue was to begin shortly. In the meantime, he had been looking into the city's 105 private hospitals and had found that over half of them were understaffed and lacking in the proper equipment. He promptly announced that all hospitals not up to standard would lose their licenses. While the loss of a license would not force a hospital to close, the institution's activities would be restricted. Dr. Goldwater's threat led many hospitals to improve their facilities. Unfortunately, even the best-intentioned hospital administrators found themselves in a difficult financial position at this time. A survey of the city's hospitals by Dr. Haven Emerson showed that revenues for private institutions fell by almost 15 percent from 1930 to 1934 and that the number of hospitals decreased by 20. By 1935 the economic situa-

tion was brightening, and the federal government was providing funds for new hospitals. With the help of PWA funds, 11 hospital buildings were under construction and a chronic disease hospital had been authorized to replace the outworn buildings on Welfare Island.¹⁷

Although the taboo with respect to venereal diseases had been broken during the 1920s, many newspapers and journals still refused to mention them in their columns. In New York State it was the energetic leadership supplied by Dr. Thomas J. Parran which first made possible a major attack on this health problem. Parran was appointed state commissioner of health by Governor Franklin D. Roosevelt and later, in 1936, became surgeon general of the United States. Prior to 1935 the Health Department had done little about the problem other than to provide clinics for diagnostic service and limited facilities for treatment.

In 1935 Mayor La Guardia appointed a special commission to visit England and the Scandinavian countries to investigate their handling of venereal diseases. In this same year the United States Public Health Service conducted a one-month survey of the incidence of syphilis in New York City. The survey showed that 70 percent of syphilis and 50 percent of gonorrhea cases did not seek treatment until the late stage of the disease and that 84 percent of those visiting physicians or clinics did not remain under medical care until the disease was noninfectious. The New York Academy of Medicine, which had been interested in the subject for some years, also appointed a committee to suggest methods for controlling venereal diseases. The upshot of all this activity was that the Health Department established a Bureau of Social Hygiene in October 1935, a step which marked the beginning of a full-scale assault upon venereal diseases.¹⁸

Mayor La Guardia's first two years in office had been momentous ones for New York City. He infused a new sense of urgency and energy into every department and effected major changes. He attacked social abuses wherever he found them and shook the municipal bureaucracy to its boot straps. Much of what was accomplished in the departments of Health and Hospitals has been recounted. At the same time La Guardia overhauled the street cleaning division, arranged for the construction of garbage incinerators and sewage treatment plants, transformed the inefficient

coroner's office into a medical examiner's office, and made some inroads on the impossible housing situation.¹⁹ Reform, by its nature, is fleeting, and it was only by continuously fighting that La Guardia was able to hold the ground he had gained.

Two departments of special interest to La Guardia, and in which he could take particular pride, were Hospitals and Health. Even in these departments the cost of first-rate services far exceeded the amount taxpayers were willing to pay. In 1935 Dr. Rice tried to fill the post of assistant director of the Bureau of Laboratories with a New York City resident, but his budget allowed only \$6,000 per year for this key position. Late in the summer of 1935 both Drs. Rice and Goldwater began asking for major increases in their departmental budgets. Dr. Rice asked for an additional \$1,180,211, citing the twin drives against tuberculosis and venereal diseases and the need for better equipment in the clinics. The city gave only an extra \$100,000, but federal grants helped to fill in the gap. The following year Dr. Rice managed another increase of \$350,000 from the city, for a total budget for 1937 of \$4,725,818. This amount represented operating expenses and was exclusive of capital outlays. It did not include the large amounts which the federal government was pouring into health-related efforts. For example, in 1937 the WPA spent \$4,771,454 for projects under the direction of the Health Department, and another \$109,145 came from the United States Public Health Service and the federal Children's Bureau. The federal government also provided \$3,500,000 in loans and grants for the construction of health centers and other buildings.²⁰

When the city officials were preparing their budget requests for 1938, Drs. Rice and Goldwater again insisted on major increases. Pointing out that the World's Fair in 1939 would create serious health problems for New York City and citing the growing demand for health services, Dr. Rice asked for an additional \$2,108,252. Dr. Goldwater requested an extra \$4,443,202. He estimated that the introduction of the five-day week and the decision to pay salaries to interns would cost \$3,000,000.²¹

Pushed on by La Guardia, the City Council granted the Health Department an increase of over \$800,000, or 17 percent, in its operating budget for 1938. Ample provision was made also for capital expenditures. During 1938 the department began construct-

ing five new health centers at a total cost of over \$2,000,000. The PWA provided \$350,000, but the rest of this sum came from municipal funds. In addition to the Health Department's operating budget of \$5,528,234 for 1938, the WPA contributed \$1,742,337 for several projects and another \$4,737,937 for a mosquito control program. The United States Public Health Service (USPHS) and the Children's Bureau continued their support by granting \$151,412. In 1939 the city changed the date of its fiscal year from January to July 1. The next complete annual operating budget for the Health Department, 1939-40, amounted to \$5,728,489, an increase of about \$200,000. This sum was supplemented by \$1,978,322 from WPA funds and another \$257,693 from the USPHS.²²

The department's annual report in 1939 made the significant observation that the proposed operating budget for 1939-40 was only \$300,000 more than the budget for 1931. At that time Drs. Harris and Wynne had been complaining that the city's per capita spending for public health was well below the accepted level. Five years later, in 1937, Dr. C.-E. A. Winslow stated that \$2 per capita was an absolute minimum. Despite increases in the city's population and expanding public health needs, in 1939 the city appropriated only 76 cents per capita, virtually the same amount as in 1931.²³

The first of the two factors which probably account for this deplorable situation was the disastrous impact of the Great Depression. In the optimistic years of the 1920s, civic and business leaders were more prone to think in large terms, to ask for more, and to get more. The Depression created a mentality of its own, one which few of that generation escaped. Penny-pinching and make-do were economic necessities, and all monetary concepts were drastically scaled down. Budgets which might have been passed blithely in 1929 were carefully scrutinized by the city fathers in 1940. The second factor accounting for the relatively limited municipal appropriations was the money pouring into the city from the various federal agencies. As has been shown, the actual amount spent by the Health Department was considerably in excess of that shown in the municipal budget. In terms of capital outlays and of major projects accomplished, federal aid was a major factor in the expansion of New York's health services during the 1930s. By 1940, however, President Roosevelt and Congress

were changing their focus from national to international affairs, bringing about a shift in federal expenditures from domestic projects to defense industries. Although the sharp impetus to the national economy provided by defense spending more than compensated for the elimination of the New Deal relief agencies, the interim period was to prove a difficult one for the New York Health Department.

Three events in 1936 deserve mention. As early as 1916 a Public Health Division of the Municipal Reference Library had been established, and in 1936, along with the rest of the Health Department, this library moved to the new headquarters on Foley Square. That same year a state law transferred jurisdiction over the licensing of master plumbers to the City Health Department. To handle this new responsibility, a Plumbing Board consisting of four department employees appointed by the commissioner was created. In addition to granting licenses, the board was made responsible for supervising plumbing shops and investigating citizens' complaints. A more important event in 1936 was the establishment of the Health Research Fund, Incorporated. Despite the reluctance of the city government to support research, the Health Department laboratories had long been known for their scientific work, and private foundations and companies were willing to make funds available in certain areas of research. Unfortunately, the accounting restrictions placed upon municipal departments tended to discourage private donors from giving money to the city. To insure a greater flexibility in the use of private contributions and to encourage donations, the Health Research Fund was created as a separate nonprofit corporation. Control was vested in five directors, one named by the NYAM, a second by the deans of the five medical schools, a third by the Welfare Council, and the other two chosen by the first three. Although the Health Research Fund did not bring in any large sums of money, by the end of 1937 it had received a total of \$48,700. The following year, 1938, it received grants amounting to \$32,450 from such diverse sources as the Nathan Hofheimer Foundation, New York Foundation, Milbank Memorial Fund, Metropolitan Life Insurance Company, and Lederle Laboratories.²⁴

Whatever reservations one may have about the municipal budget, by 1937 the New York City Health Department was once

again functioning on all cylinders and resuming its leadership in health matters. Dr. Rice had established a high degree of efficiency in departmental affairs, firmly established the district health centers, and was making effective use of available federal money.

Mayor La Guardia, never a man to hide his light under a bushel and rightfully proud of what Dr. Rice had accomplished, interviewed him on one of the mayor's weekly radio broadcasts in October 1937. In the course of the interview, La Guardia triumphantly proclaimed: "We have cleaned politics out of the Health Department in just the same way that we're chasing microbes, germs and bugs out of the city." The two preceding commissioners, Drs. Wynne and Harris, promptly took issue a day or two later. They reminded the mayor that to claim that the department was graft ridden when he took over was to slight all those workers who had spent 71 years building a great Health Department.²⁵

As is so often the case, both men had good reasons for their statements. The reforms brought about by Drs. Harris and Wynne from 1926 to 1933 had removed the worst abuses, and the Health Department was one of the better municipal divisions when Dr. Rice took over. On the other hand, Rice, with strong backing from La Guardia, had greatly increased efficiency, expanded services, and restored a good part of the department's former glory.

The new tone in the department is reflected in the annual reports starting with 1937. These complete and detailed summaries set a new standard for such works and clearly show the progress made in the previous four years. Although the number of employees (2,567) was only slightly more than that for 1931 (2,536), they were better trained and were utilized far more effectively. The administration had been overhauled, and clear-cut lines of authority established. The commissioner was assisted by three deputy commissioners, each of whom was responsible for certain bureaus. At the end of 1937 there were 13 bureaus, but in February 1938 the bureaus of Child Hygiene and School Health were merged into the Bureau of District Health Administration.²⁶

A new city charter, which became effective on January 1, 1938, redefined the authority of the health commissioner. The 1901 charter had stated that the Board of Health was head of the Department of Health, thus vesting the board with full executive authority. An amendment in 1928 had made the health commis-

sioner head of the department. As noted earlier, while it had strengthened his authority over employees, the amendment failed to change the many other provisions in the charter which gave specific administrative powers to the Board of Health. The new charter now granted to the commissioner "all the powers and duties of the department except those vested by law in the Board of Health." The net effect of these changes was to give nearly all executive power to the commissioner and to transform the Board of Health into a legislative body with respect to the Sanitary Code.²⁷

The 1937 report included a complete breakdown on personnel and on the use of the department's funds. Of the 2,567 employees, the largest number, 878, were in the Bureau of Nursing. Next came the Laboratories with 273, General Administration, 254, Food and Drugs, 241, and School Hygiene with 231. The other divisions ranged from 133 for Tuberculosis to 18 for Health Education. On a percentage basis, the department was spending 22 cents out of each dollar for school health, 20 cents for preventable diseases, 16 cents for food and sanitation control, and 6 cents for laboratory work. To emphasize the inadequacy of the Health Department's budget, the 1937 annual report charted precisely how the taxpayers' dollars were spent in New York City. If the figures are correct, the Health Department was receiving only 1 cent out of every dollar spent, the lowest amount allocated to any major city department.²⁸

Fortunately federal outlays for relief and recovery during these years more than compensated for the lean city appropriations. As mentioned earlier, the federal grants in 1937 amounted to almost \$5,000,000. The largest grant, \$3,376,221, was given for the purpose of eliminating mosquitoes and certain pollen-producing weeds. While designed in part to create as many jobs as possible, the project had important health implications. Another \$108,255 was granted for indexing and rebinding the statistical information in the Bureau of Records for the years from 1847 to 1910, and for making these early records conform to the system introduced in the latter year. Over \$1,250,000 was allocated for child health, venereal diseases, and other clinic and health services. In September 1937 federal money was made available for a series of cartographic studies designed to assemble basic community information

on such subjects as property use, population, health conditions, and health resources. Nearly all of these projects continued into 1940 and other new ones were added. For example, subsequent federal grants subsidized studies on nutritional and heart diseases.²⁹

By 1937 the health district plan was beginning to take shape. During the two previous years a great deal of time had been spent working out new administrative procedures and relationships. As these were put into effect, it became apparent that they could only work on a citywide basis, and in 1936 it was decided to extend the district plan to encompass the entire city. By the end of 1937 district health officers were in charge of 13 of the city's 20 districts and the other 7 were administered by departmental physicians who were classified as medical officers-in-charge. The responsibilities assigned to the districts were child hygiene, school hygiene, tuberculosis, social hygiene, and nursing. The typical district office staff included a health officer, a secretary, a statistical clerk, and a clerk-telephone operator. Where special projects were involved, the WPA supplied additional clerical personnel. To assist in organizing the district plan, a Committee on Neighborhood Health Development had been appointed, consisting of Health Department personnel and leaders from the city's medical, social, and health fields. Since community participation was a major aspect of the health district concept, two committees were organized in each health area. A District Medical Advisory Committee, consisting of physicians living or practicing within the district, served as a liaison between the county medical society and the district officer, and a District Health Committee, representing a wide range of civic, religious, and social groups, performed the same function between the health officer and the community.³⁰

As mentioned earlier, in February the district health plan was given a firmer status by merging the bureaus of Child Hygiene and School Hygiene into the Bureau of District Health Administration. By this time the role of the districts was beginning to expand. Recognizing the importance of health education, in December 1938 Dr. Rice announced the inauguration of a three-year project to improve community participation in the district health centers. The project was financed by the New York and the Nathan Hofheimer foundations, and Philip S. Broughton, health director of the USPHS, was brought in to direct the program. As

part of the process of involving the community in the district work, several advisory committees had already been established, among which were the Technical Advisory Committee, Dental Advisory Committee, Health and Teaching Center Advisory Committee, Committee on Boundaries and Allied Problems, and the Advisory Committee on Health Education. By 1939 no less than ten medical advisory committees were cooperating with the district health officers, and the health district program appeared to have firmly entrenched itself in the Health Department.³¹

The year 1937 saw some notable changes in the Bureau of Records. By this time the WPA project of indexing and repairing the nineteenth-century records was well underway. The registration of marriages, which had been a function of the bureau since 1850, was discontinued, since these records had been duplicating similar ones in the city clerk's office. To assist in a research study, the bureau was sending out weekly lists of women dying of puerperal causes to three of the county medical societies. It had been discovered quite early that a marked differential existed between white and nonwhite death rates. In 1937 the bureau began making detailed studies of this divergence, and was able to report a high mortality rate for the nonwhite population at all age levels. The greatest differential was found with respect to nonwhite males between 20 and 24 years, whose mortality rate was 473 percent higher than comparable whites, and nonwhite females between 15 and 19 years, whose rate was 609 percent higher than the comparable white female group. In terms of infant mortality, the white rate was 41.1 per 1,000 against 75.6 for the nonwhites. As might be expected, central Harlem which was virtually all Negro had the highest infant mortality rate in the city.³²

Although the city had tacitly required the reporting of fetal deaths during all periods of gestation, Duffield, the director of the bureau, realizing that physicians were not complying with the law, recommended changing the Sanitary Code. In consequence, in 1938 the Board of Health defined a fetal death as a pregnancy resulting in anything other than a live birth. By this action, the Health Department antedated by 12 years the World Health Organization recommendation that the term "stillbirth" be eliminated. Revised forms for birth and fetal death certificates were introduced in 1937 which asked for certain confidential

information. In part because of the reluctance of physicians to supply the necessary details, a new form of death certificate was introduced in 1939 in which the diagnosis was submitted on a separate medical report to be treated as confidential information. It was first used in Manhattan on an experimental basis during 1939. Significantly, the deaths attributed to syphilis rose 35 percent with the introduction of the new forms. In Brooklyn, where the old forms were still in use, reported syphilis deaths were 10 percent lower than in the previous year.³³

In listing the department's accomplishments for 1937, Dr. Rice gave high rank to the introduction of a training program for health personnel. "I am inclined to place first and above all others," he wrote, "our determined effort to build up quality of service in all branches of the Department." This goal was to be achieved, he added, through an intensive program of staff education and a more careful selection of new personnel. With the help of social security funds, a program was started early in 1937 which offered scholarships to staff personnel in public health schools and other institutions of higher learning. In-training courses were arranged covering a wide range of subjects, and plans were made to establish special training centers. The first of these was the Kips Bay-Yorkville Health and Teaching Center established in September 1938 with social security funds. Subsequently, an experimental station was organized there in December 1938 with help from the New York and the Hofheimer foundations. Physicians and nurses spent four weeks at the center where they were given an opportunity to try out different procedures under the guidance of a specially trained staff.³⁴

The changing nature of the Health Department's work can be seen also in the Bureau of Child Hygiene. In conjunction with the rising standards of medical care, the bureau further tightened its control over midwives through a new regulation in March 1937 limiting the time span of midwife licenses to one year. Previously these licenses had been valid until revoked. With improving economic conditions and with more hospitals providing facilities for supervising pregnant women, the bureau began phasing out its prenatal and child health station work. In 1938 the number of child health stations was reduced from 76 to 67 as more parents resorted to private physicians. Although the Wassermann

test for syphilis had been a routine procedure in the department's stations for years, it was not until March 1938 that the test was required for all pregnant women. The Bureau of Child Hygiene noted that with the enactment of this law many more midwives were referring patients to the Health Department for Wassermann tests.³⁵

The Bureau of Nursing in these years received considerable help from the federal government. Of the 1,019 employees in 1937, 188 were supported by federal agencies. By 1938 the bureau had 1,582 employees, of whom 698 were paid from federal grants. An analysis of the activities of the nursing staff in 1937 showed that 41 percent of the nurses' time was devoted to clinic work, 32 percent to school health, and 27 percent to home visiting. Six years earlier, in 1931, the nursing staff had spent only 28 percent of their time on clinic work. The almost 50 percent increase resulted from the steady rise in attendance at the Health Department clinics and the opening of new ones. The major change in the bureau during the late 1930s was the gradual shift from specialized to generalized nursing. By the end of 1938 the generalized nursing system was in operation in 11 of the city's 30 districts, and it was planned to extend the system as soon as more trained nurses were available.³⁶

Another of the bureaus to receive a strong assist from federal programs was that of Child Hygiene. In 1937, 269 of its 493 employees were on the federal payroll. The Dental Division in particular benefited from federal aid. In 1937 the division was operating 114 dental clinics. This number was increased to 135 in 1938 and 136 in 1939. Thanks to an effective dental education program in the schools and the rising standard of living, the percentage of school children receiving care from private dentists rose from 42 percent in 1937 to 59 percent in 1939. In giving physical examinations to school children, the bureau continued its tactic of fewer but more thorough examinations. In 1937 children entering school for the first time, students in grade 8A, and those specifically referred by their teachers were examined. To enlist the cooperation of the parents, the following year the bureau began working with various parent associations. In September more than 2,500 mothers volunteered their services to work as health registrars in the schools.³⁷

For many years the Bureau of School Hygiene had offered a school health program in conjunction with the city's vocational high schools, an outgrowth from the Health Department's early role in granting working papers, but no such medical service was offered in the so-called academic high school. With the help of a grant from the Rockefeller Foundation, the Seward Park High School Project was initiated in October 1937 to study the need for a comprehensive high school health service.³⁸

As the quality of child health services rose, attention was directed to the thousands of crippled children in the city, many of whom had received little medical care. In July 1936 Dr. Rice called a conference on the subject which resulted in a recommendation for a citywide survey of children and the services available for them. Funds were provided by the Social Security Act, and in March 1938 Mayor La Guardia appointed a Commission for the Study of Crippled Children. During the course of its survey, the commission registered 16,731 of them and estimated the total number to be about 19,000. It found a considerable duplication of health services for these children. Approximately 41 percent had received medical care in more than one hospital, with each institution doing a complete physical examination and compiling a separate case history. It noted a similar problem in connection with home nursing services, and it found that irregular attendance at clinics often nullified the children's treatment. The commission's final report which was approved in January 1940 recommended the creation of a centralized coordinated service within the Health Department. In consequence, during 1940 the department created a Division of Physically Handicapped Children in the Bureau of Child Health. In the section of the Health Department's *Annual Report* for 1938 dealing with crippled children there is a significant comment which illustrates the way in which the department's view of its role was broadening. It stated that there was "a growing realization that the functions of public health agencies can no longer be confined to the prevention of diseases which influence mortality rates but must also include consideration of physical and mental disorders which affect the general health and well-being of the community."³⁹

As another indication of the changing nature of public health work, in December 1937 the Health Department initiated a major

campaign against pneumonia. As might be expected, the Bureau of Laboratories played a key role in this campaign. Beginning in 1904 the department's laboratory workers had started investigating pneumococci, and through the efforts of researchers such as Georgia Cooper it had succeeded in isolating a large number of specific types. The laboratory had also done a good deal of research into the production of therapeutic serums which would be specific for the more frequent types of pneumococci. To support the pneumonia campaign, the city appropriated \$90,000 to purchase various types of pneumonia serums and to provide for their distribution. In the laboratories a special pneumonia service was established with a staff of bacteriologists and assistants under the direction of an assistant director. Each of the five boroughs was provided with its own typing station to assist physicians in their diagnoses.⁴⁰

Two severe outbreaks of epidemic meningitis in 1935 and 1936 combined with a number of polio and acute encephalitis cases led to the creation of another special division within the Bureau of Laboratories to deal with infections of the central nervous system. This division reported in 1937 that efforts to prevent polio by vaccination and chemical nasal sprays had been unsuccessful, but that it had found a promising development in the use of sulfanilamide for meningitis.⁴¹

The work of the Sanitation Bureau in 1937 continued along traditional lines, although its staff was considerably augmented by WPA workers. The WPA air pollution study which had begun in September 1935 was concluded June 30, 1937. While valuable from a scientific viewpoint, it offered no immediate solutions. The Health Department felt that the worst source of pollution arose from the heavy emissions of dense smoke. After court action led to a \$250 fine against one of the utility companies, the case was appealed and all further actions were held in abeyance during 1937 awaiting final disposition of this case. The bureau's report stated that it was emphasizing education rather than police action. If fining a major utility company \$250 is a sample of the department's police action, then it is clear that education was the only hope.⁴²

As noted earlier, the bureau directed the WPA project to eliminate mosquitoes and such noxious weeds as ragweed and poison

ivy. The project also involved clearing rubbish from vacant lots. Housing, which had been a major concern of the Sanitation Bureau for much of its history, was now only a minor aspect of the bureau's work, and most complaints were referred to the Tenement House Department or other city divisions. The disposition of sewage still remained within its purview. For example, the Plumbing Division made arrangements with the Water Supply Department to cut off water to any building in which cross connections between sewage and water lines endangered the water supply. A close check was kept on beaches and waterfront areas for pollution arising from private and public sewers. Jamaica Bay, the recipient of huge quantities of treated and untreated sewage, was well on its way to becoming a gigantic cesspool, but the process was delayed somewhat by requiring the five treatment plants to chlorinate the effluent they were pouring into the bay. Efforts to reduce the decibel level of the city continued, although bureau officials admitted that the task was difficult. It is encouraging to think that as late as 1937 there was still some hope for reducing the city's noise level.⁴³

The most significant developments in the Bureau of Food and Drugs during 1937 were the introduction of the deck inspection of milk arriving at the county receiving stations and the start of a self-inspection program in the milk-receiving plants. The impossibility of providing thorough coverage for the city's entire milkshed had led to a search for a simpler and more effective method of safeguarding the milk supply. The development of the rapid phosphatase test to detect improperly pasteurized milk in 1935 combined with the odor test to determine bacterial count mentioned earlier greatly simplified the milk inspection work. Equally important was the educational work with milk handlers and processors to encourage them to maintain higher standards within their own businesses. The success of the milk inspection procedures in upgrading the city's milk supply during the twentieth century was demonstrated by the bureau's decision in 1939 to recommend that the Board of Health recognize only one grade of milk.⁴⁴

Early in 1938 the Bureau of Food and Drugs began making plans to safeguard the health of the thousands of visitors expected to attend the New York City World's Fair in the coming year. The World's Fair Corporation provided funds for a branch office

of the Health Department on the fair grounds, and a staff of 36 persons under the direction of a special deputy commissioner was recruited. The staff consisted largely of food inspectors, plus three sanitary inspectors and an entomologist. Over and above the extra work in connection with the fair itself, the bureau had to take special precautions with the city's thousands of hotels and restaurants. Rather unexpectedly, insect and rodent control activities became a major aspect of the health work at the fair due to the presence "of enormous numbers of midges." The latter, a species of *Chironomidae*, aroused considerable concern, but the Health Department laboratories quickly devised means for combatting them, and they were soon brought under control. As a result of the advance planning, the fair proved uneventful.⁴⁵

The Department of Hospitals had benefited greatly from the work of Dr. Goldwater and Mayor La Guardia, but its expanding services could not meet the growing demands and rising expectations of the public. When the federal government announced the withdrawal from the department of 3,289 WPA workers, many of whom were physicians, nurses, and orderlies, Dr. Goldwater protested that it would seriously cripple his operations. After urgent pleas from both La Guardia and Goldwater, President Roosevelt agreed to extend the appropriation for these employees. Aside from his financial problems, Dr. Goldwater had just survived an attack from another front. On December 13, 1937, he had made a speech in which he stated that Negro interns were inferior to whites because the schools from which most of them had graduated possessed inadequate facilities. The statement was undoubtedly true, but it was scarcely politic. Immediately, some 75 physicians and nurses, understandably hypersensitive about their status, accused Goldwater of racial bias and demanded that Mayor La Guardia remove him from office. La Guardia, who simply refused to be pressured, declared that Goldwater would remain in office and that he hoped to keep him throughout the next administration.⁴⁶

Despite the excellent work by Dr. Goldwater, the New York hospital system still left a great deal to be desired. A survey in 1937 directed by Dr. Haven Emerson revealed serious shortages and inadequate medical care in many hospitals and dispensaries. The dispensaries in particular were found to be poorly equipped and

short of medical personnel. The generally low wages paid by municipal and private hospitals alike virtually guaranteed a high labor turnover and low caliber workers. In the municipal hospitals, these weaknesses were compounded by overcrowding and the resulting evils. On December 2, 1938, in a radio address on tuberculosis, Dr. Emerson stated that the lack of hospital facilities for white tuberculosis patients would be remedied when the city finances permitted the completion of the new hospitals proposed by Commissioner Goldwater, but he questioned whether the program would take care of the Negroes and Puerto Ricans. In what was undoubtedly an understatement, he conceded: "We have not yet been entirely just and adequate in our public services to the people of the colored races in our city."⁴⁷

The year 1938 witnessed an event which literally symbolized the passing of an era. Mary Mallon, better known as Typhoid Mary, died in the Riverside Hospital where she had been "forcibly isolated" for 20 years. Her discovery as a typhoid carrier in 1907 and her subsequent refusal to abide by any health regulations served to bring notoriety to her name and to emphasize the role of human carriers of disease. Typhoid was still a serious health problem when she first attracted notice. For example, in 1905 New York City had 4,326 cases and 649 typhoid deaths. The year she died, only 26 deaths occurred in New York's population of 7,500,000—and nearly all these cases were contracted outside of the city. Just as the passing of Typhoid Mary coincided with virtual elimination of many former killer diseases, a story in the newspapers in January 1938 marked a new era in the internal affairs of the Health Department. It reported that a physicians' grievance committee was to meet with one of the deputy commissioners to discuss raises, overtime pay, and other matters.⁴⁸ The impact of the wave of union action during the 1930s plus the rising economic position of the medical profession meant that health administrators had now to concern themselves with their own labor problems. The time when physicians and nurses were happy to work for the WPA or to accept relatively low salaries as health department employees was rapidly disappearing.

By 1940 the Depression was a thing of the past. The emergency relief measures had served their purpose and the federal agencies designed to bring prosperity were gradually withering

on the vine. America was looking to Europe and national defense was the major issue. In New York City Mayor La Guardia and his able group of commissioners had held political power for six years, years of bustling energy, innovation, and progress. Possibly no section of the city administration had benefited so much from La Guardia's drive and the help of federal funds as the Health Department. Mortality and morbidity rates had been pushed to new lows, the quality of personnel raised, a massive building program undertaken, the administration revised and strengthened, district health centers firmly established, many new programs started, and the entire department revitalized. In the ten years from 1930 to 1940 the city's population had grown from 6,930,440 to 7,454,995 while the mortality rates for many diseases had fallen sharply. An intensive tuberculosis campaign beginning in 1934 had reduced the death rate from this disease by 25 percent. A three-year drive against pneumonia from 1937 to 1940 had cut the percentage of deaths by one-half. The maternal death rate, which had averaged 50 per 10,000 terminated pregnancies for over 30 years, declined from 46 in 1934 to 27 in 1940.⁴⁹

The large-scale building program undertaken in 1934 had seen the completion of a headquarters building and the erection of a modern laboratory, 15 new health centers, and 9 modern child health stations. In addition, 5 more child health stations had been located in new housing developments. The quality of work in all bureaus had been improved by increasing the number of professional employees and expanding the services offered. More effective use was being made of the staff through the elimination of marginal services and by a strengthened personnel training program. The dental hygiene clinics, as one of the newer areas of emphasis, had increased from 49 in 1933 to 140 in 1940. Nursing, which had played a key role in the department during the twentieth century, became even more important. The number of nurses on civil service rose from 664 in 1933 to 854 in 1940. Their value to the department had been further enhanced, as mentioned earlier, through extending generalized nursing services to 19 of the 30 health center districts.⁵⁰ The health centers, too, had changed from an experiment into an integral part of the Health Department's approach to community health. This is not to say that all was smooth sailing for the district health centers. Friction between

the central bureaus and the district health officers was still very much a fact of life, and many questions about the lines of authority were still unresolved. During the 1940s the district health officers were to lose some ground in their struggle for more autonomy, but the main issue appeared well settled in 1940.

By this year the war in Europe was having a definite impact upon the activities of the Health Department. Indicating the growing alarm, Mayor La Guardia asked for a declaration of a state of emergency to clear the way for revoking fishing permits on certain lakes and reservoirs in order to protect the city's water supply from sabotage in the event of war. The Health Department began stockpiling vaccines, toxoids, and antitoxins. Special courses were designed to prepare health personnel for wartime conditions, and in conjunction with the Red Cross the department began offering other courses to teach laymen home nursing and first aid. As the Selective Service Act was put into effect, the department began cooperating with the army in giving physical examinations. It undertook to X-ray inductees for tuberculosis and to assist in the venereal diseases testing. This policy had an incidental result of enabling health officers to uncover many cases and to see that treatment was made available.⁵¹

The Health Department budgets had been increasing steadily since 1934, but by 1940 the department was fighting to hold its own. The budget for 1940-41 amounted to \$5,771,713, to which another \$1,167,001 in WPA funds can be added. The following year the city budgeted \$5,807,450. This year, however, the WPA funds were reduced to \$925,345. To meet the growing squeeze, the proposed budget for 1940-41 recommended that the part-time physicians and dentists on the department's staff be paid on a per diem basis. Several hundred of them protested this action on the grounds that it would lower their civil service status and pensions. Subsequently a court of appeals upheld the right of the city to pay its employees as it saw fit. In 1941 a Democratic member of the City Council questioned a proposed raise for Dr. Ralph Muckenfuss, director of the Bureau of Laboratories. Dr. Rice explained that it was necessary to increase the director's salary from \$7,500 to \$9,500 in order to keep him.⁵² By this time Dr. Rice was becoming embroiled in the city's political affairs, a fact which may account for this criticism.

The year 1941 was an election year in New York City. The Democrats, out of office for nine long years, were slashing away at La Guardia's administration, and this time the Health Department did not escape. In March, well before the election campaign got underway, the department celebrated its seventy-fifth anniversary, an event which brought forth strong expressions of support and praise for the department and its commissioner, Dr. Rice. The official celebration was held on March 5, 1941, in the Health Building and featured several speakers, including Mayor La Guardia, Commissioner Rice, and a former commissioner, Dr. Haven Emerson. In the course of his address Mayor La Guardia stated that he hoped to see a municipal institute of scientific research established within the Health Department in the coming months. Newspaper reaction to the proposal was generally favorable, although the possibility was raised that this agency might duplicate the work of the National Institute of Health. The following May Dr. Rice appeared before the Board of Estimate to defend his request for \$100,000 to finance the proposed institute. He stated that it would be an integral part of the Bureau of Laboratories, would be administered by a board consisting of the mayor, controller, and health commissioner, and would conduct its scientific work under the direction of a special research council.⁵³

To the credit of the municipal officials, the proposal was accepted, and on July 1, 1941, the Public Health Research Institute of the City of New York came into being. The city agreed to a contract providing for an annual payment of \$100,000 per year for ten years. This long-range contract gave the institute a permanency which had been lacking in the former Health Research Fund. This latter body had been entirely dependent upon philanthropy with the result that there was no continuity in its operations. The city further agreed to provide housing and facilities for the institute free of charge. The institute got off to a fine start when Dr. Thomas M. Rivers, a world famous virologist, was named to head the research council. The direction of the day-to-day affairs of the institute was placed in the hands of Dr. Ralph Muckenfuss, the able director of the Bureau of Laboratories.⁵⁴

According to Dr. Rivers, he, Mr. David Heyman of the New York Foundation, and the mayor's private physician, Dr. George Baehr, shared much of the credit for persuading Mayor La Guar-

dia to support the cause of research. Mayor La Guardia agreed to put up the \$100,000 a year when he learned that the laboratories were doing the required premarital Wassermann tests free of charge. He thought he could easily raise the money by charging \$1 for these tests. When the Public Health Service learned of this, they objected to requiring payment for mandatory tests and threatened to withhold all federal health money. La Guardia was forced to give up his scheme, but by this time the agreement had already been signed with the institute. To La Guardia's credit, he not only did not attempt to get out of the contract but continued to give strong support to the institute, and in 1945 raised the city's contribution from \$100,000 to \$200,000 per year.⁵⁵

Although Dr. Rice had generally received favorable notices throughout his administration, the election of 1941 was another matter. The Democratic candidate, William O'Dwyer, organized a Public Health Committee headed by Dr. Emanuel M. Josephson to support his election. Early in October this committee levied 21 charges against Dr. Rice and the Health Department. Dr. Rice was accused of introducing the spoils system into the department, of permitting corruption and venality to become rampant among his executives, of falsifying records to hide the deteriorating condition of the city's health, of increasing the price of milk to the poor, and of allowing hundreds of children to be poisoned through the school lunch program. Shocked and outraged by these charges, Dr. Rice countered by accusing Josephson of gross incompetence and citing his highly dubious record with the Health Department. As a medical inspector for the department, Josephson had been investigated three times for improper conduct and on two occasions the departmental personnel board had recommended his dismissal. Although no action had been taken, Josephson subsequently had resigned. Another member of O'Dwyer's committee, Dr. Harry G. Goldman, had also been investigated for insubordination while a departmental employee in 1939 and had been found guilty of unethical conduct in 1938 by the New York County Medical Society.

The outrageous charges against Dr. Rice quickly brought a number of leading medical men to his defense. Dr. Maximilian A. Ramirez, president-elect of the New York County Medical Society, called the attack "a false and dangerous piece of political

propaganda." After praising Dr. Rice, he commented that it was "a sad day when the health of a community must become a football of a political campaign." The society itself passed a resolution in support of the health commissioner. Dr. Martin Vlock, president of the association representing the department's physicians and dentists, requested an official investigation to clear the department of the charges. In the meantime the denunciations continued. Laboratory workers were accused of deliberately infecting prisoners with trichinosis for experimental purposes, and Rice was charged with giving the Metropolitan Life Insurance Company exclusive access to departmental records.⁵⁶

The obvious falsity of these assertions combined with the rather questionable character of the individuals making them undoubtedly nullified their effect. Shortly after making his charges, Josephson was asked to resign by O'Dwyer's campaign chairman. In any case, La Guardia was returned to office, and he promptly reappointed Dr. Rice for another term. In the spring of 1942 Dr. Rice became quite ill. Shortly thereafter on June 3, his first deputy commissioner, Dr. William H. Best, died rather suddenly following an operation. Dr. Rice had served as commissioner for eight years, and the position was a wearing one. The political attacks against his administration must have been unsettling, and the loss of Dr. Best and his own sickness probably led to Dr. Rice's resignation. In consequence, on July 16, 1942, Dr. Ernest Lyman Stebbins was sworn in as health commissioner. Dr. Rice was then made a deputy commissioner, a position which enabled him to exercise considerable influence over policy, but which relieved him of much of the administrative responsibility. Stebbins was a relatively young man who had already gained a fine reputation in public health work. Under his direction the Health Department continued to maintain its local prestige and its high standing in the nation.⁵⁷

As already indicated, the eight-year administration of Dr. Rice was one of the better periods in the history of the Health Department. He was an able, honest, intelligent and informed individual, and under his direction the department had moved forward on nearly all fronts. He entered office at a fortuitous time, a period of strong support from the mayor's office and of considerable federal funds, but he made the most of it. His ability to get along with La Guardia played no small part in the success of his admin-

istration. The mayor was a strong forceful personality who had no hesitation about interfering in departmental matters. While he was quite capable of going off on a tangent, he also respected professional knowledge and could be counted on to back up commissioners such as Rice and Goldwater. By a judicious mixture of firmness and concession, Dr. Rice guided La Guardia's thinking into the right channels. As a result, the Health Department entered the World War II era with a competent staff, a sound administration, and a high reputation.

Notes to Chapter 14

1. *Sun*, April 27, 30, 1934; *Times*, January 18, April 28-29, 1934.
2. *Sun*, December 3-4, 1934; *Times*, August 9, December 4, 1934; *Ann. Rep., Bd. of Health, 1934-35*, p. 16.
3. *Times*, August 18, December 4, 1934; "Ann. Rep., Bd. of Health, 1934-35," N. Y. C. Health Department ms., p. 16 (hereinafter mss. of the Annual Report will be placed within quotations to distinguish them from the published reports).
4. "Ann. Rep., Bd. of Health, 1934-35," pp. 14-15, 19-29, 30, 32; *Times*, February 11, 1934.
5. *Ann. Rep., Bd. of Health, 1934-36*, p. 36; I. M. Witlin, Sr., "One Hundred Years of Advancement in Food and Drug Sanitation in the City of New York," April 1, 1965, N. Y. C. Health Department ms., p. 56.
6. *Ann. Rep., Bd. of Health, 1934-36*, p. 37.
7. *Ibid.*, 1937, pp. 252-53.
8. *Ibid.*, 1934-36, p. 41.
9. "Ann. Rep., Bd. of Health, 1934-35," pp. 4, 24-25; *Ann. Rep., Bd. of Health, 1937*, pp. 143-44; Witlin, "One Hundred Years of Advancement in Food and Drug Sanitation," p. 56.
10. *Ann. Rep., Bd. of Health, 1934-36*, pp. 34-35; 1937, pp. 204-06.
11. *Ibid.*, 1934-36, p. 41; Rebecca B. Rankin, ed., *New York Advancing, A Scientific Approach to Municipal Government, An Accounting to the Citizens by Their Departments and Boroughs of the City of New York, 1934-1935* (New York, 1936), p. 227.
12. *Ann. Rep., Bd. of Health, 1934-36*, p. 30; "Ann. Rep., Bd. of Health, 1934-35," pp. 33, 52.
13. *Thirty Years in Community Service, 1911-1941, A Brief Outline of the Work of the Committee on Public Health Relations of the New York Academy of Medicine*, prepared by E. H. L. Corwin and Elizabeth V. Cunningham (New York, [1942]), pp. 65-66.
14. "Ann. Rep., Bd. of Health, 1934-35," pp. 10, 44-45; *Ann. Rep., Bd. of Health, 1934-36*, pp. 32-33.
15. "History of District Services," October 30, 1962, N. Y. C. Health De-

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- partment ms., pp. 5-6; "Ann. Rep., Bd. of Health, 1934-35," pp. 15, 60-63; *Ann. Rep., Bd. of Health, 1934-36*, p. 10.
16. "Ann. Rep., Bd. of Health, 1934-35," p. 2; *Ann. Rep., Bd. of Health, 1934-36*, pp. 8-9.
 17. Rankin, *New York Advancing*, p. 13; Haven Emerson, *The Hospital Survey for New York* (New York, 1937), I, pp. 16, 216-17; *Sun*, March 7, 12, 14, 1934; *Times*, March 7, 14, 30, 1934.
 18. Corwin and Cunningham, *Thirty Years in Community Service, 1911-1941*, pp. 58-60; "Ann. Rep., Bd. of Health, 1934-35," pp. 35-36.
 19. Rankin, *New York Advancing*, pp. 12-16.
 20. *Herald Tribune and Times*, July 11, 26, 1935; *Ann. Rep., Bd. of Health, 1937*, pp. 29, 56.
 21. *Herald Tribune and Times*, September 1, 1937.
 22. *Ann. Rep., Bd. of Health, 1937*, p. 53; 1938, pp. 26-27, 30, 46-49; 1939, pp. 43-44, 63.
 23. *Ann. Rep., Bd. of Health, 1937*, p. 53; 1939, pp. 43-44.
 24. *Ibid.*, 1937, pp. 51-52, 106, 118-19; 1938, pp. 69-70, 133.
 25. *Herald Tribune*, October 29, 1937; *Sun and Times*, October 29, 31, 1937.
 26. *Ann. Rep., Bd. of Health, 1937*, pp. 30, 33.
 27. *Ibid.*, pp. 20-24.
 28. *Ibid.*, pp. 30, 33, 55.
 29. *Ibid.*, pp. 56-58, 64-65.
 30. *Ibid.*, pp. 11-12, 61-62, 67-69, 71-73; John L. Rice, M.D., and Margaret W. Barnard, M.D., "Four Years of District Health Administration in New York City," *The Milbank Memorial Fund Quarterly*, XVI (1938), 253-66.
 31. *Ann. Rep., Bd. of Health, 1938*, pp. 76-77, 80, 98-99; *Times*, December 4, 1938.
 32. *Ann. Rep., Bd. of Health, 1937*, pp. 81-82, 285-92.
 33. Carl L. Erhardt, "Reporting of Fetal Deaths in New York City," *Public Health Reports*, LXVII (1952), 1161-67; *Ann. Rep., Bd. of Health, 1937*, pp. 81-82; 1939, pp. 72-73.
 34. *Ann. Rep., Bd. of Health, 1937*, pp. 13, 96-98; 1938, pp. 64, 96-97; 1939, pp. 107-08.
 35. *Ibid.*, 1937, pp. 193-94; 1938, pp. 98-100.
 36. *Ibid.*, 1937, pp. 212, 214, 224; 1938, pp. 198, 208.
 37. *Ibid.*, 1937, pp. 117-19, 200-03, 207-08; 1938, pp. 110-11; 1939, pp. 123-25.
 38. *Ibid.*, 1937, pp. 200-03; 1938, pp. 110-12, 125-27, 129-30; 1939, pp. 118-19.
 39. *Ibid.*, 1938, pp. 128-30; *The Crippled Child in New York City: Report of the Commission for the Study of Crippled Children* (New York, 1940), pp. 1-2, 5, 11-13, 190-92; "Services for Handicapped Children, Their Beginnings and Progress, New York City Health Department, 1940-1962," N. Y. C. Health Department ms., pp. 1-3.
 40. *Ann. Rep., Bd. of Health, 1937*, pp. 13, 104-05, 111-14.
 41. *Ibid.*, pp. 115, 134.
 42. *Ibid.*, pp. 251-52, 254-55.
 43. *Ibid.*, pp. 256-65.

44. *Ibid.*, p. 230ff.; 1939, pp. 209-10.
45. *Ibid.*, 1938, pp. 212-13; 1939, pp. 230-35.
46. *Herald Tribune* and *Times*, December 14, 23, 1937; *Herald Tribune*, *Times*, and *Sun*, August 18, 31, 1938.
47. Emerson, *The Hospital Survey for New York*, I, pp. 64, 83-84, 111; Haven Emerson, "We Can Beat It!" Typescript Radio Address, December 2, 1938, *Collected Works of Haven Emerson* (New York, 1962), vol. III, p. 4.
48. *Ann. Rep., Bd. of Health*, 1938, pp. 155-56; S. Josephine Baker, *Fighting for Life* (New York, 1939), pp. 72-76; *Times*, January 18, 1938.
49. *Ann. Rep., Bd. of Health*, 1940, pp. 15-16, 26, 30.
50. *Ibid.*, pp. 14, 16-17.
51. *Ibid.*, pp. 18-22; *Sun*, September 28, 1940; *Times*, September 28, October 6, 1940.
52. *Ann. Rep., Bd. of Health*, 1940, p. 198; "Ann. Rep., Bd. of Health, 1941," pp. 8-9, 193, 196; *Sun*, April 2, 10, 1940; *Times*, April 2, 11, 1940; May 20, November 28, 1941.
53. *Times*, March 2, 6, 10, May 21, 1941.
54. "Ann. Rep., Bd. of Health, 1941," pp. 8, 65, 67.
55. Saul Benison, *Tom Rivers: Reflections on a Life in Medicine and Science* (Cambridge, Mass., 1967), pp. 363-65.
56. *Sun*, October 14, 17, 30, 1941; *Times*, October 11, 14, 16-17, 22, 28, 30-31, 1941.
57. *Sun*, July 16, 20, 1942; *Times*, July 16, 20, August 6, 1942; "Ann. Rep., Bd. of Health, 1941."

15

World War II and After

The Department of Health of New York City was . . . one of the best health departments in the country. It no longer is. A careful review fails to disclose, during the past twenty-five or thirty years, a similar flow of major contributions which characterized the Department in the earlier part of the century. ["Study of the Department of Health, City of New York, for the Mayor's Committee on Management Survey," prepared by a staff assembled by the American Public Health Association, Inc., January 1952, N. Y. C. Health Department ms., p. 9.]

By the time Dr. Stebbins was appointed health commissioner in July 1942 the United States was already embarked upon full wartime activity. The war, as might be expected, brought drastic changes to the Health Department. It was forced to assume many new functions at a time of acute manpower shortages and when trained health workers were at a premium. In order to meet emergency demands many programs were drastically reduced while others underwent a major expansion. One of the first divisions to experience the direct impact of the war was the Bureau of Records. The requirement that war workers give proof of their citizenship created a tremendous demand for birth certificates, compelling the bureau to operate a night shift. The filing of delayed birth certificates also multiplied many times, rising from an average of about 700 per year to 14,369 in 1942. The danger that New York City might be bombed or shelled led the bureau to microfilm all birth and death records and to store the microfilm in special vaults at some distance from the original records.¹

As nurses and other medical and paramedical personnel were mobilized into the armed services, the Health Department began recruiting and training volunteer workers. Late in 1941 the Bureau of Nursing began training them to serve as assistants. In the meantime, the bureau's staff nurses were given instructions for dealing with chemical warfare, including such topics as the use of masks and the care of persons suffering from gas attacks. As another precautionary step, some nurses completed courses as Red Cross

instructors, thus becoming qualified to teach first aid to their co-workers. By January 1943 about 500 volunteers were serving as assistants in the health centers and the department was actively recruiting additional workers. Altogether over 1,500 volunteers served in the department during the war. In addition, hundreds of other women prepared themselves for emergency health work by taking the home-nursing courses offered by the American Red Cross.²

Although in retrospect it seems rather farfetched, there was considerable apprehension over the possibility of a poison gas attack on the city by German submarines, and the senior officials of the Health Department were given the responsibility for organizing and coordinating the gas defenses. The commissioner and several senior members of his staff were sent to a military training institute to learn the best techniques for gas defense, detection, and decontamination. Subsequently a training program was devised to pass this information along to all staff members. Health Department personnel were each required to keep a gas mask available at all times and health inspectors were trained to detect the presence of gas. Fortunately, neither side could make decisive use of gas, and the training proved needless. Nonetheless, the program occupied a great deal of the department's time and attention.

Among the other major wartime responsibilities assumed by the Health Department were those relating to fuel and food. To help ease the fuel shortage, the Sanitary Code was amended to reduce the required minimum temperature in apartments and residential units from 68 to 65 degrees. During 1943-44, when coal was in short supply, all emergency requests for coal had to be approved by the Health Department. The following year, when the situation became acute, the Board of Health gave the commissioner temporary authority to take measures necessary to guarantee an equitable distribution of all fuels.³

The Bureau of Food and Drugs began making its preparations for wartime conditions early in 1941. Fear of gas attacks led the bureau to study the best means for decontaminating food damaged by poison gases, and instructions were given to dairies for blacking out in the event of an attack. Food inspectors concentrated their efforts on restaurants and retail food outlets in the neighborhood of the rapidly expanding war plants. Radical

changes in food processing were making the structure of the Food Bureau obsolete, and the wartime crisis hastened its reorganization. Improvements in packaging and the centralization of food processing had drastically reduced the handling of loose food at the retail level. In consequence, in 1941 the Division of General Food Inspection was abolished and replaced by two divisions, Wholesale and Retail. The chief emphasis now, however, was placed upon inspection at the wholesale level. An equally important step was taken in October 1942 when the Health Department made mandatory the self-inspection of processing and wholesale food plants. Recognizing that more could be accomplished through education and cooperation than through harsh legal penalties, the department had already started offering courses in food handling and sanitary inspection for food employees. Food plants were now required to maintain their own sanitary inspectors, although the department offered training and assistance to these private employees. Recognizing the need for an immediate investigation of food poisoning outbreaks, a regular schedule of standby night and holiday assignments for bureau inspectors was set up.⁴

To increase the meat supply, arrangements were made to have Health Department inspectors visit upstate abattoirs, and the relatively high meat standards set by the Sanitary Code were slightly relaxed. Nonetheless, shortages developed, and a number of horse meat shops began opening in the city. Mayor La Guardia, who as noted earlier was a man of strong convictions, appeared before the Board of Health at one meeting and demanded that the board close all these shops on the grounds that horse meat was unhealthy. According to Dr. Rivers, the mayor quickly calmed down when he, Rivers, pointed out that the city was buying antipneumococcal serum made in horses and asked the mayor how he would explain to the public that the department was injecting horse protein intravenously. To prevent black marketeers from palming horse meat off as beef, however, the laboratory in 1943 devised a quick test to differentiate between the two.⁵

Probably no food item had engaged as much of the department's attention throughout its entire history as did milk. With the onset of war, the board promptly adopted a resolution of imminent peril and authorized the health commissioner to direct the

flow of milk coming from the New York milkshed. Until 1947 when a court injunction negated his authority, the commissioner could require all New York City approved milk plants to ship 75 percent of their milk receipts to the city in certain specified forms. High milk prices inevitably tempted unscrupulous individuals to water their milk, leading the department to purchase cryoscopic equipment for detecting added water. Individuals found guilty of the practice were turned over to the War Food Administration, and among other penalties, lost their food subsidy.⁶

Although the water supply was the responsibility of a separate city agency, the Health Department kept a close check upon its quality. In 1942 an outbreak of gastrointestinal disturbances involving more than 200 workers in five industrial plants was traced to a cross connection made by a private contractor between the city water supply and the polluted waters of Newtown Creek. In part as a result of this finding, the following year all permits for the use of well water were revoked and new applications were required. Before a new permit was granted, each well and its plumbing was thoroughly inspected. In the process hundreds of cross connections were discovered and corrected. Largely as a result of these findings, the Health Department urged an integrated water program. In November 1943 the Interdepartmental Board for the Sanitary Control and Protection of the Public Water Supply came into existence. It included representatives from the city departments of Water Supply, Health, Public Works, and the State Department of Health. Another important step taken in this year was the chlorination of water leaving the upstate and in-city reservoirs on a routine basis, thus sharply reducing the coliform count in the distribution system.⁷

War shortages brought the problem of nutrition sharply into focus and provided a major stimulus to the department's nutrition program. The first nutritionist placed on the Health Department's budget was employed in 1937, but she resigned in 1941, and for two years the department was without an official nutrition program. During this period, however, the department cooperated with other agencies to promote good nutrition. In May 1941 a National Nutrition Conference stimulated a general interest in the subject and led Dr. Stebbins to establish a committee on nutrition within the department. The next step was the formation of a city-

wide committee representing the departments of Health, Welfare, Markets, and the superintendent of schools. Cooperating with this committee were a wide range of private and federal agencies, including the Office of Civilian Defense, Surplus Marketing Administration, Home Economics Association, and the American Red Cross. The net result of this joint effort was a ten-page pamphlet, "Food Joins the Colors," which discussed such topics as adequate diet, daily food planning, buying and preparing food, and good eating habits. Approximately 250,000 of these pamphlets were distributed throughout the city. The following January the department's Health Education Bureau published a nutrition issue of its bimonthly publication, *Neighborhood Health*, which carried much the same information.⁸

In 1943 Dr. Stebbins obtained a three-year grant from the Children's Bureau to establish a Nutrition Division consisting of one supervisor and seven nutritionists. In consequence, Mrs. Gertrude Gates Mudge and her staff of seven nutritionists began to work through the district health centers to establish a nutrition program. Two daily radio programs were set up, and an educational program for the staff physicians and nurses of the Health Department was started. The following year the Health Department was instrumental in establishing another citywide committee to advise on the use of abundant foods for home canning and school lunches. This committee sought to keep the public abreast of what foods were immediately available and to advise on their best use.⁹

Wartime conditions also forced a shift in emphasis in the Health Department's fight against communicable diseases. For example, the large-scale assault upon tuberculosis which had been underway for many years was reduced as the department concentrated its manpower and resources upon other problems. The rapid mobilization of troops, their constant movement, and the general relaxation in moral standards induced by the war raised the specter of a major increase in social diseases. The Health Department had already taken some steps against this threat. With the advent of the draft, it had assumed responsibility for administering the serological tests for syphilis given to armed services selectees from New York City. In 1941 about 2 percent of the 235,681 blood tests given at induction centers showed positive for

syphilis. By participating in this work, the Bureau of Social Hygiene was able to uncover many new cases and see that treatment was made available. By 1942 intensive educational campaigns were launched to warn the public of the dangers of venereal disease and to urge anyone suspecting syphilis or gonorrhea to visit one of the bureau's diagnostic centers or clinics.¹⁰

In a desperate search to find a relatively quick and effective cure for syphilis, massive doses of arsenotherapy by intravenous drip were resorted to in the late 1930s. The method proved almost too rigorous and it was stopped by the Health Department in June 1940. In 1942 patients with syphilis of the central nervous system were referred to the Goldwater Memorial Hospital for the malaria treatment, an equally drastic form of therapy. Fortunately the discovery in 1943 by Dr. John F. Mahoney, at that time director of the Venereal Disease Research Laboratory of the USPHS, that penicillin would cure syphilis paved the way for an entirely new approach to this horrible disorder. The following year a number of rapid treatment centers were opened to utilize the new weapon. The first one in New York was opened at Bellevue on April 1, 1944. Although the main concern at this time was with military personnel, the antibiotic revolution which was in the making opened the way for the Health Department to launch a major attack against venereal disease in the postwar years.¹¹

During the early 1940s Mayor La Guardia's administration came under increasing attack from the Democrats on the City Council, and they seized upon the army's concern with venereal diseases to level charges against the Health Department. In October 1943 the department was accused of permitting the discharge of 109 infected prostitutes from the Kingston Avenue Hospital on the application of one private physician. Dr. Stebbins appeared before the City Council committee investigating the matter and conceded that the Sanitary Code did not provide complete protection against the spread of venereal disease, but he stoutly defended his department. Subsequently La Guardia, supported by Stebbins and other responsible civic officials, issued a statement denying an accusation that New York was first on the list of cities responsible for venereal disease among the troops and that the Health Department had failed to cooperate with federal agencies. Undoubtedly the venereal disease control measures in New

York City left something to be desired, but it is equally clear that the charges were purely political in nature.¹²

In the 1930s New York City witnessed an influx of Puerto Ricans and other migrants from the Caribbean littoral. The movement, combined with the expanding social and economic contacts between New York City and the tropical areas, inevitably brought tropical diseases, most notably parasitic disorders, to the city. During the war the return of service and civilian personnel from tropical areas greatly intensified the problem. To meet this threat in 1943 the Parasitology Service, which had functioned at the Meinhard Center since 1935, was moved to the Washington Heights Health Center and transformed into a Tropical Disease Diagnostic Service. To familiarize the department's staff and the city's physicians and nurses with tropical diseases, the new service offered both formal courses and informal lectures.¹³

Two or three other developments during these years are worth noting. The introduction of sulfadiazine in 1940 brought a marked reduction in the cases and deaths from meningococcus meningitis. For example, the case fatality rate in the city which had averaged 50 percent in the 1930s was cut to 19 percent in the years from 1941 to 1947. The discovery that hemolytic streptococcus was the pathogenic agent in scarlet fever and that the rash was only a manifestation of the disease made it possible to shorten the isolation period. In November 1943 the Sanitary Code was amended to reduce the quarantine period to 14 days for children under 16 years. The following year the isolation period was left to the discretion of the attending physician, subject to a minimum of 7 days. In the case of tuberculosis, the immediate effect of the war was a brief step-up in the department's program. By cooperating with the examination stations for the selectees, the department was able to discover a number of new cases during the screening process and to provide for a follow-up. For the general population, however, the result was not so salutary. The number of WPA workers assigned to the mass X-ray program in the city had already been slashed by 1941 and in 1943 the entire program was terminated. Whereas 77,000 X-rays had been given in 1941, the total was reduced to 3,400 in 1943. Short of funds and personnel, the Bureau of Tuberculosis was forced to operate on a reduced scale until 1946.¹⁴

The social disruptions engendered in these years placed heavy burdens upon the Bureau of Child Hygiene. Working mothers, desertions, and divorces greatly increased the number of children placed in foster homes, shelters, and day- and night-care institutions. Late in 1940, as the country geared for war and more women were drawn into war industries, the Board of Health drew up special regulations governing emergency day- and night-care agencies. Since several of the temporary shelters were not able to conform immediately to the new regulations, two conferences were held with the societies for the prevention of cruelty to children to iron out the difficulties. Subsequently new application forms were required which were designed as educational tools to inform the agencies of their health responsibilities. From their inception, foster homes had been under the direct supervision of the Health Department. As their number increased and the Bureau of Child Health found its other responsibilities burgeoning, in 1942 the Board of Health gave to approved child-placing agencies the right to "certify" the foster homes to which they assigned children. Since these "certified" homes represented about 90 percent of foster homes, the bureau was relieved of a great deal of work. It did, however, reserve the right to make inspections.¹⁵

As women flocked into war work, the number of day-care agencies multiplied. While the regulations hastily drawn up in 1940 theoretically provided some measure of control, they were designed to cover the emergency shelters provided by philanthropic agencies. The majority of the new day-care centers, however, were private, profit-making enterprises which paid little attention to the health regulations. Under the leadership of Dr. Leona Baumgartner, the able head of the Bureau of Child Hygiene, a task force drawn from public health, education, pediatrics, mental hygiene, nutrition, and social work began studying the problem. The result was a comprehensive set of regulations designed to provide not only safety and hygiene on the premises but the total well-being of the children themselves. In February 1943 these new regulations were approved by the Board of Health, and a day-care unit was established in the Bureau of Child Hygiene under the direction of Cornelia Goldsmith. Financial support for the unit was provided jointly by the Adele R.

Levy Fund and the Health Department until 1947 when the latter assumed full responsibility.¹⁶

The staff of the day-care unit immediately made a survey of the city's 500 day-care agencies, systematically visiting each of them. Only half of those examined met the required standards, and many of them, in the words of Miss Goldsmith, recalled the "days of Dickens." By education, persuasion, and occasional legal action, the various day-care institutions were gradually brought up to standard. The yeoman work performed by Miss Goldsmith and her staff clearly demonstrated the value of the day-care unit, and, as personnel became available, the staff was gradually increased from the original 6 to a total of 14 by 1947. The early day-care centers were designed for preschool children, and the Health Department's authority applied only to children under six years. This failure to provide for older children led to abuses which were not remedied until 1950.¹⁷

The social disruptions caused by the war pushed the Health Department into two other new areas. Dr. Baumgartner had recognized early in her health career that maternal and child health involved far more than purely medical matters and she had long urged the need for social services. With the help of the Social Security Administration and the Children's Bureau, on October 1, 1942, a medical social work consultant was employed in the Bureau of Child Hygiene. From this small beginning, a separate social work administrative unit eventually came into being.

The Health Department was propelled into a second significant area, that of health care supervision, through the Emergency Maternity and Infant Care Act of 1943. This law provided maternity and child care benefits for lower-echelon servicemen's wives. From the inception of the act until December 31, 1947, the department was responsible for spending \$6,894,077 of federal funds in caring for nearly 53,000 mothers and infants. Under Dr. Baumgartner's able direction, the New York City program provided a model for the entire country. Aside from the fact that this was a major wartime activity of the department, it had a significance far beyond the immediate provision of health care for wives and infants of servicemen. The act gave responsibility for

administering the program to the Health Department, and Dr. Baumgartner used this authority to its fullest extent. By insisting that all hospitals and physicians participating in the program maintain high standards of medical care and by constantly evaluating their work, the department was able to raise the level of care for all mothers and infants within the city. Once having assumed responsibility, the department gradually expanded its supervision and evaluation to other areas of health care.¹⁸

School health service, like most standard services of the Health Department, marked time during the war years. One notable improvement came in 1941 when the department agreed to have its physicians decide which children should go into the special classes for the physically handicapped. A Board of Education committee studying the problem in 1941 discovered that several directors of divisions within the Education Department were arbitrarily assigning children to these classes. The committee recommended that the Health Department assume full responsibility for assigning and supervising these children. The latter department pointed out that it had neither the funds nor the staff to supervise the children, but it did agree to have its physicians determine which children should be placed in or dismissed from the special classes. Late in the war, when the question of providing school health services in the academic high schools was revived, the Health Department joined with the Education Department in 1944 to form a Coordinating Council on School Health, which met once a month to ensure cooperation between the two departments. This same year the Bureau of School Health began giving physical examinations to all prevocational high school students, and the following year, 1945, the program was extended to include pupils in the academic high schools.¹⁹

As with the tuberculosis program, dental services for children were seriously hampered by wartime shortages of personnel and supplies, and the number of children treated fell drastically. To make the most effective use of its limited manpower, in 1942 the Dental Division began a policy of giving complete treatment to fewer children, rather than scattering its resources through partially treating large numbers. As the country began looking toward peacetime conditions, in 1945 the Health Department inaugurated the first orthodontic care program in the country. It

was restricted at first to the physically handicapped and was supported by the State Aid Program. Children with defects severe enough to become social or physical handicaps were referred to one of the orthodontists in the city who had agreed to work for the fee prescribed under the State Aid Program.²⁰

The war years had a mixed impact upon the district health centers. Almost immediately they opened their doors to various wartime activities. Air-raid wardens, medical officers of draft boards, and a host of volunteer civilian defense agencies used their facilities, and classes in first aid, nutrition, and similar topics were offered in the centers. Understandably, construction of health buildings came to a halt, and shortages of manpower precluded the appointment of additional health officers. Many staff members went into military service, and manpower resources were stretched to the limit. The only noteworthy innovation was the establishment in 1942 of a child health station, a nutrition clinic, and a public health nursing office in a substation in the Amsterdam Housing Project.²¹

Far more important to the development of district health centers was a major shift in the approach to their administration which began with Dr. Stebbins. Although firmly committed to local health centers, his predecessor Dr. Rice had assumed that the most effective way to reduce the clash between district health officers and the bureau heads was to strengthen the bureaus. In 1935 he had issued an order stating that bureau chiefs could bypass district health officers on all matters specifically relating to their own areas. This action did little to solve the basic conflict, and disputes over lines of authority continued to arise. On July 1, 1941, Dr. Rice took the drastic step of eliminating the Bureau of District Health Administration and relegating Dr. Barnard to the position of consultant in local administration. While this involved no direct lessening of the administrative powers of the district health officers, it did deprive them of any effective representation on the bureau level, thus indirectly strengthening the bureau chiefs. When Dr. Stebbins took over, he discovered that negating Dr. Barnard's authority had done little if anything to solve the recurrent clashes. After careful consideration, he decided that the district health officers needed a stronger voice at the headquarters level, and in September 1942

he made Dr. Barnard assistant commissioner of district health administration. She now outranked the bureau chiefs and was in a far better position to champion the cause of the district health officers. The net effect was to strengthen the role of the district health centers and to embed them more firmly into the department's administrative structure.²²

By 1945 La Guardia had been in office for almost 12 years. His forceful ebullient personality had been eminently suited for leadership during the despairing and drab years of the Depression, but as time went on and economic conditions changed, his colorful antics began to pall. In his zeal for reform and in his blunt and direct approach he had irritated too many powerful individuals and pressure groups. Moreover, the public likes a change, and 12 years in office is a long time. Insofar as the Health Department was concerned, La Guardia never wavered in his support. In April 1945 he proposed a budget for the coming year which included an additional \$113,430 for child health work, more personnel for the tuberculosis clinics, and an overall increase of \$1,200,000. Unfortunately he counteracted this creditable action a few days later when he outraged the department's physicians and the city medical men in general by offering to increase the pay of part-time doctors working for the department by only 17 cents an hour. The New York County Medical Society indignantly declared that the existing wages were comparable to those paid in 1897.²³

La Guardia had never been a strong party man, and during the election campaign of 1945 he managed to split the Republicans by supporting Newbold Morris in opposition to the party's nominee for mayor. The Democrats were fortunate in having in William O'Dwyer an attractive and able candidate. Presenting the image of an honest gang-busting district attorney and judge, free of all connections with political machines, O'Dwyer appealed to many of the voters who had formerly supported La Guardia, and in the election he won a decisive victory. The victory, regrettably, was purely a personal one for O'Dwyer since New York City gained nothing by the change. The promise he had shown in his role as district attorney and judge did not materialize when O'Dwyer was confronted with major responsibilities. As mayor he was indecisive and overawed by the size of the job, and his

decision to resign in 1950 was more a matter of necessity than of wisdom.²⁴

The first indication of how the Health Department would fare under Mayor O'Dwyer came early in February 1946 when a tugboat strike threatened. After conferring with his various commissioners and the Office of Defense Transportation, the mayor was convinced that a strike would bring an immediate fuel shortage. When the tugboat workers struck, he issued an emergency proclamation on February 7, and five days later Dr. Stebbins declared a state of imminent peril and issued an order shutting down industry to conserve fuel. The resultant economic disruption led to outraged protests from the Board of Trade and businessmen in general. This drastic action by the mayor and Health Department may not have been necessary, for as it turned out, the Office of Defense Transportation had underestimated the available fuel resources. Yet Dr. Stebbins had little choice since it was a time of severe cold and heavy snow, and an extended strike would have created serious problems. In any event, O'Dwyer found himself in a difficult position and although he publicly defended Stebbins and the Health Department, he was not happy about the situation. To make matters worse, about this time former Mayor La Guardia in a radio address publicly urged Stebbins to leave the Health Department.

At the time when he had been reappointed health commissioner on January 1, Dr. Stebbins had already been offered the post as dean of The Johns Hopkins School of Public Health. He agreed to serve in O'Dwyer's administration for six months, but he requested the new mayor to appoint a search committee to find his successor. O'Dwyer was worried about the political impact of his handling of the tugboat strike, and La Guardia's radio statement about Stebbins may have brought matters to a head. In any event, on February 19 the mayor announced that he was appointing a committee headed by Dr. Thomas Parran to find a replacement for Dr. Stebbins who was resigning to go to Johns Hopkins. According to Dr. Stebbins, the mayor called him to city hall, asked him if he would like to go to Johns Hopkins as soon as possible, and then suggested that he leave for Baltimore the next day! On March 5, completely disregarding the three candidates proposed by the search committee, the mayor named Dr. Edward

M. Bernecker, former head of the Department of Hospitals, as health commissioner. Bernecker had neither the prestige nor the personal and legal qualifications for the position, and a storm of disapproval greeted his appointment. Dr. Parran publicly resigned from the advisory board, the newspapers accused O'Dwyer of playing politics with the Health Department, and the Board of Health, the New York Academy of Medicine and civic groups joined in condemning the action. O'Dwyer promptly backed down and chose a relatively obscure candidate, Dr. Israel Weinstein, to replace Bernecker.²⁵

Dr. Weinstein was clearly no Hermann M. Biggs, and his selection was greeted with a mixture of amusement and mild derision. According to one version of Dr. Weinstein's appointment, the new commissioner thought that a group of newspapermen, and a reporter for the *Times* in particular, had been partly responsible for his getting the job.²⁶ While the story may well be apocryphal, it expresses the general feeling among newspapermen and the Health Department staff. Dr. Weinstein could scarcely have been unaware of the attitude of many of his fellow workers. He had never been a part of Dr. Stebbins' inner circle, and understandably the members of it must have felt a measure of resentment over Weinstein's appointment. Weinstein must have recognized, too, that several of his associates held far better qualifications for the commissionership than he did. He was particularly uneasy around the two most outstanding women executives in the department, Drs. Margaret Barnard and Leona Baumgartner, both of whom were forceful and intelligent individuals who far outshone the commissioner. Dr. Baumgartner was a particular source of irritation. In her fight for the cause of child health, she was constantly pressing Weinstein to take a stronger role and at the same time mobilizing public support for her cause. Partly out of a fit of pique and in part to place more physical distance between them, he moved her office from the third to the ninth floor.²⁷

In his position as director of the Bureau of Public Health Education, Dr. Weinstein had not distinguished himself, nor had he shown any particular interest in the medical aspects of public health. His one notable contribution as commissioner was in the area of sanitation, more specifically as it related to restaurants.

During the war years the diversion of raw materials and labor into war industries had caused serious shortages in food-handling equipment, with the result that the cooking and washing facilities of the city's 22,000 eating establishments steadily deteriorated, making it virtually impossible to maintain adequate sanitary standards. To make matters worse, the Health Department had been too preoccupied with other matters to pay more than cursory attention to restaurants. When he took office, Dr. Weinstein was fortunate in having as the head of the Food Division Mr. Jerome Trichter, a zealous and efficient health leader. The two men first obtained authority from the Board of Health to close the worst restaurants. They then began a publicity campaign to warn owners and operators that they intended to enforce the existing sanitary regulations. Mayor O'Dwyer, to his credit, strongly backed the drive and told his district political leaders to keep out of this and other Health Department affairs.

After giving ample warning, the sanitary inspectors closed several of the biggest restaurants in the city and did not permit them to open until they had cleaned their kitchens and remedied all unsanitary conditions. Trichter and his men soon discovered that the reform was purely temporary, for within a few weeks after reopening, the restaurants exhibited the same deplorable conditions. The difficulty, as Trichter saw it, was that the operators simply did not know how to conduct an efficient and clean food service business. With this thought in mind, he and Weinstein requested the Board of Health to enact a law requiring the operators to inspect their own places or employ trained inspectors for the job. In conjunction with the new sanitary regulation, an inspection report was designed which included a checklist of possible abuses. This report provided information for the Health Department, and at the same time served to inform the owners or managers about the sanitary regulations. Where violations were reported, the department took no action providing that efforts were being made to correct them. Subsequently the department began offering courses in food handling and sanitation.²⁸ This policy of self-inspection, which had already been introduced into the milk processing and handling industry, led to a considerable improvement in the city's eating places.

In March and April of 1947 New York City was confronted

with the possibility of its first smallpox epidemic in 35 years. A businessman living in Mexico returned to New York on March 1 and registered at a midtown hotel. Subsequently he was taken to a city hospital where he died of smallpox. Before the infection was diagnosed, other cases developed. Realizing the danger, Commissioner Weinstein and several of his aids went to see the mayor and secured his permission for a massive campaign to vaccinate the 7,000,000 New Yorkers. The department recognized the danger in vaccinating so large a number but felt that it had no alternative. A second potential danger lay in the field of public relations: how to convince people to be vaccinated without creating a major panic. Fortunately, the Health Department had a long tradition of reliability and honesty, and Karl Pretshold, its able chief of public relations, was on excellent terms with the mayor and the city's newspapermen. Pretshold's first decision was to make all information accessible to the news media and to gain their confidence by a policy of complete frankness. With the support of the newspapers and with the help of a judicious public relations campaign, the entire vaccination program proceeded smoothly and the smallpox outbreak was kept under control.²⁹

In the smallpox crisis, Dr. Weinstein had acted decisively and correctly, but his subsequent reporting of the event may have contributed to his downfall. It is alleged that he irritated Dr. Bernecker of the Hospital Department by suggesting that the first case should have been diagnosed in the hospital. Bernecker, a close friend of O'Dwyer, resented what he felt was Weinstein's attempt to place the blame on his department. At the same time Weinstein hurt O'Dwyer's feelings by failing to give the mayor enough credit for his role in averting the epidemic. Whatever the part played by pique and personal feelings, Weinstein had been a second choice for the office and his appointment had been greeted with little enthusiasm.³⁰ O'Dwyer, for all his faults, was interested in health matters, and he probably did wish to have a first-rate health commissioner. It was undoubtedly a combination of all these factors which led him to begin looking around for a new health commissioner.

After two inauspicious choices, the mayor was determined not to make a mistake the third time, and he turned to the public health field for his next selection, Dr. Harry S. Mustard. Mustard

was a public health educator with a long history of public health service. He had been director of the School of Public Health at Columbia University since 1940, and his credentials for health commissioner were unimpeachable. He was acceptable to the medical societies, and his appointment on November 4, 1947, was generally greeted warmly. Mustard proved to be a strong, intelligent administrator with a capacity for winning the respect of his associates and employees.³¹

Upon taking office, Dr. Mustard decided to face up to the major administrative problem which had beset the department for so many years, the continuing struggle between the bureaus and the district health offices. Mayor O'Dwyer had taken the initiative on this matter in 1946 when he assigned Paul Ross, his administrative assistant, to make a thorough survey of the Health Department. The Ross report, which was completed early in 1947, found the basic conflicts which had plagued the department since the introduction of the district health offices still unresolved. In addition to these points of conflict, the continuing lack of cooperation and understanding between bureau officials and district health officers tended to magnify trifles and turn them into major problems. The crux of the situation was the failure of the Health Department to see that its objectives had been changing. Police work and the suppression of epidemics were giving way to the more positive aim of achieving individual health conservation through the local community health services. Granting this objective, then the district health officers should be "the primary line organization of the Department."³² This perceptive report, backed by the power and prestige of the mayor's office, should have provided Dr. Weinstein with enough ammunition to have inaugurated a significant change. Dr. Weinstein, however, was not a man to rock the boat, and the report appears to have been quietly shelved.

Less than two months after Dr. Mustard took office, on December 26, 1947, a major snowstorm dumped 26 inches of snow on New York City, virtually paralyzing all normal activities. As the city desperately struggled to clear its streets and provide minimal services, the Health Department was literally besieged with calls for help. The logical action centers were district health offices, but the health officers had little authority, and in the

emergency field workers turned to their bureau heads for instructions. Aside from the loss of time involved, in attempting to contact the Health Department headquarters, the central bureaus had little understanding of local conditions. Prior to the storm, Dr. Mustard had been considering a policy of gradually strengthening the authority of district health officers, but the crisis forced him to take immediate and drastic action. On New Year's Day, 1948, he issued Executive Order No. 429 which for the first time gave real power to the district health officers.³³

The first of four major provisions in Dr. Mustard's decree stated that "all localized activities of the Department of Health" formerly directed by the respective bureaus in the central office were now the responsibility of the district health officers, and that the latter were to have full authority to make decisions and allocate personnel. The second ordered that all communications to the district health offices, including technical instructions, must pass through the office of the director of district health administration. A third authorized this director to hold up for 24 hours any technical directions with which he disagreed. In the event the district health administration director and the bureau head could not agree within this period, the matter was then to be referred to the commissioner. The fourth provision stated that field personnel must obey the orders of the district health officer. They were, however, allowed to make a written protest to the appropriate bureau chief with a copy to the district health officer.³⁴

Although designed as an emergency measure, Order No. 429 was never rescinded. Its immediate effect was to enable the more forceful district chiefs to gain firm control over their own districts. In the long run the order was not quite so effective, since Dr. Mustard's action changed neither the views nor attitudes of the bureau chiefs and their staffs, and the commissioner was too preoccupied with other matters during his two-year tenure to follow through effectively. Nonetheless, Dr. Mustard had given a strong impetus to the development of district health centers and his executive order is a major landmark in their history.

In addition to giving the health centers a more important role, Dr. Mustard revived the building program which had been disrupted by the war. In 1948 construction was started on the Brownsville Health Center in Brooklyn and proposals were made

to include funds for five new health centers in the 1949 budget. To meet the acute personnel shortage, which had continued into the postwar period, the department inaugurated a training program for health assistants, 21 of whom were trained in the latter part of 1948 and assigned to district health offices on January 1, 1949. Recognizing the need for more administrative help, two district health officers were relieved of their duties and designated as regional health officers. Their new responsibilities were to serve as a liaison between the director and the local health officers, to assist the latter, and to coordinate the work of the districts in their boroughs. Unfortunately, a shortage of health officers later in the year necessitated reassigning these two officers to their original districts.³⁵

Enlisting local committees to help with the health center work had proved quite successful, but experience showed that strong health officers frequently tended to dominate their committees. To prevent this, the Health Council of Greater New York resolved that Health Department employees could no longer serve on local committees except in a consultive capacity. In what may have been a corollary to this action, the department late in 1948 conducted a series of seminars on public relations for the benefit of district health officers. This same year three different types of mental hygiene programs were established in three of the health districts. One, in the Red Hook-Gowanus district, was designed to educate the staff in the principles and practices of mental hygiene. It was financed by the National Mental Health Act and the funds were channeled through the New York State Department of Mental Hygiene to the New York Committee on Mental Hygiene of the State Charities Aid Association. A second program, established in the lower west side health district, was a pilot study to determine the best way to provide a mental hygiene consultant service in the child health stations. A third in the Bedford health district was created in response to community demand for mental health facilities and was supported by the Health Department and several voluntary groups.³⁶

Another major task undertaken by Dr. Mustard was an overhaul of the Health Department's administrative structure. With Dr. Mustard's full cooperation, the Division of Analysis of the Bureau of Budget authorized an administrative study of the

Health Department. As a result, on June 4, 1948, a report prepared by David Bernstein entitled "Proposed Reorganization of the Department of Health" was submitted to the Mayor's Executive Committee on Administration. The report stated that the department's existing structure, consisting of 18 separate bureaus integrated by two deputy commissioners, made for an unwieldy administrative organization and placed too heavy a load upon the commissioner and his deputies. At Dr. Mustard's suggestion, it was proposed to divide the bureaus into five groups, each one under a deputy commissioner or an assistant to the commissioner. This recommendation was put into effect, and the department was divided into five major divisions: Administration, Environmental Sanitation, Maternal and Child Health, Community Health and Organization, and Preventable Diseases. Aside from providing a more efficient operation, the reorganization served to free the commissioner from much of the petty detail of administration.³⁷

Busy as he was with his administrative reforms, Dr. Mustard found time to promote the cause of adult hygiene. In April 1948 he recommended to Mayor O'Dwyer that funds be made available for the expansion of the department's various adult health activities. The following month O'Dwyer announced a new adult health program which was to include the establishment of diagnostic facilities. In cooperation with the deans of the city's five medical schools, Dr. Mustard drew up plans for a diagnostic clinic and announced in July that the first one would be located in the Lower West Side District Center building. In December the department's Bureau of Adult Hygiene was officially established with Dr. Alice Waterhouse as director. A noteworthy event in Dr. Mustard's regime came in November of 1948 when the Board of Health was given authority to revise the Sanitary Code.³⁸ Although the code had been amended frequently in the previous 75 years, many of its provisions were archaic and the whole code needed to be systematized and revised. This job was a major undertaking, however, and five years elapsed before serious work was started on it and another five before it was completed.

In conjunction with the administrative reorganization of 1948, Dr. Mustard made a number of excellent appointments. School health was taken from the Bureau of Child Hygiene and given bureau status under the direction of Dr. Robert W. Culbert.

Much of the work formerly handled by the Child Hygiene Bureau was transferred to a Bureau of Mothers and Young Children, and in January 1949, a well-known expert in maternal and child health, Dr. Samuel M. Wishik, was named head. The Division of Nutrition was raised to a bureau, and on January 19 Dr. Norman Jolliffe, a leading authority on the subject, was placed in charge. Dr. Mustard, as an academician, had drawn heavily from educational institutions in making appointments, and when he was looking for a health educator, he turned to a Columbia University professor, Dr. George Rosen. Rosen, who was appointed director of the Bureau of Health Education in February 1949, was an intelligent and able individual who brought new ideas and a fresh viewpoint to the bureau.³⁹

Another area in which notable progress was made during the Mustard administration was in the control of venereal disease. Under Dr. Rosenthal's direction, the Bureau of Social Hygiene literally saturated New York City in November 1948 with a venereal disease campaign. Every possible medium was used, radio, newspapers, posters, theaters, and schools. Notices were posted on juke boxes, taxicabs, and in Transit Authority vehicles. Only four years earlier the Transit Authority had refused permission, but a new attitude was developing. The campaign, which carried over into 1949, was greatly aided by the emergence of a new and simple form of therapy. The routine treatment of gonorrhea with a single shot of penicillin was achieving a cure rate of about 90 percent, and a second shot usually sufficed for the rest. The use of penicillin for syphilis was gradually expanded to include all stages of the disease, and the results appeared equally miraculous. Whereas the former treatment with arsenicals and heavy metals had been long and difficult and often required hospitalization, it was now possible to treat virtually all syphilitic cases on an outpatient basis. In 1946, prior to the introduction of ambulatory care, 1,500 syphilitic patients were hospitalized; by 1949 the number was reduced to 32. Understandably there was a widespread expectation that venereal diseases would shortly be brought under firm control.⁴⁰

Late in September 1949 Dr. Mustard announced that he was resigning to accept a position with the State Charities Aid Association, and Mayor O'Dwyer was once again forced to look

around for another health commissioner. Anxious to avoid even the appearance of having played politics with health, he looked for another health professional to fill the job and turned to Dr. John F. Mahoney. Mahoney had just retired from his position which he had held since 1929 as director of the United States Public Health Service Venereal Disease Laboratory on Staten Island. All evidence indicates that Mahoney was an exceedingly reluctant candidate and only accepted on O'Dwyer's urging. Whatever the case, he was sworn into office on January 1, 1950.⁴¹

On glancing back over Dr. Mustard's relatively brief tenure, it is clear that it was a good one. His excellent reputation in the public health profession and his administrative ability helped to improve the public image of the department, and his quiet, kind personality restored a measure of harmony among the employees. While not as forceful or colorful as some of his predecessors, he made a notable contribution and left with the good wishes of the entire staff. In summarizing his administration, the *Times* commented that he had made a determined effort to improve the Health Department and had kept it free from politics and corruption.⁴²

The years from 1950 to 1954 were inauspicious ones for the city of New York and for its Health Department. Mayor O'Dwyer resigned in September 1950 to become ambassador to Mexico, a step which was probably well advised. He was succeeded by Vincent R. Impellitteri who had broken with the regular Democrats and won the special election. Impellitteri was in no sense a forceful personality, and he was content to let the city administration jog along. In Dr. Mahoney, O'Dwyer's choice for health commissioner, the new mayor found a man with whom he could get along quite well. Dr. Mahoney was primarily a research man who much preferred his laboratory to public life, and he was not one to press the mayor for money or action. Insofar as possible Mahoney was content to leave administrative matters to his deputy, Dr. Samuel Frant, and the bureau chiefs, with the result that Frant became commissioner in all but name.⁴³

By the time Dr. Mahoney took office in 1950, the Health Department was beginning to feel the cumulative effects of ten years of inadequate budgets, low salaries, and excessive staff turnover. Moreover, these problems were complicated by the in-

creasing demands for greater services. The advent of the Cold War, however, temporarily threw these matters into the background. As the goodwill existing between Russia and the western allies at the end of World War II gave way to mutual suspicion with the Communist takeover of Czechoslovakia and the beginning of the Berlin Airlift in 1948, America and western Europe began strengthening their military position. By 1950 the fear of atomic and bacteriological warfare had led to the creation of civil defense organizations throughout the United States. New York State provided for the establishment of civil defense units in April 1950, and the following August New York City set up a Medical Emergency Division. This unit was under the joint direction of the Hospitals and Health departments. Two months later the Health Department organized a separate Public Health Emergency Division. These two emergency divisions were given responsibility for organizing, recruiting, training, and equipping the 400 first-aid stations which were planned for the city. From the start the public was skeptical about civil defense and quickly lost interest. By 1952 Dr. Mahoney was among those public officials decrying public apathy.⁴⁴ The American public in this instance showed infinitely more wisdom than its leaders. When one considers the aggressiveness of American foreign policy during the past 20 years, it is frightening to think what the policy might have been had the public felt completely secure in its bomb shelters and first-aid stations. Whatever the merits of civil defense, Health Department administrators and personnel spent a great deal of time and energy on the project, which could have been spent for better causes.

Meanwhile the department had to deal with its routine, and not so routine, tasks. Two events which required its special attention in 1950 were a huge Jehovah's Witnesses convention in late July and early August and a hurricane alert in November. In both instances the department assigned task forces to safeguard food and sanitary conditions.⁴⁵ An important step toward rat eradication was taken that year with the appointment by the mayor of Colonel William A. Hardenbergh, a well-known sanitary engineer, to serve as a consultant to the commissioner of health on the rat problem. Under his direction, a rodent control unit was formed to coordinate and improve the work performed by the

city's 1,100 licensed pest control operators, to standardize rat control procedures among city agencies, and to conduct research on rodent control measures. Shortly afterward a special unit of 16 inspectors was assigned to work with the Department of Housing and Buildings on the rat problem. During 1950 these inspectors conducted a house-to-house survey covering 18 blocks in Harlem. Subsequently, using the new and effective rat poison, Warfarin, a pilot study of effective rodent eradication was started in Brownsville. The successful completion of this project in 1953 led the city to embark upon a five-year program to clean up the approximately 1,000 rat-infested blocks throughout the city.⁴⁶ Considerable progress was made, but since the percentage of intelligent rats and unintelligent humans does not change, the Health Department is still fighting the battle.

The growing use of X-rays, fluoroscopes, and radioactive isotopes led the Health Department to establish a radiation inspection unit in November 1950. This five-man unit was responsible for inspecting X-ray and fluoroscopic equipment, the handling of radioactive isotopes, and for investigating the radiation background count of the city. While radiation posed an indirect threat, the Health Department became aware at this time of the more immediate danger from accidental gas poisoning. The Medical Examiner's Office, under the able direction of Dr. Milton Helpern, first drew attention to gas poisoning by reporting that 2,442 carbon monoxide deaths had occurred in the city during the decade of the 1940s. Helpern had noticed that these deaths were concentrated in older buildings and that there was a rising incidence of accidental poisonings resulting from defective gas refrigerators. In response to these findings, a gas poisoning unit was organized in the Bureau of Sanitary Engineering, and all inspectors visiting homes were instructed to check upon gas appliances, paying particular attention to gas refrigerators. The following year an intensified inspection campaign was started in the areas where the greatest number of carbon monoxide deaths had occurred, with 100 specially trained inspectors assigned to the job. The net effect was to bring a drastic reduction in gas fatalities. In 1953 the first death in two years from a defective gas refrigerator led to another large-scale inspection program. The Board of Health considered banning these refrigerators, but by

this time the situation was well under control and the worst sources of danger had been removed.⁴⁷

By 1950 working mothers had become a fact of life, and an estimated 100,000 children were being cared for in day camps. Complaints about unsanitary and unsafe conditions in these camps led the Health Department to make a survey at this time which demonstrated the truth of many of the charges. Under the existing regulations, however, the department's authority was restricted to day camps caring for children below school age. In 1951 the department was given responsibility for the six and above age group, and a day camp unit was established in the Division of Day Care and Foster Homes.⁴⁸

One of the earliest and most troublesome issues which had beset the Health Department was that of cellar dwellers. After struggling to eliminate cellar apartments for many years, the matter was apparently solved in the early twentieth century when a new provision in the Sanitary Code forbade the use of cellars as dwelling places. The victory proved only temporary, for an acute housing shortage following World War II once again brought up the issue. A survey in 1952 of some 25,000 buildings revealed that 3,257 cellars were occupied. The following year the Board of Health held an open hearing on a proposed code of minimum standards for basement dwellings. Although almost every witness at the hearing opposed these apartments in principle, they were forced to concede that basement apartments were better than no housing at all.⁴⁹ Basement living had once again become a way of life, but the department at least guaranteed that lighting, ventilation, and sanitary conditions were adequate.

As indicated earlier, the major problem confronting the Health Department during Dr. Mahoney's administration related to personnel shortages resulting in part from inadequate salaries. During the Depression years, the Health Department had been able to recruit physicians and other professional employees with relative ease, but this situation was already changing by 1940. The rising standard of living, particularly in the postwar era, created a demand for medical and dental care which almost overwhelmed the two professions. Salaries in the private sector generally were improving, but those for state and municipal employees lagged far behind. Although for ten years or more staff physicians and

medical societies had been complaining about the city's inadequate pay scales, little had been done as of 1950. By the time Dr. Mahoney took office the more able health professionals in the department were being lured away into medical and public health schools, foundation laboratories, and private industry. In an effort to recruit outsiders, the city exempted medical personnel from the provisions of the Lyons Residence Law which required the employment of city residents, but this measure proved no solution.

Matters came to a head in 1951 as a result of a series of resignations. The last of these was that of Dr. Margaret W. Barnard, director of the department's District Health Administration. In reporting her departure, one newspaper commented that her loss raised the number of unfilled top supervisory positions to eight. Shortly before Dr. Barnard resigned, a Citizens' Committee on Children had pointed out that six of the ten highest posts in one bureau, that of Maternal and Child Health Services, were vacant because the salary range of from \$6,150 to \$8,350 offered little inducement to qualified physicians, and all appeals to the mayors, budget director, and Board of Estimate for higher salaries had been fruitless. On October 15 the *Times* added its voice to the call for reform by asserting that the "alarmingly high" turnover among the Health Department's physicians and nurses was seriously handicapping operations.⁵⁰

With the newspapers joining in the chorus of complaints, Budget Director Thomas J. Patterson announced in October that he was requesting the Health Department to give him a detailed plan showing the pay increases necessary to keep specialized personnel on the job. Any good will resulting from this announcement was quickly dissipated a few weeks later when Patterson requested a \$250 pay cut for seven of the department's tuberculosis clinicians. In February it was announced that the newest child health center in the Bronx, although fully equipped and ready for operation, was unable to open its doors because no public health nurses were available. Two months later the Citizens' Committee on Children again criticized the Health Department for failing to provide adequate child health services. It noted that despite crippling personnel shortages, the department was

spending only 75 percent of the amount budgeted for salaries and had saved \$2,000,000.⁵¹

This personnel shortage was only one of the troubles confronting the Health Department in 1951. The Public Health Committee of the New York Academy of Medicine sweepingly indicted the department for such basic weaknesses as faulty and obsolete practices, poor salaries, a slow and cumbersome civil service, and inadequate budgetary control. It asserted that the health commissioner had virtually no control over the funds allocated to his department, and that frequently the Bureau of Budget or the Board of Estimate made decisions without consulting Health Department officials.⁵² This budgetary practice, which was recognized as a major problem by every responsible health official, had started during La Guardia's administration as an effort by the mayor's office to reduce graft and waste in all city departments. Whatever its overall effect upon the city administration, insofar as the Health Department was concerned the result was anything but salutary. The commissioner had no flexibility in spending his budget, and too frequently the department's limited funds were misapplied at the insistence of accountants and business administrators who had no understanding of the Health Department's objectives or needs.

The Health Department was not alone in requiring a major overhaul, and in 1951 the City Council voted an appropriation of \$239,200 for a comprehensive study of the city administration, of which \$101,700 was allocated to the Health Department. A management concern, Barrington Associates, Incorporated, was brought in to review administrative procedures, and the American Public Health Association (APHA) agreed to undertake a professional assessment of the department.⁵³ Barrington Associates submitted its report on October 17, 1951, and the conclusions must have gladdened the hearts of all health officials, past and present, who had fought to establish the principle of district health centers. After studying the organizational chart, Barrington Associates concluded that the effort to decentralize operations to the district level had simply not succeeded. While theoretically the lines of authority flowed from the Bureau of District Health Administration to the district health centers, there were dupli-

cate lines of authority running from each bureau to the health center level. The net effect was to make the district health officers subject to as many as 12 different bureaus. Aside from denying the district health officer any real measure of responsibility, the system resulted in a multiplication of paper work. The firm noted, too, that the director of district health administration was on the same organizational level as many of the bureaus which he was supposed to coordinate. With civil service protocol firmly established throughout the Health Department, "the possibility of one Bureau Director guiding, supervising or coordinating a group of other Bureau Directors was most unrealistic."⁵⁴

Barrington Associates suggested that the best solution was a high degree of decentralization in which the health officer would have complete control over all health activities within the geographical area comprising his district and thus would be solely responsible for the quality and economy of services rendered. He would keep his superior informed of all activities, and in turn would receive all instructions, both administrative and technical, from his own bureau director. With the district health officers assuming more administrative responsibility, the central bureaus would then be reduced to planning and research organizations.⁵⁵

The American Public Health Association assembled a staff headed by Dr. Luther Gulick and his assistant, Carl Heyel, and completed its report in January 1952. Its tone was set in the opening statement: "The Department of Health of New York City was once an outstanding leader in municipal affairs. . . . It was one of the best health departments in the country. It no longer is." For the past 25 or 30 years few major contributions had come from the department, and while New York was resting on its laurels, the report continued, other city health departments had caught up and were now in many instances surpassing it.⁵⁶

Not surprisingly the area which showed up best in the APHA report was that of Maternal and Child Health, a field in which Leona Baumgartner and her able associates had been working for some years. Through a judicious use of "imagination and industry" the staff had compensated for the "low salaries, expensive turnover, key vacancies, and frustration," and provided the city with the lowest infant mortality rate out of ten of the nation's

large cities. Although New York ranked only sixth in maternal mortality, the Division of Maternity and Newborn Services had performed notable work in helping hospitals to improve their services and had contributed to closing 13 proprietary hospitals which did not meet minimum standards. Judging from the 1951 report of Dr. Edwin M. Gold, an obstetrical consultant for the Health Department, a good deal of work still remained to be done with the hospitals. He was particularly critical of the blood, anesthesia, and prenatal services, and he described hospital records as "grossly inadequate."⁵⁷ Granting the validity of his criticism, the hospital services had improved and the Health Department was constantly pressing for further reforms.

The child care services in general were found to be satisfactory. Approximately 25 percent of infants born in New York City were receiving supervision through the child health stations. While commending this service, the report suggested that it was not fully meeting the demands or needs of the people. The day-care program was praised, although the report noted certain staff deficiencies due to inadequate salaries and the loss of valuable personnel. The program for handicapped children did not fare so well. Because the city offered a wide range of facilities for these children, the Health Department had never devised a comprehensive program for them. The only service it offered was to handle the payment by the state for hospital care in cases of necessity. Even here the Health Department's sole function since assuming responsibility in 1945 had been to review diagnostic and financial eligibility. The APHA investigations, noting that there was no evidence of case finding, no approved list of hospitals, and no follow-up, recommended a radical revision in the department's approach to the problem.⁵⁸

The school health program, an area in which the department had traditionally demonstrated leadership, received an excellent rating. The Astoria Plan, "which substituted an orderly screening and referral service . . . for the former cursory, rapid medical inspections," was described as a major contribution to school health. Despite personnel shortages and other difficulties, the study group felt that the school health program had continued to improve largely as a result of dynamic leadership. The only recommenda-

tion it made was to strengthen the existing health services in the grade schools and to extend those offered in secondary schools on a gradual basis.⁵⁹

The tuberculosis program was commended for its excellent case-finding procedures, but the study group considered the public health nursing service inadequate. The chief weakness, however, lay in the poor quality of hospital services and the shortage of hospital beds. The group's report concluded that tuberculosis was still a major problem and urged that the city make a maximum effort for the next ten years.

Insofar as environmental sanitation services were concerned, the investigators found that much of the work was duplicated by other city departments and suggested it would best be left to them. For example, the Education Department should be responsible for inspecting schools and the Housing and Buildings Department for handling heat complaints. The survey group, after questioning whether or not milk inspection practices established 25 years ago still had validity, recommended that the department withdraw its inspectors from the city's extensive milkshed and accept the milk inspection standards set by the various state health boards.⁶⁰

With reference to the department's laboratories the committee urged the elimination or reduction of the manufacture of biologicals on the grounds that similar products were available from the State Health Department or commercial firms. The Public Health Research Institute, which by 1952 was receiving an annual city appropriation of \$400,000, was given a high rating. The nutrition program was praised, but with the suggestion that it should be broadened.⁶¹ The traditional communicable disease control program was another service which the study group felt should be drastically overhauled. The report urged reducing the program to a maintenance level, integrating its operation into the district health offices, and placing its direction in the hands of a small group of trained epidemiologists. The dog bite service was considered to be overloaded with paper work, much of which could be eliminated by simplifying the system. The committee also recommended transferring the cost of the service to the dog owners. The venereal disease program was rated excellent, but

the group did suggest that a thorough survey be made of the incidence of venereal diseases and of the methods for their control.⁶²

The dental program was classified as outstanding, and the APHA study group strongly supported the department's position that the city should fluoridate its water as soon as possible. The group noted that New York City was the chief center for psychiatric practice in the country, but that there was no coordinated program for mental health in the department. It recommended the creation of a small mental hygiene service at the bureau level. Two areas which did not fare well in the final report were public health nursing and health education. The nursing service needed a major overhaul, one which should include a training program, reassignment of duties, and reorganization of the entire bureau. The ratio of nurses to the population was felt to be far too low, and the investigators found that less than 25 percent of the staff nurses were able to meet minimum professional standards. Many of the health administrators, the report stated, had little understanding of the work of the public health nurses nor of the importance of their qualifications.⁶³ The Bureau of Health Education was described as a serious weak point in the department's activities. Its work was ineffective, its printed matter both excessive and of an inferior quality, and its staff lacking in educational qualifications. The first and most important step, the report declared, was to appoint a qualified staff. With respect to the city's hospitals, the study group noted that they fell under the jurisdiction of four different government agencies, and it recommended the development of a standardized hospital licensure procedure.⁶⁴

The APHA staff agreed with Barrington Associates that the district health office program was not working satisfactorily. It also concurred with the firm in stating that the program could work and that it represented the best way to provide health services in the city. The staff report asserted that the health districts had "become merely a tool of the Department of Health in carrying out its programs rather than a focal point of community health planning and service." It also criticized plans to enlarge the existing health centers when experience had shown that substations were far more useful. The APHA staff felt that community planning and the coordination of the various health agencies in the city

were inadequate. Neither the Welfare Council of New York City, organized in 1925, nor the Health Council of Greater New York, created in 1946, were playing effective roles, and the report suggested they be merged into one body in which local councils at the district level would be largely autonomous.⁶⁵

In dealing with the personnel problem, the report strongly assailed the civil service system, which it described as "geared to the interest of the clerks" and unrealistic toward professional personnel. Making an obvious suggestion, it urged that the Bureau of the Budget's authority over personnel be limited and that the department be given more flexibility in the allocation of salaries. The department's program for training personnel was commended, and the report urged that it be broadened. A weak point in the entire city government was the lack of cooperation between city departments. The APHA staff urged the appointment of coordinating boards in such areas as tuberculosis control, school health, and sewage disposal. Although the Health Department had seen a number of able and distinguished commissioners, the staff report pointed out that there had been a lack of continuity in leadership, and that the commissioner was too remote from his staff. As a partial solution, the report suggested extending the term of office for the commissioner to six years. For the Board of Health, the report recommended that members be given five-year staggered terms and that no single business or professional group be dominant on the board. It recommended, too, that the board should be primarily a policy-making and judicial body with its administrative functions delegated to the health commissioner.⁶⁶

The study group found that the relations between the city and state health departments were satisfactory. Since 1947, when state funds had become available, the city's health budget had almost doubled. Unfortunately, rigid control by the Bureau of the Budget had negated much of the benefit which should have resulted and had simply caused the lapsed and unused funds to increase from 14 to 20 percent. The report commented that at one time the City Health Department had been superior to that of the state, a situation which was no longer true. It then suggested that combining the efforts of the two health departments could give New York the best city health services in the world. In its concluding remarks, the study group noted that civil defense activities were

taking a great deal of the department's time, attention, and money, with the result that a number of important programs had to be reduced.⁶⁷

The APHA report was released late in March and occasioned a flurry of newspaper articles and editorials. The Citizens' Committee promptly set forth a program designed to incorporate the main recommendations, and various speakers warned of the deterioration in city health services. Under pressure to take some action, on November 10 Mayor Impellitteri announced the formation of an Interdepartmental Health Council to coordinate the activities of the Health, Hospitals, and Welfare departments.⁶⁸ This concession to the public demand for reform cost little and was not likely to precipitate any bureaucratic clashes.

The two major problems, finances and the need for a thorough administrative overhaul, required strong and forceful action and neither the mayor nor the health commissioner had the requisite energy or ability for the task. Although no large-scale reforms were undertaken, the Health Department had many able individuals on its payroll, and a number of innovative measures were taken during 1952-53. In 1952 the Division for Crippled Children was raised to bureau status, and the following year this newly created bureau broadened its services to include the care and rehabilitation of adult polio patients. The bureau also cooperated with private and public agencies in dealing with the victims of cerebral palsy and muscular dystrophy.⁶⁹ The Bureau of Preventable Disease in 1953 initiated the distribution of limited quantities of gamma globulin for use where the danger from paralytic polio seemed greatest. In this same period, as it became clear that isoniazid was valuable in the treatment of tuberculosis, the Bureau of Tuberculosis was pushing ahead with this new form of chemotherapy.⁷⁰ The Bureau of Nutrition, recognizing the problems of newly arrived Puerto Ricans, began preparing an English-Spanish cookbook and other literature designed to help in shopping and preparing food.⁷¹

The most significant event for the Health Department during 1953 was the victory of Robert Ferdinand Wagner, Jr., in the municipal elections. Mayor Wagner's administration was not without its weaknesses, but the mayor had an active interest in public health and social welfare, with the result that under his

administration the city made some notable strides. For example, his decision to grant collective-bargaining rights to city employees completed the elimination of the old-style political machines. The advent of social security and broad sweeping welfare programs had already destroyed the main basis of urban political machines, and Wagner's action, by removing the obligations of city employees to the dominant political party, completed their downfall in New York City.⁷² In another innovative step, Mayor Wagner appointed two women to high-ranking city positions, Anna M. Kross as commissioner of corrections and Dr. Leona Baumgartner as health commissioner. Both of these appointments were warmly praised by the newspapers. The *Times* described Dr. Baumgartner as "well-trained, a good administrator, honest [and] forthright." She was also, the *Times* added, acutely "conscious of the need for management improvements within city departments. . . ."⁷³

Before turning to Dr. Baumgartner's regime, it would be well to evaluate Dr. Mahoney's years as commissioner. It is clear that the Health Department was generally marking time during his administration. Although able individuals within the bureaucracy were initiating new procedures and some improvements were made in the organizational structure, no serious effort was made to tackle the problems of inadequate salaries and archaic practices. Dr. Mahoney had taken the commissionership only reluctantly, and he had little stomach for the political battling necessary to obtain adequate funding nor for the personal confrontations involved in modernizing departmental procedures. Nonetheless, the two surveys made during his tenure of office by revealing major weaknesses laid the basis for revitalizing the department during the next administration.

Notes to Chapter 15

1. *Ann. Rep., Bd. of Health, 1941-48*, pp. 24-25.
2. *Ibid.*, p. 38; *Times*, November 2, 1941; January 21, May 29, December 26, 1943.
3. *Ann. Rep., Bd. of Health, 1941-48*, pp. 44-45.
4. "Ann. Rep., Bd. of Health, 1941," pp. 159-61, 171; Jerome Trichter, "Development of Self-Inspection for Sanitation in Food Plants of New York City," *Food Technology*, V (1951), 528-30.
5. *Ann. Rep., Bd. of Health, 1941-48*, pp. 50-52; Saul Benison, *Tom Rivers*:

World War II and After

Reflections On a Life in Medicine and Science (Cambridge, Mass., 1967), pp. 390-91.

6. *Ann. Rep., Bd. of Health, 1941-48*, pp. 49-50.
7. *Ibid.*, p. 46; "History of the Bureau of Sanitary Engineering," November 1962, N. Y. C. Health Department ms., p. 8.
8. "Ann. Rep., Bd. of Health, 1941," p. 18; *1941-48*, pp. 37-38; *Times*, January 12, 1942; "A Public Health Nutrition Program, Retrospect, Introspect, Prospect," March 22, 1965, N. Y. C. Health Department ms., pp. 1-3.
9. "A Public Health Nutrition Program, Retrospect, Introspect, Prospect," pp. 1-3; *Times*, November 7, 1943; April 19, 1944.
10. See the *Times, Herald*, et al., 1941-42; "Ann. Rep., Bd. of Health, 1941," p. 5.
11. "Ann. Rep., Bd. of Health, 1941," pp. 146-47; *Ann. Rep., Bd. of Health, 1941-48*, p. 26; *The Eradication of Syphilis, A Task Force Report to the Surgeon General of the Public Health Service on Syphilis Control in the United States, Leona Baumgartner, Chairman*, Washington, D.C.: U. S. Department of Health, Education and Welfare, Public Health Service (1961), p. 9.
12. *Herald Tribune and Times*, October 5, 10, 1943; January 24, 1944.
13. *Ann. Rep., Bd. of Health, 1941-48*, pp. 21-22.
14. "Ann. Rep., Bd. of Health, 1941," p. 6; *Ann. Rep., Bd. of Health, 1941-48*, pp. 18-19, 43; "The Bureau of Tuberculosis," N. Y. C. Health Department ms., p. 8.
15. "Ann. Rep., Bd. of Health, 1941," pp. 46-47; *Ann. Rep., Bd. of Health, 1941-48*, pp. 29-30.
16. *Ann. Rep., Bd. of Health, 1941-48*, pp. 28-29; Cornelia Goldsmith, "Child Day Care, A Public Health Responsibility," *American Journal of Public Health*, XLIX (1959), 1070-72; "History of the Division of Day Care, Day Camps and Institutions, 1943-63," N.Y.C. Health Department ms., pp. 1-3.
17. [Cornelia Goldsmith], "For the Well-Being of Children in the City Day Camps," *The Child*, October 1951, Federal Security Agency, Social Security Administration, Children's Bureau, no pagination; Goldsmith, "Child Day Care, A Public Health Responsibility," pp. 1071-72; "History of the Division of Day Care," pp. 1-3; *Ann. Rep., Bd. of Health, 1941-48*, pp. 28-29.
18. "History of the Office of Social Work," August 1965, N. Y. C. Health Department ms., pp. 1-2; *Ann. Rep., Bd. of Health, 1941-48*, pp. 35-36; Leona Baumgartner, "One Hundred Years of Health: New York City, 1866-1966," *Bull. of N.Y.A.M.*, 2d ser., XLV (1969), 570-71.
19. "Ann. Rep., Bd. of Health, 1941," pp. 48-49; "History of the Bureau of School Health," November 2, 1962, N. Y. C. Health Department ms., pp. 4-6.
20. *Ann. Rep., Bd. of Health, 1941-48*, pp. 31-32; "History of the Bureau of Dentistry," N. Y. C. Health Department ms., p. 6.

21. "Ann. Rep., Bd. of Health, 1941," p. 7; *Ann. Rep., Bd. of Health, 1941-48*, pp. 40-41, 65.
22. "Ann. Rep., Bd. of Health, 1941," p. 28; "History of District Services," October 30, 1962, N. Y. C. Health Department ms., p. 7.
23. *Herald Tribune*, April 1, 6, 1945; *Times*, April 2, 6, 1945.
24. Wallace S. Sayre and Herbert Kaufman, *Governing New York City: Politics in the Metropolis* (New York, 1960), pp. 696-97; Allan Nevins and John A. Krout, *The Greater City, New York, 1898-1948* (New York, 1948), pp. 113-14.
25. *Ann. Rep., Bd. of Health, 1941-48*, pp. 44-45; *Times*, February 12-15, 19, March 5, 9, 12, 19, 1946; *Herald Tribune*, February 19, March 5, 12-13, 20; interview with Ernest L. Stebbins, January 27, 1972.
26. Interview with Karl Pretshold, June 4, 1970.
27. Interview with Hannah Haier, August 19, 1970.
28. Interview with Jerome Trichter, August 19, 1970.
29. Karl Pretshold and Caroline C. Sulzer, "Speed, Action and Candor: the Public Relations Story of New York's Smallpox Emergency," *Channels*, XXV (1947), 3-6; interview with Pretshold, June 4, 1970; *Ann. Rep., Bd. of Health, 1941-48*, p. 20.
30. Interviews with Trichter, August 19, 1970, and Dr. Morris Schaeffer, August 13, 1971.
31. Without exception, every employee or former employee of the Health Department interviewed by the author praised Dr. Mustard's administrative ability and his warm personality.
32. "Proposed Reorganization of the Department of Health, Submitted to the Mayor's Executive Committee on Administration by the Division of Analysis, Bureau of the Budget," June 4, 1948, N. Y. C. Health Department ms., pp. 5, 7-8.
33. *Herald Tribune*, December 27-31, 1947; January 1-2, 1948.
34. *Ann. Rep., Bd. of Health, 1941-48*, p. 67; "History of District Services," p. 8.
35. *Ann. Rep., Bd. of Health, 1941-48*, pp. 63, 66-68.
36. *Ibid.*, pp. 69-71, 73-74.
37. "Proposed Reorganization of the Department of Health," pp. 2-8; *Herald Tribune* and *Times*, July 11, 1948.
38. Abraham Oppenheim, "History of the Bureau of Adult Hygiene," N. Y. C. Health Department ms., pp. 2-3; *Times*, November 19, 1948; *Ann. Rep., Bd. of Health, 1941-48*, p. 125.
39. "History of the Bureau of School Health," p. 4; "A Public Health Nutrition Program, Retrospect, Introspect, Prospect," p. 3; *Herald Tribune*, January 14, 19, 1949; *Times*, January 14, 19, February 15, 1949.
40. Theodore Rosenthal and A. A. Brown, "New York City Moves Against V. D.," *Journal of Social Hygiene*, XXXV (1949), 307-21; *Ann. Rep., Bd. of Health, 1949*, pp. 156, 164.
41. *Herald Tribune* and *Times*, September 27, 1949; January 1, 1950.
42. *Times*, September 27, 1949.
43. This was the consensus of of virtually all the interviewees.

44. "History of the Medical Emergency Division," N. Y. C. Health Department ms., pp. 2-3; *Ann. Rep., Bd. of Health, 1950*, p. 240; *Times*, June 7, 1950, February 3, 1952.
45. *Ann. Rep., Bd. of Health, 1950*, pp. 172-73, 177.
46. *Ibid.*, pp. 190-95; 1953, p. 56.
47. *Ibid.*, 1950, pp. 203-04, 206-07; 1953, pp. 56-57; Jerome B. Trichter and Milton Helpern, "Accidental Carbon Monoxide Poisoning Due to Domestic Gas Appliances and Gas Refrigerators: the Problem in New York City and Its Control," *American Journal of Public Health*, XLII (1952), 259-67; *Times*, October 2, 1953.
48. [Goldsmith], "For the Well-Being of Children in the City Day Camps."
49. "Ann. Rep., Bd. of Health, 1952," p. 26; *Times*, June 23, 1953.
50. *Times*, June 15, August 4, September 22, October 9, 15, 19, 1951.
51. *Ibid.*, October 25, December 1, 1951; February 19, 1952; *Herald Tribune*, April 7, 1952.
52. *Pioneering in Public Health For Fifty Years, Committee on Public Health, the New York Academy of Medicine, Twenty Year Report of Its Activities, 1941-1961* (New York, n.d.), p. 43.
53. *Times*, March 16, 1951.
54. "Survey of Business Management and Procedures in the Department of Health of the City of New York, for the Mayor's Committee on Management Survey," October 17, 1951, prepared by Barrington Associates, Inc., N. Y. C. Health Department ms., pp. 17-20, 154-55.
55. *Ibid.*, pp. 156-60.
56. "Study of the Department of Health, City of New York, for the Mayor's Committee on Management Survey," prepared by a staff assembled by the American Public Health Association, Inc., January 1952, N. Y. C. Health Department ms., p. 9.
57. *Ibid.*, pp. 15-20; Edwin M. Gold, "Obstetric Aspects of the Hospital Consultation Program," *American Journal of Public Health*, XLI, November Supplement (1951), 80-83.
58. A.P.H.A., "Study of the Department of Health," pp. 27-40.
59. *Ibid.*, pp. 43-52.
60. *Ibid.*, pp. 63, 69, 91-96.
61. *Ibid.*, pp. 107, 114-15, 121-25.
62. *Ibid.*, pp. 129-37, 144.
63. *Ibid.*, pp. 146-57, 163-65, 171-79.
64. *Ibid.*, pp. 185-89, 197, 202-03.
65. *Ibid.*, pp. 206, 210-15, 218, 223-27.
66. *Ibid.*, pp. 231-33, 242-44, 246-51, 253-56.
67. *Ibid.*, pp. 256-57, 262, 264-70, 281.
68. *Times*, March 31, April 7, 23, June 7, November 10, 1952.
69. "Services For Handicapped Children, Their Beginnings and Progress, New York City Health Department, 1940-1962," N. Y. C. Health Department ms., pp. 1-3; *Ann. Rep., Bd. of Health, 1953*, pp. 33-35.
70. "The Bureau of Tuberculosis," p. 8; *Ann. Rep., Bd. of Health, 1953*, p. 36.

71. *Ann. Rep., Bd. of Health, 1953*, p. 18-19.
72. Warren Moscow, *What Have You Done for Me Lately, The Ins and Outs of New York City Politics* (Englewood Cliffs, N. J., 1967), pp. 39-42, 60.
73. *Times and Herald Tribune*, January 1, 1954.

16

The Broadening Concept of Public Health

Today as we face a future of complex problems, with resources so inadequate for their solution, let us return once more to those quantitative statistical and epidemiological principles with which we won our victories over all diseases of the past era. . . . Public health practitioners should cease placing their major reliance upon expertise based upon mythical standards floating on seas of invalidated assumptions. [George James, "Program Planning and Evaluation in a Modern City Health Department," *American Journal of Public Health*, LI (1961), 1840.]

Even the most cursory survey of Dr. Leona Baumgartner's career prior to becoming commissioner shows that she had forged ahead by a combination of brains, drive, and personality which left no doubt about her qualifications for the job. She had already distinguished herself in the fields of teaching, medicine, and health, and had spent some 16 years in the Health Department. Starting in 1937, she had served in such varied capacities as district health officer, director of the Bureau of Child Hygiene, and, from 1948 to 1953, as assistant commissioner in charge of maternal and child health. Throughout these years she had valiantly championed child health and had maintained her bureau at a high level of performance. This was accomplished, despite reduced budgets and occasional administrative inertia, by constantly pressuring her superiors and by carrying the issues to the public. She combined zeal and forthrightness with considerable charm and warmth, and thus achieved her goals with a minimum of friction. In April 1953 she resigned from the Health Department to become executive director of the New York Foundation. Whatever advantages the new position offered, Dr. Baumgartner clearly indicated her own feelings about the Health Department when in her letter of resignation she paid tribute to the "many devoted and able employees in the Health Department who, despite current frustrations and low salaries, continue day in and day out to do effective work." Significantly, Commissioner Mahoney, in commenting upon her

resignation, described her as an able administrator and "a person of social vision."¹

From the start Dr. Baumgartner had an excellent relationship with the mayor, and as commissioner she successfully appealed for broad public support in pushing Health Department programs. She was active in a surprisingly large number of civic and professional groups, and when the occasion arose she could usually count upon their support. She maintained close relationships with a wide range of prominent individuals and recruited many of them for voluntary work in the department. By involving so many people in the department's activities, she always operated from a strong base of support. Health education was no abstract professional field to Dr. Baumgartner. She was determined to make the public conscious of health problems, and to this end made effective use of the newspapers, radio, and every other means of communication. Under her administration a new spirit was infused into the department, and once again New Yorkers began to take special pride in the city's health administration.²

Shortly after assuming office, Dr. Baumgartner announced that she intended to review the findings of the Gulick Report (the mayor's Committee on Management Survey) and determine which of its recommendations were still applicable. The Health Department, she stated firmly, was going to stop doing unnecessary work and concentrate upon providing better service for the people of New York. The mayor had personally assured her that he would provide the department with "maximum freedom and flexibility." Taking her fight for an increased budget to the public, a few weeks later she informed a large gathering of the Women's City Club that the chronic ailments such as persistent vacancies and a high turnover among the department's employees could easily be cured by paying higher salaries. The department had spent \$631,000 to train 566 nurses over a two-year period only to lose over 40 percent of them because of inadequate pay scales. She then listed the main goals of her department: an expanded child health program with emphasis upon the emotional well-being of the child, a drive against tuberculosis, a new look at rehabilitation programs for the chronically ill and disabled, better cooperation between the department and private community organizations, a

concentrated attack upon slums, and an effort to make the public more health conscious.³

The introduction of polio vaccine shows Dr. Baumgartner's receptivity to innovations and her unerring ability to capitalize upon a dramatic issue. By the early 1950s polio had aroused a great deal of public concern. Epidemic outbreaks received newspaper headlines throughout the country, and middle- and upper-class parents in particular became apprehensive at the appearance of even a single case. When it appeared that the Salk vaccine might provide a safe preventive, Dr. Baumgartner quickly informed the public of the work of Dr. Jules Freund in the department's Public Health Research Institute who had discovered that polio vaccine was more effective when used with a water-in-oil adjuvant. She immediately requested that New York City be chosen for one of the first massive tests of the new vaccine. When her request was granted, the department selected six city health districts in which the incidence of the disease was high. Approximately 43,000 children were given the first inoculation, of whom 40,419 completed the series of three. The test group were all volunteers from grades 1 to 3. Half were injected with the vaccine and the other half with the same diluent but without the virus. Subsequently Dr. Thomas Francis stated that without these 40,000 "control" cases there would have been too few in the control group to be certain the vaccine was safe and effective. Approximately 300 doctors, 425 nurses, and 15 health educators from the Health Department participated in the program, assisted by 2,500 volunteers under the direction of the National Foundation for Infantile Paralysis.⁴

Early in April 1955 the Salk vaccine tests were pronounced successful, and the city began giving one injection to all school children in the first and second grades. By June 1956 about 45 percent of the city's population below the age of 20 had received at least one injection. When the program began, vaccine was in short supply, and the Health Department was authorized to establish priorities for its use. American mass-production technology quickly solved the problem, and in July 1956 all restrictions on the use of vaccine were eliminated. In the succeeding years the department pressed ahead with its program of systematically vac-

cinating children, and by 1962 was able to report that 94 percent of all school children in the city had received four injections of Salk vaccine. With justification the department's *Annual Report* for 1961-62 declared: "It is doubtful that this record is surpassed in any comparable large urban community."¹⁵ By seizing the initiative and taking immediate advantage of this major breakthrough in polio prevention, Dr. Baumgartner made a notable contribution to the city's health. At the same time the department's dramatic fight against polio drew public attention and helped to restore its image as an outstanding city agency.

Throughout her administration Dr. Baumgartner was preoccupied with recruiting able personnel and with the problem of securing adequate funds, a basic prerequisite to building departmental morale and retaining the better employees. One of the first measures she took to improve the department's financial condition was to issue an order in March substantially increasing fees for permits and licenses. A second step was to simplify the whole procedure for issuing business permits. Responding in part to the efforts of Dr. Baumgartner and other city commissioners, in June the Board of Estimate announced a series of generous pay raises to city employees. Although Dr. Baumgartner was fighting to improve salaries for departmental personnel, she maintained a firm hand over them. For example, the city employees union accused her of "lowering an iron curtain" between her office and the employees because she refused to permit a relatively large group of them to be taken from their work for a union meeting.⁶

In her quest for public funds, Dr. Baumgartner was aided by her natural flair for public relations. She was, moreover, determined for many reasons to make New Yorkers aware of their health needs. Early in 1954 she launched the department's first venture into television by making a series of weekly appearances on nationwide television. Each week her programs reached 5,000,000 viewers. The success of this and other programs led to the creation in 1958 of a separate radio and television unit within the Bureau of Health Education to supply interesting bits of health information to local stations. This same year, with the help of the Fund for the Advancement of Education, a pilot closed-circuit television project was established in one of the housing projects. Beginning in August 1958 the department sponsored a series of

annual health shows in the New York Coliseum, in which over 100 organizations participated. In the first of these the department's exhibits emphasized radiation hazards, obesity, poison control, and maternal and child health services. Unfortunately, by 1962 rising costs and other difficulties brought the series to an end.⁷

Dr. Baumgartner's efforts to carry health issues to the public paid off well in terms of steady annual increments to the department's budget. During her first year in office, 1954, the total budget amounted to \$18,441,886. By the fiscal year 1960-61, this figure had grown to \$30,775,936.⁸ In addition to securing more funds, a determined effort was made to increase administrative efficiency. Several cost studies had already been made by the analysis unit established during Dr. Mustard's regime, one of which had led to the overhaul of the permit fee schedule mentioned earlier. In recognition of its importance, in 1956 the unit was given division status, and in December 1959 it was redesignated as the Division of Organization and Methods.⁹

Despite increased budgets and greater efficiency, personnel problems continued to plague the department. In September 1955 a group of city veterinarians resigned over the issue of their right to keep outside jobs. Basically the problem lay in the relatively low salaries paid to professional personnel. This same factor also was responsible for the steady decline in the number of public health nurses on the department's payroll in the decade of the 1950s. During this ten-year period the number of public health nurses on the staff declined from 860 in 1950 to 577 in 1959. Thanks to the city's Career and Salary Plan, which gave substantial raises to the nurses in 1960, the decline was stopped and the department ended with a net increase of three nurses for the year.¹⁰

The Health Department's personnel problems were complicated by the civil service system which was geared primarily to the needs of the city's clerical and labor force and which did not provide adequate compensation for professional workers. Partly in response to Mayor Wagner's decision to grant collective-bargaining rights to city employees and in part from the growing discrepancy between their income and that of other professionals, in February 1961 a group of doctors and dentists employed by the department organized the Doctors' Association of the Depart-

ment of Health and elected Dr. Robert M. Robbins as president. With the support of Commissioner Baumgartner, this group, which represented the majority of the approximately 1,000 physicians and dentists in the department, won the right to represent their colleagues for purposes of collective bargaining.¹¹

In addition to fighting for higher salaries, Dr. Baumgartner consistently sought to upgrade the professional training of her staff. Acting upon the recommendation of the APHA report of 1952 which had urged integration of the city and state health department training programs, she appointed a department training committee in June 1954. The aim of the committee was not to take away bureau responsibility for training but to coordinate and improve existing programs and to develop new ones. The committee's work was placed on a firmer basis in January 1957 when, under the joint sponsorship of the city and state, an Office of Professional Education was established under the direction of Dr. Robert E. Rothermal. At the same time professional education received another lift from the W. K. Kellogg Foundation, which provided funds for the Columbia University School of Public Health and Administrative Medicine to establish a continuous education program for public health workers. To help recruit professionals, in 1961 the department began providing summer employment for junior and senior college students and improving the quality of its program for medical students working in preventive medicine.¹²

The need for a major revision of the city's Health Code had been recognized for some years, but it remained for Dr. Baumgartner to carry it out. Shortly after taking office she began the process. By 1955 she had secured \$100,000 in state and city funds and raised another \$60,000 from the Rockefeller Brothers Fund and the W. K. Kellogg Foundation for a proposed three-and-a-half year study. With these funds in hand, a contract was then drawn up with Legislative Drafting Research Fund of Columbia University to do the technical and legal work of rewriting and revising. The Health Department, of course, reserved the right to make all policy decisions. The work of revision started in October 1955, and, as drafts of revised sections became available, they were submitted for criticism to a wide range of private, public, and professional groups. Their comments were all taken into con-

sideration before the final draft was drawn up. On March 23, 1959, the completed code was adopted by the Board of Health with the proviso that it would become effective on October 1, 1959. The six-month delay was designed to allow the department to retrain its employees in applying the new provisions of the code, and to allow businesses and institutions to comply with them.¹³

While the concept of decentralized health services had gained ground over the years, the recurrent clashes between the staffs of central office technical bureaus and those of the local district health centers still remained. Under strong commissioners with a firm commitment to decentralization the problems were manageable, but the least relaxation brought renewed flare-ups. When Dr. Margaret Barnard retired in 1951, the position of director of the Office of District Health Administration was left vacant and the duties turned over to the first medical deputy commissioner. Although the move was not intended to weaken the authority of the district health officers, they lost an effective spokesman and advocate. Moreover, since the traditional forces of centralization could always be counted on to undermine the position of the district health officers unless held in check by a strong commissioner, the decentralization program tended to lag. This was the situation when Dr. Baumgartner took over. Firmly committed to the principle of local responsibility and authority, she began by creating the position of borough director, appointing the first of these directors for Brooklyn in August 1954. His duty was to provide consultation and guidance to the district health officers and to assist in coordinating multidistrict health programs. The success of the Brooklyn experiment led Dr. Baumgartner to extend the system, and with the appointment of a borough director and staff for Queens in 1958, the entire city was placed under a form of decentralized health administration.¹⁴

The next step was the reorganization of the Office of District Health Administration in April 1955 and its designation as the Office of District Services. To further the cause of district responsibility, ad hoc committees of health officers were appointed to deal with problems of a citywide nature affecting district programs. As the department began branching into newer areas, many of which cut across existing specialties and age groups, Dr. Baum-



Commissioner Baumgartner, Brooklyn Borough President Abe Stark and Miss Margaret Reed of the Bedford District Health Committee, Breaking Ground for the New Bedford District Health Center. From *Annual Report of the New York City Department of Health*, 1954, p. 34.

gartner created a new division, Community Health Services, under the direction of an assistant commissioner. Dr. Irving Starin, the first to hold this office, was given responsibility for the Office of District Health Services, the Office of Social Work, and the bureaus of Public Health Nursing, Nutrition, and Public Health Education.¹⁵ By this time retirements and the normal personnel changes had brought a new generation into the Health Department, one which had no indoctrination or vested interest in a centralized system. Many of the younger key personnel had received their training in the districts and the older ones had benefited from the intensified departmental training programs. In consequence, the old rivalries and conflicts were diminishing. Constant changes in demands and services plus the sheer size of the New York City Health Department guaranteed that old problems would occasionally reappear and that new ones would constantly arise, but by 1960 the concept of decentralized health services was well established.

The department's highly successful fight against communicable diseases had received a sharp impetus in the 1940s with the introduction of penicillin. It proved particularly effective against venereal diseases and, as this miracle drug came into widespread use as a universal panacea, its incidental effect was to eliminate a great many undiagnosed or untreated cases of venereal disorders. In consequence, the department was able to reduce sharply the funds allocated to its venereal disease program. From the peak year of 1946, the number of reported cases of syphilis and gonorrhea had moved steadily downward, so that in February 1954 the department was able to shift the Bureau of Social Hygiene back to its status as a division within the Bureau of Preventable Diseases, at a net saving of \$127,000 per year. Despite evidence that the Health Department was winning its struggle to bring venereal diseases under control, the following month Dr. Baumgartner appeared before a congressional subcommittee to urge the renewal of federal funds in order to maintain a continuing venereal disease prevention program.¹⁶ Dr. Baumgartner's assumption that the problem was not solved proved all too correct. By 1958 the Division of Social Hygiene noted that the number of reported cases of primary and secondary syphilis had increased 43.5 percent over the previous year. New York City was not alone in confronting a

growing incidence of venereal disease. By 1961 it was apparent that the problem was of national scope, and Surgeon General Luther Terry appointed a task force on syphilis control under the chairmanship of Dr. Baumgartner. The task force report, after noting the threefold increase in reported syphilis cases since 1957, warned against a reliance upon miracle drugs and urged a return to case finding and other proven public health practices.¹⁷ The nature of venereal diseases, the prevailing social attitudes toward them, and the changing sexual mores all combined to make a full-scale assault upon them a difficult one, with the result that syphilis and gonorrhea were to loom larger and larger in public health considerations during the decade of the 1960s.

On March 1, 1954, Dr. Baumgartner announced a strengthened tuberculosis prevention program utilizing the extra money saved by the elimination of the Bureau of Social Hygiene. At the same time she began urging the city authorities to enlarge the tuberculosis appropriation for the coming year. The Bureau of Tuberculosis first sought to make more effective use of its existing personnel and services. By increasing the number of public health assistants and eliminating unnecessary home visits by nurses, the bureau was able to compensate for the previously mentioned steady attrition in the public health nursing staff. At the same time isoniazid and other forms of therapy made it possible to substitute outpatient care for many individuals who previously would have been hospitalized. By 1955 Dr. Baumgartner had succeeded in persuading the Board of Estimate to appropriate \$500,000 and had secured additional state funds for an intensive communitywide X-ray program. These funds also permitted the experimental use of BCG (bacille Calmette-Guérin vaccine) in areas of high tuberculosis incidence.¹⁸

It was clear at this time that tuberculosis was concentrated in certain city areas and among particular segments of the population. Routine tuberculin testing of all children entering secondary schools was started, and the tuberculin patch test was introduced into the child health stations. The major emphasis, however, was placed upon older people, particularly those in economically depressed circumstances who were the chief source of the disease.

During 1955-56 the Health Department took 1,172,000 X-rays and uncovered over 3,000 cases, 90 percent of which had not pre-

viously been reported. Inevitably, as the tuberculosis program made headway, it encountered a hard core of cases which seemingly defied all attempts at elimination.¹⁹ In 1962 the Bureau of Tuberculosis aptly summarized the situation: "The end of the first decade of oral chemotherapy finds us with one major unsolved problem. Tuberculosis has become even more strikingly than before a disease of the poor, of the slums, the aged, and the minorities." After noting that these patients were reluctant to accept hospitalization and attended clinics irregularly, the bureau commented that the economic and social climate "in which tuberculosis breeds is not favorable to its cure." "During the next decade," its report concluded, "a massive assault must be directed against the real root of the disease, which is poverty, if substantial progress towards its eradication is to be made."²⁰

To provide a more effective field staff for the Bureau of Preventable Diseases, in September 1955 a Division of Epidemiology and Diagnosis was organized. Each member of the field staff within this new division was trained to function as both a diagnostician and a field epidemiologist. With the incidence of communicable diseases steadily declining and with improved methods of health care, in 1956 the city's special communicable disease hospitals were closed and units for the care of these patients were established in certain municipal hospitals. For 35 years the department had been requiring the use of a 1 percent solution of silver nitrate in the eyes of all newborn babies to prevent ophthalmia neonatorum. Thanks to the steady rise in the quality of maternal and child care, it was possible to eliminate this requirement in December 1956. Although the Health Department was steadily gaining control over the major communicable diseases, there were two exceptions to the general trend; one, as already noted, was venereal disorders, and the second was a rising incidence of tropical diseases, largely the result of the influx of newcomers from the Caribbean area. For example, surveys in 1960-61 showed a schistosomiasis infection rate of about 10 percent among the estimated 750,000 Puerto Ricans in New York City. To meet the threat of schistosomiasis and other tropical disorders, the department had already opened two tropical disease clinics. In March 1956 a third tropical disease clinic was opened in Morrisania and a fourth clinic was subsequently opened in Brooklyn.²¹

The following year an outbreak of Asian influenza demonstrated that while the former killer diseases no longer winnowed the population, they were still a threat. During the peak of the epidemic, which lasted from mid-September to mid-December, over 10,000 new cases were reported within one two-day period. The Health Department performed a notable job of public health education, gathering information from a wide range of sources and making it available to both physicians and laymen through every type of communications media. The newly organized Division of Epidemiology and Diagnosis proved its value. Early in the outbreak it quickly examined all suspected flu cases and in the later stages made a thorough investigation into each death. The Bureau of Laboratories intensified its research on influenza and undertook a major testing program for Asian flu antibodies. A close liaison was maintained with the departments of Hospitals, Police, and Welfare, and health officials kept in constant touch with the county medical societies. The rapidity with which the department swung into action and the concentrated effort which it brought to bear upon this health crisis was repaid by the exceedingly low case fatality rate of only .03 of 1 percent.²²

The remarkable improvement in maternal and child health, the gradual conquest of communicable diseases, and the increasing life expectancy in the twentieth century enabled medical and public health workers to shift their attention to the health problems of later life. Within the first quarter of the twentieth century organic and degenerative disorders supplanted communicable diseases as the leading causes of morbidity and mortality, but these were highly complicated disorders about which little was known. Since the bacteriological revolution had provided the means for attacking communicable diseases, health departments generally continued to concentrate their efforts in this area, one which was obviously the most productive. By the mid-century, however, advances in medicine and the biological sciences were offering new hope in the fight against chronic ailments. Improved diagnostic tools and techniques were making for much earlier diagnoses, and better therapeutic methods were enabling physicians and surgeons to control, alleviate, or cure many of these disorders. Since the only available method of prevention lay in early diag-

nosis, the Health Department's program of adult hygiene emphasized case finding.

As noted earlier, a Bureau of Adult Hygiene had been established in 1948 during Dr. Mustard's administration and placed under the direction of Dr. Alice Waterhouse. Shortly after its inception, the bureau began making plans for a center which would provide diagnostic services for medically indigent patients referred to it by private physicians. After consultation with medical societies, hospitals, and other concerned parties, in July 1950 a Diagnostic Service Center was opened at 303 Ninth Avenue. The private physicians did not cooperate, however, and this, combined with a budgetary crisis in 1959, led to the discontinuance of the service. In the meantime, on its own initiative the center had begun a full program of activities. The major emphasis was placed upon cancer prevention, and special efforts were made to develop new methods for screening large groups of patients. One area which seemed most promising was the early detection of cancer of the cervix. In September 1953 the bureau expanded its activities by moving into the field of geriatrics. An experimental geriatrics service was started at the Kips Bay-Yorkville Adult Counseling Center in cooperation with Cornell University Medical College, the New York Foundation, and the Department of Welfare. During 1954, the first full year of operation, over 500 aged persons received help.²³

During Dr. Baumgartner's administration, the Bureau of Adult Hygiene continued to widen its sphere of activities. In November 1954 a pilot project in diabetes case finding and control was started in the Brownsville District Health Center with the assistance of a number of outside groups. This district had been chosen since the diabetes rate was 35 percent above the city average. Two years later a large-scale project to investigate the relationship between nutrition and heart disease was started. Known as the Diet and Coronary Heart Disease Study Project, it began in February 1957, when a large group of reasonably healthy males below the age of 60 volunteered to place themselves under medical supervision and to accept the "prudent diet," a special one intended to reduce their blood cholesterol levels. Previously experiments of this type had been conducted on people in a controlled situation.

The "prudent diet" project was the first one involving subjects who were living under normal conditions. By 1960 the results led the Heart Association to recommend reducing blood cholesterol levels through diet "as a possible means of preventing atherosclerosis and decreasing the risk of heart attacks and strokes."²⁴

In May 1960 the Health Department tackled still another problem of the aged when it undertook a mass glaucoma screening program in Brooklyn and Queens. With the voluntary assistance of about 50 ophthalmologists, 12 testing centers were opened. The success of the program led the department to obtain a grant from the Ophthalmological Foundation to establish three permanent glaucoma centers. One of these opened in December 1960 and the other two early in 1961. By this time both the cancer and diabetes detection services had expanded their programs. In addition to checking for cancer of the cervix, the cancer clinics had broadened their screening to look for cancer of the lungs and the upper gastrointestinal tract. In connection with the diabetes program, a Diabetic Week, sponsored jointly by the New York Diabetes Association and the Health Department, did much to arouse a public awareness of this disorder. As a result, in 1959-60 some 25,606 persons were screened, among whom 2,119 cases of diabetes were found.²⁵

As the department turned its attention to chronic and degenerative disorders, it faced enormous difficulties. These latter illnesses had become a major health problem, but the question was how to deal with disorders "which are ill defined, almost impossible to diagnose in their early stages and are of unknown causation." It was particularly with this in mind that the Office of Scientific Program Planning and Development was created in 1955 and given the responsibility for reviewing existing programs, designing new ones, and making the staff aware of recent scientific developments. A major task was to eliminate unnecessary or unproductive programs and services, since the department could ill afford to waste any of its limited resources. In 1958 this office was raised to divisional status and renamed Program Planning and Research. Within the division were a number of major subdivisions, each with a director, including research activities, social sciences, and publications. Despite its official classification as a division, Dr. Baumgartner considered Program Planning and Re-

search as one of the most important agencies in the Health Department. The social science unit, established with the support of Russell Sage Foundation, typified the new approach to public health when it began studying such topics as patterns of the use of medical care resources among certain populations and hearing handicaps among children.²⁶

In 1960 the Bureau of Records and Statistics was moved into the Division of Program Planning and Research in order to bring a quantitative approach to the complex problems confronting the department. As Dr. James expressed it in 1961, it was essential that the statisticians provide "more elaborate designs for feedback, yardstick research, and streamlining of activities." By this time the Office of Program Planning was moving into maternal and child health, chronic diseases, geriatrics, and a host of related areas. In 1962 it designed a program to see that men rejected by the selective service for medical reasons received the necessary care. This same year a grant from the Public Health Service made it possible to open a Public Health Practice Research Center. The center's dual aim was to encourage students and young scientists to investigate the health fields and to devise new methods for measuring the health of the population.²⁷

From her long years of work in public health, Dr. Baumgartner was acutely conscious of the amorphous and complex nature of the problems confronting health workers, and she was determined that the city's resources should be mobilized in the most effective way. Over and above the chronic and degenerative diseases were the problems posed by air and water pollution, food additives, and drug and alcohol addiction, none of which lent themselves to easy solutions. Before the Health Department could swing into action with any degree of effectiveness, Dr. Baumgartner knew that scientific and systematic approaches had to be made. A research program on the scale which she envisioned would require many scientists and technicians, and she was apprehensive over the way in which young researchers were no longer able to find employment within the city. She was equally concerned over the growing shortages of space and personnel which made it impossible to investigate some of the more significant health problems. She began pushing for a major research program at the beginning of her administration, and by September 1958 she had persuaded Mayor

Wagner to create the Health Research Council. This new agency was separate and distinct from the Public Health Research Institute, where the city was already supporting limited laboratory research to the extent of \$400,000 a year plus housing and maintenance services. As of this time, the institute had a staff of 90 persons manning its five divisions: infectious diseases, applied immunology, nutrition and physiology, epidemiology, and laboratory diagnosis.²⁸

On September 16, 1958, Mayor Wagner addressed a gathering at the Rockefeller Institute for Medical Research and announced the creation of the New York City Health Research Council. He explained its purpose and released the names of those who would serve on its council. This impressive list showed that Dr. Baumgartner had done her work well, since the membership was drawn from a wide variety of sources—scientists, academicians, foundation executives, educators, and lay leaders. Included among the group were 15 experts in medical and health research, two of whom were Nobel Prize winners, and the presidents of the Ford Foundation, Rockefeller Institute, Albert and Mary Lasker Foundation, Bell Telephone Laboratories, and Fordham University. The Health Research Council's immediate goals were to find new approaches to the problems of the aged, childbirth and infant care, mental illness, accidents, heart disease, chronic pulmonary disorders, environmental hazards, drug addiction, and patient care. Unlike the Public Health Research Institute, the new agency was designed to give support to a wide variety of research activities in both public and private agencies.²⁹

To carry on this work, Mayor Wagner announced that \$600,000 of municipal funds had been allocated for the first year's operation. It was his hope, he stated, that this budget would increase within four or five years to approximately \$1 per capita, or approximately \$8,000,000 a year. This latter figure was suggested originally by two prominent philanthropists, Mary Lasker and Anna Rosenberg, both of whom played an important role in securing municipal and state support for the idea. In justifying such an outlay, Wagner pointed out that medical research was already saving New York City in excess of \$12,000,000 a year on its tuberculosis, diphtheria, and venereal disease programs, and thus the council would be "an investment, rather than another spending

program." To Mayor Wagner's credit, when he was queried on the exceedingly touchy political issue of birth control, he declared that the council's policies would "be guided by scientists wholly free of political and other pressures." In the succeeding years, the mayor sought to back up his promises with action. The council's budget for 1959-60 was raised to \$1,100,000 and the following year it was pushed up to \$4,100,000. With matching funds from the state, this made the vision of an \$8,000,000 budget a reality.³⁰

The Health Research Council held its inaugural meeting on September 16, 1958, and the following year began awarding its first research grants. This same year it established the career scientist awards. These awards were designed to attract and keep able young researchers working in the health field. As the council expanded its activities, additional grants were made to students in medical and public health schools for summer research on problems of community health. The first research contracts were given to municipal hospitals with medical school affiliations, but funds were soon made available to all municipal hospitals and to voluntary hospitals with medical school affiliations. The research grants were flexible so as to permit research by individual scientists, by groups of professionals in the same area, or by researchers using an interdisciplinary approach. An important aspect of the Health Research Council's work was its efforts to increase the facilities for laboratory research. Under this program funds were made available to a wide range of institutions for the renovation or conversion of existing facilities or space into well-equipped laboratories.

In 1961 a series of study panels were appointed to review the applications coming in from many areas of medicine. This same year a working group on air pollution was established and the following year a similar committee was appointed to deal with narcotic addiction. In connection with the latter, by 1963 the council was supporting a broad spectrum of activities, including research in the laboratory and hospital of the Rockefeller Institute, a study on adult and adolescent addicts at the Metropolitan Hospital, and a Cornell study in east Harlem on environmental factors in addiction. In addition, the council's working unit on narcotics was also involved in the "half-way house program" for narcotic addicts and victims of alcoholism. In 1962 the council supported a broad-

scale testing of a measles vaccine which greatly hastened the licensing and use of this new measles preventive. Other areas in which the council was encouraging research were nutrition, mental illness, chronic diseases, and cirrhosis of the liver.³¹ By the time Dr. Baumgartner left office, one of her most ambitious dreams had become a reality.

In tackling new health problems and revising the approach to old ones, the Health Department was continuing its traditional role as a pioneer in public health. Yet in terms of the complexity and magnitude of the task of restoring and maintaining the health of the city's population, the department's efforts merely scratched the surface. The chronically ill, the disabled, and the aged constituted a sizable fraction of New York's population. Possibly half of this number could not afford medical care or rehabilitation and of these many were unaware of those free services available. To add to the difficulties, a higher standard of living had brought increasing demands for health care, with the result that the medical profession was becoming swamped. Thus, even those who could afford it were having difficulty securing the necessary care. It was with these facts in mind that Dr. George James, testifying on behalf of Commissioner Baumgartner before a congressional committee in May 1961, declared: ". . . we are woefully short of good diagnostic and ambulatory care, clinics, good nursing homes, good home care, good referral services, [and] good rehabilitation programs." Quoting Dr. Baumgartner, he pointed out that traditional hospital and custodial care had proved adequate for communicable diseases and episodic health needs but was "extravagant, expensive, and . . . unsatisfactory for meeting the needs of the chronically ill." It was essential, he said, that funds be appropriated to find better ways for providing medical services and applying the new discoveries coming from laboratory research. The immediate needs were to reorganize outpatient clinics so as to provide comprehensive care rather than fragmented and piecemeal treatment; to improve and coordinate home-care services; to inform the patient and physician where to find appropriate medical services; and to provide facilities which would enable patients to move from one type of care to another as their medical needs changed.³²

To illustrate his point, Dr. James cited the results of a pilot rehabilitation project undertaken by the city three years earlier

which had as its major objective the discovery of the hidden handicapped, those individuals who could benefit by, but were not receiving, rehabilitation services. It was found that about 3 percent of those surveyed were in need of rehabilitation services, and that of these only half were being helped. On the basis of these figures, Dr. James estimated that a quarter of a million New Yorkers could benefit from rehabilitation work if the resources were made available. In urging federal funds for the construction of nursing homes, Dr. James pointed out that the shortage of public and voluntary nursing homes had led to the establishment of many proprietary institutions. A good part of the latter was characterized by deplorable conditions, which he added, threatened to turn a national dilemma into a national disgrace, one "as evil as anything in Charles Dickens."³³

While case finding was an important aspect of public health, in dealing with the aged and the chronically sick the Health Department found itself inexorably pushed in the direction of providing health care, or at least of seeing that it was provided. During the last two years of Dr. Baumgartner's administration, the Health Department began collaborating with the Department of Welfare, medical schools, and other agencies in demonstration projects to determine the most effective ways for delivering the necessary services.

As early as 1952 the Health Department had expressed concern about the medical care program for public welfare recipients. Pushed on by Dr. Baumgartner, the mayor appointed a Task Force on Health Services in 1959 under the leadership of Dr. George James, the first deputy commissioner of health, which included representatives of three city departments, Health, Welfare, and Hospitals, plus representatives from hospitals, medical schools, and the New York Academy of Medicine. After examining the diversity of services offered to welfare clients, the task force recommended the appointment of a coordinator with the dual title of executive director of medical care services in the Health Department and Medical Welfare Administrator in the Department of Welfare. In July 1960 Dr. Alonzo S. Yerby was recruited for the position. Although holding a dual appointment, his salary was provided by the Health Department. To facilitate his work a committee of health officers and medical social workers was ap-

pointed to devise the most effective ways to utilize Health Department services for welfare patients. By 1962 district health officers were assigned on a part-time basis to serve as medical consultants in the various welfare centers, and fairly effective machinery had been established to improve cooperation between the three closely related departments of Health, Welfare, and Hospitals.³⁴

In addition to seeking better coordination between the various agencies providing health services, a series of pilot studies were started to determine the best means for delivering these services. Cornell Medical School, with financial assistance from the Health Research Council, agreed to provide complete medical care for 1,000 welfare families in one area of Manhattan. In this project, a team of physicians, nurses, social workers, physical therapists, and related medical personnel was organized to provide the test group with total health care. The major aim of the program was to determine the cost and the problems involved in providing high-quality care to a large indigent population, and to compare it with the cost and care of 1,000 control families in the same area. A secondary aim was to demonstrate whether a large university teaching medical center could serve as the "family doctor" to a community, and to see if a hospital could provide broad health coverage for the area it served. Another demonstration project, started in September 1962, covered 13,000 aged welfare recipients, some of whom were residents of nursing homes, and involved six medical groups of the Health Insurance Plan of Greater New York. This project, which was the first attempt to provide for a publicly dependent geriatric population through a prepaid group practice program, necessitated changes in the state welfare and insurance laws.³⁵

In October 1961 the Riverside Health Maintenance Clinic designed to provide services for all age groups was opened. The clinic, which provided physical examinations, counseling, treatment, and referrals, was closely associated with St. Luke's Hospital, and was a prototype of the Office of Economic Opportunity (OEO) of the late 1960s. The Health Department quickly found certain basic weaknesses in the Riverside Clinic. In the first place, many patients could not afford to pay the fees charged by St. Luke's and were compelled to go elsewhere for diagnostic pro-

cedures and services. Second, there was a shortage of physicians in certain specialty areas, most notable psychiatry and ear, nose, and throat. The third major problem arose from the growing number of drug addicts, since the hospital refused to deal with addiction or to admit addicts with other medical problems. Nonetheless, the clinic did perform useful work, and a second one was opened in October 1962 in conjunction with Queens General Hospital. Another program started in 1962, the St. Vincent's Hospital Project, was similar to that of the Cornell Medical School except that its staff functioned within the hospital framework and sought to coordinate the services of the various outpatient and inpatient divisions within the hospital.³⁶

Recognizing the complexity of, and the growing demand for, adult hygiene and chronic disease services and the fact that these services tended to cut across traditional administrative divisions, on November 19, 1962, Dr. Catherine B. Hess was made assistant commissioner and executive director for Chronic Disease Services.³⁷ Unfortunately, few of the problems confronting health authorities in the 1960s lent themselves to quick solutions, and there is little hope even today that through the hospitals, clinics, laboratories, sanitary engineering, or administrative reorganization an easy road to health can be found. Nonetheless, the Health Department in these years was attacking the collective problems on a broad front and by nibbling away was hoping to reduce them to manageable proportions.

As has been shown, the eight years of Dr. Baumgartner's administration witnessed major changes in the department's policy and its administrative structure. In addition to these fundamental changes, new services were introduced and new approaches were applied to old problems. Water pollution, which had been a perennial source of difficulty, particularly since it involved other states, received special attention. In 1954 the Mayor's Committee on the Elimination of Sources of Marginal Pollution, a group which included the commissioners of health, parks, and public works, was appointed. The committee turned first to the major source of pollution, the city's sewer system, and decided that Jamaica Bay would be an ideal area in which to study the effect of sewage on the city's waters. In 1958 the several city departments involved in the pollution study employed the engineering

firm of Greeley and Hanson to investigate Jamaica Bay and the upper East River areas and to make recommendations for improving the quality of the water. The engineering firm's work confirmed the Health Department's own studies, made by its Bureau of Sanitary Engineering, of the danger from sewer overflows and unchlorinated effluents from treatment plants. The firm's major recommendation was the construction of concrete storm-water treatment tanks, large enough to handle half of the summer storm waters. These tanks would allow the water to settle and be chlorinated before being discharged into the bay. The afterstorm water was to be processed through the regular treatment plant. In November 1962 the bureau reported that although the city was heading in the right direction, the water problems were difficult to solve, and that the proposed solutions were invariably expensive, often unworkable.³⁸

The sheer mass of population concentrated in the New York area made the number of poisonings, accidental and otherwise, a matter of real concern. In March 1955, the Health Department, in conjunction with the hospital and medical associations, established a Poison Control Center. Its purpose was to gather information relating to the means for counteracting poisons and to make this information readily available. A further aim was to devise long-range preventive measures. Virtually all of the city's 130 hospitals promptly named a poison control officer to work with the center, which was kept open on a 24-hour basis. Since children were often among the victims, a complete epidemiological investigation was made into these cases when the circumstances warranted it, including a home visit by a public health nurse.³⁹ Another health issue which received attention during this period was that of smoking. When the question of its impact upon health was first broached in 1954, Dr. Baumgartner stated that until medical science could make a watertight case for smoking as a health hazard the Health Department was not prepared to take a definite stand, although she advised smokers to give up the habit. By 1962 the department, spearheaded by the cancer control staff, officially recognized smoking as a public health problem. Three courses of action were suggested, all of which have since been put into effect: an educational campaign

to discourage smoking, the establishment of smoking addiction clinics, and a warning label upon cigarette packages.⁴⁰

As Dr. Baumgartner's administration drew to a close, she had to deal with one last crisis. When news of the disastrous impact of thalidomide upon pregnant women was received late in July 1962, the Health Department promptly began an investigation of its possible use in New York City. According to Deputy Health Commissioner James, the investigation was hindered by the refusal of William S. Merrill Company, the offending drug house, to release the names of those physicians who had received the drug. When he threatened to publicize this refusal, the company reluctantly agreed to permit a Health Department physician to check its records. The resulting examination revealed that over 100 New York City physicians had received the drug. The department promptly set to work tracking down each one and recovering the samples. Determined to prevent any future delays, the Health Code, which already required drug companies doing business in the city to register with the department, was promptly amended to allow health officials to examine the files of drug companies under certain conditions and to require that they make available a record of the distribution of drugs.⁴¹

On August 1, 1962, the newspapers reported that Dr. Baumgartner had been offered a high post in the Agency for International Development. A little over two weeks later the rumor received unofficial confirmation, and on September 22 President John Kennedy announced that she would become assistant administrator for human resources and social development in the Agency for International Development (AID), a position with the rank of assistant secretary of state. On this same day Mayor Wagner named Dr. George James to replace Dr. Baumgartner in the health commissioner's post. From a financial standpoint Dr. Baumgartner gained nothing, but the new position gave her an opportunity to apply her remarkable talents to infinitely greater problems. Under the Kennedy administration the emphasis upon foreign aid was shifting from military and economic assistance to health and welfare, and Dr. Baumgartner was given responsibility for spending hundreds of millions of dollars on a worldwide basis. She had already served as an international health consultant

on several occasions, and her views on international health, which she had expressed earlier, accorded with those of the Kennedy administration: "Hungry, sick people, those without shelter, who have few skills with which to earn a living, cannot build a stable government, an independent stable growing economy."⁴²

News of Dr. Baumgartner's resignation was met with almost universal regret. The *Times* editorialized that she was one of those public officials who could "truly be called public servants," and described her as possessing "that combination of administrative ability, technical proficiency and a warm heart that a Health Commissioner needs." Mayor Wagner, who had stoutly supported her, issued a statement in which he praised her many accomplishments.⁴³ In reviewing her administration there can be little doubt that it ranks as one of the best in the history of the Health Department. She brought new energy, rebuilt the public image, increased the budget, strengthened the personnel, and raised the department's esprit de corps. Among her more specific accomplishments were rewriting the Health Code, placing district health services on a firm basis, increasing the department's role in health and medical research, and beginning the department's gradual shift into the health care field. Throughout her career she had fought against stupidity, bureaucratic inefficiency, and tradition for tradition's sake. As health commissioner she was able to put many of her ideas into practice, and the result was a refreshing breeze which swept the cobwebs and stale air out of the department. She recognized ability and built up an executive staff which would carry on her work. Despite the fact that she had shaken up the department, constantly pressured public officials, and created a new awareness of health among the citizens of New York, she left office in an amazing aura of good will, a real tribute to her warm human spirit.

In Dr. George James, Mayor Wagner found an ideal successor to Dr. Baumgartner. Like his predecessor, Dr. James was an individual of abounding energy and drive who held little brief for formality or bureaucratic protocol. He possessed an acute social consciousness, which he himself traced back to his three years of practice in rural Tennessee, but which must certainly have been of earlier origin. He attacked social evils and health abuses in a blunt and forthright manner. Fortunately, his obvious sincerity

and cheerful outgoing personality took off some of the edge from his outspoken criticism and at the same time saved him from despairing over what he felt was the incredible maldistribution of medical personnel and services. He had a happy faculty for painting a grim picture of the city's health needs, yet conveying to his listeners his own spirit of buoyant optimism.

Dr. James was a native New Yorker who graduated from Columbia University, took an M.D. at Yale Medical School, and an M.P.H. at The Johns Hopkins School of Hygiene and Public Health. From 1945 to 1955 he served with the New York State Health Department and then was appointed health commissioner for Akron, Ohio. In 1956 he returned to New York to join the circle of Dr. Baumgartner's bright young men as a deputy commissioner of health. Three years later he was named first deputy commissioner, a position which made him the heir apparent to the commissionership. As a leading spirit in Dr. Baumgartner's administration, Dr. James had played an important role in formulating and administering policies and programs, and he was well qualified, both by training and inclination, to continue the good work.⁴⁴

Throughout the nineteenth century it was clear that poverty and disease went hand in hand. The disastrous toll of communicable diseases among the desperately poor huddled together in crowded slums was all too obvious. In the twentieth century public health workers, utilizing new laboratory techniques to fight pathogenic organisms, were making such excellent progress in eliminating or controlling the great epidemic diseases that they tended to lose sight of the intimate connection between poverty and ill health. Although tuberculosis still was recognized as a disease of socioeconomic conditions, it was not until the mid-century that the full extent of this association became clear. Maternal and infant mortality was another index to the relationship between health and poverty, but here again the tremendous gains in this area from 1900 onward threw the disparities between the various ethnic and economic groups into the background. Occasional warnings had been sounded about the mortality and morbidity rates in Harlem and other poverty-stricken sections since the 1920s, but the Depression and World War II created more pressing problems. By the 1950s the general rise in living

standards brought the inadequacies of health care services for the poor into sharper focus and paved the way for a major attack upon the problem. In January 1960 Dr. Baumgartner drew attention to the infant mortality statistics for 1959 which showed that the death rate in central Harlem was over 50 percent higher than that for the city at large. She stated that the department intended to conduct a thorough investigation of the city's economic condition and to make a detailed analysis of all deaths.⁴⁵

Since Dr. James had been particularly concerned with health care delivery during Dr. Baumgartner's administration, it was logical that this interest would carry over into his term as health commissioner. In his addresses and professional papers he repeatedly stressed the need for public health research to go outside the laboratory and into such areas as health organization, packaging, public attitudes, and patient motivation. He pointed out that although medical science had shown what to do for the patient, health officials were reluctant to move into the area of how to do it—"how to so structure our provisions for medical care so that all who need it actually receive it." Illustrating the way in which the organization of medical care could reduce its effectiveness, he cited the decline in the number of visits to outpatient clinics and the corresponding increase in visits to hospital emergency rooms. This situation had arisen for two reasons: first, the public clinics were overcrowded, and second they were open only during working hours. The effect was that poorer patients were almost forced to accept the lower quality care to be found in the free emergency rooms.⁴⁶ Traditionally the Health Department had concerned itself with community medicine and sanitation, leaving medical care to private practitioners, dispensaries, and hospitals. In the twentieth century the department's child health centers and hospital outpatient clinics gradually replaced most of the dispensaries. Theoretically the Department of Hospitals was responsible for medical care to the indigent and poor, but the department was both loosely organized and inefficient. Dr. James was not concerned with assessing blame but rather with remedying the situation. It was futile for the Health Department to diagnose diabetes, cardiovascular problems, or other disorders if the patients could not be treated. Moreover, preventive medicine for the organic and degenerative diseases required both early diag-

nosis and treatment. For this reason, he saw that all health agencies had to work in close harmony.

Dr. James recognized that older people had special problems which could not be handled by traditional medical facilities. In connection with mental health, he commented that the only way to make older people feel useful and needed was to make them "in fact useful and needed." After citing a Boston survey which showed that 80 percent of patients undergoing private psychiatric treatment were college educated, the majority of whom were women between the ages of 20 and 35, he quoted Dr. William Ryan to the effect that "a visiting anthropologist would be quite justified in calling the whole business a cult rather than a serious endeavor in community service."

The two most common misconceptions about the mental health of older people, he decided, were the beliefs that the illness was irreversible, and that it could be handled through hospitalization or institutionalization. Improvement in mental health programs should make it possible, Dr. James added, to reduce drastically the number of elderly mental patients relegated to institutions. He then made several practical suggestions with respect to the latter. The first was the need for health personnel to recognize that small problems often prevented patients from receiving help for their major ones. To illustrate the point, he cited the case of an elderly man who could not walk to the clinic because of severe callouses on his feet. Since it was not unusual for one patient to be forced to attend as many as six different clinics because of the multiplicity of his complaints, Dr. James's next suggestion was the integration of mental and physical care, preferably into a single unit. Finally, the emphasis was to be placed on treating the patient and his family at home, thus avoiding the traumatic experience of separating old couples from each other or from their families.⁴⁷

In an address before the American Public Health Association in 1964, Dr. James returned to a theme sounded by many of his predecessors when he listed poverty as the third leading cause of death in New York City. He estimated that 13,000 deaths during the preceding year were largely attributable to the deplorable living conditions which characterized one-fifth of the city's population. Year after year he kept hammering away at what he

termed the "outmoded practice of treating the single disease and ignoring the whole man." Like Haven Emerson before him, he continually crusaded for preventive medicine—either stop the disease before it starts or else catch it in an early stage. Clinics, he thought, should treat the entire family rather than deal with specific health problems or particular age groups.⁴⁸

Dr. James's criticism of health care services had considerable justification. A Mayor's Commission on Health Services headed by David M. Heyman reported in July 1960 that the municipal hospitals were woefully understaffed. Although budgetary provision had been made for 6,157 staff nurses, only 1,756 positions were filled. The situation was considerably better for practical nurses since 2,551 were employed although the budget called for 3,120. To help compensate for the nursing shortage, some 8,451 nurses' aides were on the payroll, instead of the 5,279 originally planned. The personnel shortages which characterized the nursing staff were typical for the professional and technical staffs throughout the hospitals. In commenting upon mental health, the report spoke of the "Community Mental Health Board which has yet to achieve stability and a well rounded program."⁴⁹ Partly in response to this survey, in February 1961 Mayor Wagner named Dr. Ray E. Trussell of the Columbia School of Public Health as commissioner of hospitals. On taking office, Dr. Trussell proposed to reorganize the municipal hospitals, turning some into nursing homes and others into specialized institutions. He immediately ran into the personnel problem—low salaries, restrictive civil service requirements, and the general shortage of medical and paramedical workers. This shortage had been further compounded by the American Medical Association's decision in the fall of 1960 to refuse accreditation to hospitals using foreign interns. The effect of this ruling was to leave the city hospitals short 250 to 300 interns.⁵⁰

In October 1962 Commissioner Trussell and Dr. Frank Van Dyke of the Columbia School of Public Health released the findings of a 312-page report prepared for the state departments of Health and Insurance. This report stated bluntly that New York City had some of the worst medical care problems in the state and that organized medicine was doing little to help. It cited the low attendance at medical society meetings and the fact that the

societies were able to bring little pressure to bear upon individual physicians who, in the event of criticism, had only to resign from the society. Although traditionally most criticism had been levied against the municipal hospitals, the report noted that conditions in proprietary hospitals were far from ideal and that only 21 of the 40 hospitals within the city were accredited. The local medical societies were enraged at the publication of this report and claimed they had no prior knowledge of its contents. In reply, Dr. Trussell asserted that the representatives of the state medical society had seen mimeographed copies before publication.⁵¹

Although Dr. Trussell tackled the herculean task of reorganizing the city hospitals with determination, the enormity of the health care problems guaranteed that any headway could only be achieved by enormous effort. For example, in July 1964 an 84-year-old woman suffered a stroke and was taken to Knickerbocker Hospital. No beds were available, and she was subsequently transferred to Roosevelt Hospital where ward space was thought to be available. The patient spent two hours in a room off the emergency entrance before she was examined. It was then discovered that Roosevelt was too crowded to admit her. The examining physician had to make seven calls before he found a hospital able to take the patient. From the time she was first picked up by an ambulance, eight hours elapsed before she was settled in a hospital bed.⁵²

As a man of action, Dr. James was determined to do something about the growing crisis. He first turned to the problem of maternal and child care. The municipal hospitals did not have adequate facilities for handling the large number of children brought to the receiving wards, and Dr. Baumgartner had already made plans to alleviate this situation. During the ceremonies in which Dr. James was sworn into office, Mayor Wagner announced that the city was planning an emergency treatment center for children at the Bedford District Health Center in Brooklyn. The center, which was designed to provide ambulatory care for children up to the age of 15, was intended to eliminate the long lines at the overcrowded children's receiving ward at King's County Hospital.⁵³ It opened in November and immediately received a warm welcome from nearby residents.

The success of this venture led Dr. James to turn his attention

to those areas where the infant mortality rate was high and where many women were not receiving adequate prenatal care. The result was the formation of satellite clinics in districts where the need was greatest. These clinics were organized in conjunction with a particular hospital and were staffed by both Health Department and hospital personnel. By 1966 some eight clinics and hospitals were involved in the satellite clinic project.⁵⁴ In January 1965 the child health stations began cooperating in the new phenylketonuria program which required a Guthrie test on blood samples of all newborn prior to their discharge from the hospital. During these same years, the department's day-care program was steadily expanding, and in so doing ran afoul of certain privately operated schools. When a group of these operators sought to prohibit health officials from setting and enforcing standards, the department was upheld by the courts. The department also cooperated with the Headstart program for preschoolers and JOIN (Job Orientation in Neighborhoods), an agency designed to help jobless high school dropouts. The Health Department's role was to provide physical examinations and to refer those with physical defects for treatment and follow-up.⁵⁵

As part of its efforts to unify the city's various medical care programs, on July 1, 1963, the Health Department took over the medical division of the Department of Corrections. This work entailed giving physical examinations to all prisoners admitted to jail and providing clinic and hospital facilities. During 1965-66 a policy of thoroughly integrating therapeutic with preventive medicine was put into effect, and a program of ambulatory care was initiated in the district health centers.⁵⁶ This was a radical step. Throughout its history the Health Department had always deferred to the medical societies and tried to avoid providing medical treatment, even at times when it was clear that private medicine was not doing an adequate job. Under Baumgartner and James, the department had been facing up to medical realities, and both administrators were determined that those needing medical care should receive it.

An equally radical departure from past policy was the inauguration of a family planning service. Prior to 1958 not a single city public health facility was allowed to offer family planning service, even to "those clients for whom it was clearly a paramount

health factor." In September of that year the issue came to a head when Hospital Commissioner Morris A. Jacobs banned the use of a contraceptive device for a Protestant diabetic patient in King's County Hospital. The City Board of Hospitals promptly reversed this decision by a vote of eight to two and decreed that the hospitals could provide birth control assistance when medically necessary. This help could be given only to those patients requesting help and doctors or nurses with religious scruples were excused from participation. The next step came in 1964 when the Department of Welfare announced a program under which 17 nonprofit hospitals would provide birth control counseling to welfare recipients with clearly defined medical needs. Although an improvement, in actual fact only eight referrals of welfare clients were made during the first three months. An effective birth control program first made its appearance in October 1964 when the Health Department began opening clinics with the help of a grant from the Children's Bureau. Two of the five opened in the fall of 1964 were located in Catholic hospitals and limited themselves to teaching the rhythm method. By involving the Catholic hospitals in the program, Dr. James effectively stifled the public outcry which might normally have ensued. On January 7, 1965, Dr. James announced that four more birth control clinics would be opened and that family planning would be available at all postpartum clinics, although he added that staff members who had religious objections would not need to participate. Once the ice was broken, the birth control program quickly moved ahead, and on November 13, 1967, a Bureau of Maternity Services and Family Planning was established in the Health Department.⁵⁷

Meanwhile the research projects initiated earlier to seek new approaches to better health care, such as the Cornell Medical College Project and the Riverside Health Maintenance Clinic, were performing a useful service and at the same time supplying valuable information. Two additional pilot studies started during Dr. James's regime were the Westchester-Pelham Bay Mental Health Care Project, which was designed to give ambulatory mental health care for patients who would ordinarily have been admitted to hospitals, and the Montefiore Prenatal and Infant Care Project. The latter was an attempt to determine whether or

not nurses could relieve physicians of the routine maternal and child health work.⁵⁸

An agency which fitted well into Dr. James's concept of health care was the Interdepartmental Health Council. Formed in 1952, it consisted in the 1960s of the commissioners of health, hospitals, welfare, and mental health services. As mentioned earlier, the council sought to coordinate the city's health services, and as part of its work it maintained standing subcommittees on such basic problems as the aged, maternal care, rehabilitation, and tuberculosis. During the 1960s the council concentrated upon upgrading standards of patient care, particularly as they related to welfare patients. The council also served as a spokesman for the four departments when matters of mutual concern were under consideration by the state legislature. For example, before legislative committee hearings it urged improved medical assistance for the aged, and advocated state programs to deal with alcoholism and narcotic addiction. The council also supervised and developed standards for amputee services, and limited payments for the evaluation, treatment, and training of medically indigent amputees to approved hospitals. Inasmuch as the Health Council sought to eliminate duplication by city agencies and to integrate patient care at the individual level, it received strong support from Drs. Baumgartner and James. Both of them recognized that public health could not be separated from social welfare and medical care, and for this reason they cooperated fully with the council.⁵⁹

While the problems of health care continued to preoccupy Dr. James, he pushed the cause of health on a wide front. One of the most significant events of his administration was the fluoridation of the city's water supply, although a good part of the credit for this must go to his predecessor, Dr. Baumgartner, who had fought long and hard for it. In 1955 Mayor Wagner appointed her to head a committee to look into the subject. This blue ribbon committee, which included such stalwarts in the health field as Haven Emerson and Thomas M. Rivers, backed up the Board of Health's earlier stand in favor of fluoridation and strongly recommended it. The committee pointed out that attempting to discourage children from eating candy and carbohydrates had not been successful, that brushing the teeth after every meal was a "measure of more theoretical than practical value," and that the topical

application of fluoride was too expensive for the majority of parents. In a summary of its findings, the committee estimated that at a cost of 9 cents per capita fluoridation could prevent 60 percent of all tooth decay. Although every leading medical, dental, and health association had endorsed fluoridation, right-wing politicians and the lunatic fringe had made it a major political issue. Torn between flag-waving anticommunists on one hand and the arguments of scientists on the other, many citizens hesitated to commit themselves. Moreover, the Department of Water Supply, Gas and Electricity, which would have both the responsibility and extra work entailed by fluoridation, was reluctant to assume a task for which the Health Department would receive credit. When the Board of Estimate held open hearings in 1957, the health authorities were opposed by the antifluoridationists with their emotional and often irrational arguments and by the technical objections of the water supply staff. Under these circumstances, the Board of Estimate took the path of least resistance and postponed the decision for several years.⁶⁰

Gradually, however, the forces of reason gained ground, but in the meantime thousands of New York children were denied the benefits of fluoridation. Mayor Wagner supported the proposal and promised to take action whenever it was politically feasible. He warned, however, that premature action might bring about a reversal which would be harmful to the national fight for fluoridation. By 1963 nearly all city officials were convinced of its desirability, but as politicians they were reluctant to commit themselves, each one fearing he might be in a minority. This problem was solved by Dr. James with the help of Mary (Mrs. Albert D.) Lasker, a prominent New York civic figure and philanthropist. She invited all concerned officials to an informal reception at her home to discuss the matter. Dr. Howard Rusk, a prominent scientist, chaired the meeting. In the course of the discussion it soon became clear that the members of the Board of Estimate and other city officers were in agreement on the fluoridation issue. This social gathering cleared the air, and on December 12, 1963, the Board of Estimate joined forces with the Health Department by unanimously recommending that the water supply be fluoridated. During 1964 the Health Department gave technical advice to the Department of Water Supply as it began planning for

fluoridation, and it also provided ammunition for the Legal Department in its efforts to remove the legal obstacles thrown up by the antifuoridationists.⁶¹

The year 1965 finally brought success. In February the State Supreme Court ruled that fluoridation was within the jurisdiction of the Health Department. In June the Appellate Court dismissed a nuisance suit brought by New York City Councilman Joseph Modugno, and on July 30 the water commissioner announced that the city water would be fluoridated by September 7. Early in October the newspapers reported that fluoride was being added to the water supply, but technical difficulties continued to delay full implementation of the fluoridation program. Meanwhile the antifuoridationists once again rallied their forces and made fluoridation an issue in the November election. By this time the public was better informed and the question was settled once and for all. On December 10, 1965, the City Council voted 19 to 4 in favor of fluoridation, and the Board of Estimate approved the action two days later. By 1966 the technical problems had been solved and fluoridation became an accepted fact in New York City. To establish a basis for testing the efficacy of fluoridation, during the early months of that year the Health Department conducted a baseline survey to record the dental status of the school population prior to its introduction.⁶²

In terms of the traditional epidemic diseases, Dr. James's administration had little to worry about. A relatively mild influenza outbreak became apparent in February 1963, and the city experienced some effect from the 1964 German measles pandemic. Although only slightly over 21,000 cases of German measles were reported, the Bureau of Preventable Diseases estimated the actual number at about 200,000. At the request of attending physicians, the Health Department authorized the distribution of over 5,000 doses of gamma globulin to pregnant women who were exposed or infected with the disease. In 1961 a new measles vaccine was tested in New York City, and by the school year of 1965-66 the Health Department was ready to use the vaccine on a large scale. During this year over 40,000 preschool, kindergarten, and first grade pupils were immunized.⁶³

In the fight against tuberculosis, the department continued to make slow but steady progress. From 1961 to 1966 the number of

new cases of tuberculosis uncovered declined at a rate of about 2 percent a year. In appealing for federal funds during 1964, Dr. James pointed out that despite this decline the disease was gaining in deprived areas, particularly among Negroes and Puerto Ricans.⁶⁴

The department's campaigns against diabetes and cancer were stepped up, and every effort was made to increase public awareness of the dangers from these two disorders. During the annual Diabetes Detection Week free tests were given at the health centers, and special efforts were made to bring the Pap smear test for cervical cancer into wider use. The increase in venereal disease rates had not yet started the sharp upturn which was to characterize the later years of the decade, and the department was not unduly worried. Nonetheless, it pressed ahead with an educational campaign, and Dr. James hailed a decision by the Board of Education to approve a course on venereal disease for the public schools in November 1963 as a major victory for the Health Department. The proposed course was introduced on a pilot basis in nine high schools in September 1966.⁶⁵

The 1960s saw a notable shift in the policy of the Bureau of Laboratories. Although the laboratories had performed outstanding work in the first decades of the twentieth century, the appearance of the various research agencies connected with the Health Department had reduced the Bureau of Laboratories to doing routine testing. In an effort to give new life to the bureau, in October 1959 Commissioner Baumgartner appointed Dr. Morris Schaeffer as director and at the same time made him chief of the Division of Laboratory Diagnosis in the Public Health Research Institute. This dual appointment arose as a means of getting around the inadequate salary provided for the director's position. Dr. Baumgartner, never one to be hindered by red tape when she was looking for good men, arranged the appointment in the Public Health Research Institute as a salary supplement.⁶⁶ Schaeffer, a native New Yorker, had been brought into the Health Department by Dr. Park back in 1931. During the intervening years he had taken a Ph.D. and an M.D. from New York University, taught at Western Reserve Medical School, and spent a number of years with the Public Health Service.

When Dr. Schaeffer took over, the bureau had only two Ph.D.'s on the staff. While many of the technicians who had

come up from the ranks were quite able, the emphasis upon seniority which characterized both the civil service system and the municipal employees' union had not been conducive to initiative and innovation. The new director promptly began introducing new blood into the staff and upgrading the qualifications of all personnel. For several years prior to his appointment, the department had been working on plans for a new laboratory building. Beginning in 1960 the project was pushed rapidly ahead, and three years later construction was started on a new 14-story building, located on First Avenue between 26th and 27th streets. Strikes and technical difficulties, however, delayed completion until 1968.

For some time the bureau had recognized that the existing regulations covering the large number of private and public clinical laboratories and blood banks, all of which operated under permits from the bureau, were inadequate. After a thorough study of the situation, late in 1962 a revised code for the regulation of clinical laboratories and blood banks was proposed. When a public hearing was held by the Board of Health, operators of some private laboratories indignantly described the proposed regulations as "cumbersome and unworkable." Despite opposition from those who placed profits ahead of human safety, the board enacted the new code on February 4 and voted to make it effective as of December 1, 1963. It provided that directors of clinics must have adequate academic training and experience and that a director could manage no more than two clinics. All technical employees were to have the proper training and experience necessary for their particular job. The code also provided for more frequent inspections and for periodic performance tests to insure the accuracy of the clinical work.⁶⁷

In July 1962 the Mycology Laboratory, a new diagnostic and research unit, inaugurated routine diagnostic services for the identification of cultures and the isolation of molds and fungi. In this same year the toxicology section of the Food and Drug Laboratory was expanded to facilitate the work of the poison control center. A significant breakthrough occurred in 1964 when the Food and Drug Laboratory developed a rapid-screening test, based on thin layer chromatographic techniques, capable of detecting minute amounts of morphine or heroin in the urine.⁶⁸ By

1966 the Bureau of Laboratories was working in close cooperation with various research laboratories and encouraging its personnel to go well beyond routine activities.

Constant agitation about the effect of smoking upon health by Linus Pauling, Alton Ochsner, and other leading scientists and physicians was making smoking a public issue in the early 1960s. Although the subject was still hotly debated in lay and professional journals, Dr. James and the Health Department decided to take a firm stand against it. In June 1963 Dr. James told a graduating class of physicians to urge their patients to stop smoking. The following December he announced that the department was planning a series of withdrawal clinics to help smokers break the habit. Three months later Dr. James appeared at a hearing before the Federal Trade Commission and declared that if the federal government did not require health-hazard warnings on cigarette packages and regulate cigarette advertising the Health Department would. The Board of Health, he said, was already considering a set of regulations with respect to the sale of cigarettes and cigars which were far more strict than those proposed by the federal government. The following year, 1965, some 14 stop-smoking institutes or clinics were held, and the department began a major educational campaign to discourage smoking among young people.⁶⁹

During Dr. James's administration the Bureau of Nutrition began taking a more active role in many of the current health problems. Starting in 1962 its nutritionists worked with the Sunset Park Alcoholic Clinic in Brooklyn and in the Riverside Rehabilitation Center for narcotic addicts. Nutrition education also was offered in conjunction with the antismoking clinics. In 1963-64 several antiobesity programs were put into operation, one of which was located in a high school. During 1964-65 the bureau began an intensive nutritional status survey of 643 elementary public schools, provided consultant services for eight satellite prenatal clinics, and cooperated with the antipoverty program. Working with the public health schools, the bureau also provided community nutrition experiences for 60 graduate dietetic interns.⁷⁰

As it became clear that community mental health impinged on many of the social problems which fell within the jurisdiction of

the Health Department, in 1963 a director of psychiatry was appointed with responsibility for the general administration, technical supervision, and evaluation of all mental health programs operated by the department. In addition to his regular duties, the director provided consultation for the departmental staff, worked with the narcotics addiction program, and explored the possibility of developing a suicide prevention program.⁷¹ With the emergence of hepatitis as a serious menace to health, the department discovered that tattoo parlors were a source of infection. Since the Board of Health felt it would be virtually impossible to maintain proper sanitation in these parlors, in October 1961 a ban was issued against tattooing except for medical purposes. A court order lifted the ban in July 1963, but the Appellate Division upheld the board in October 1964. The issue was then carried to the State Court of Appeals, which on June 2, 1966, upheld the authority of the Board of Health.⁷² It is worth noting that for 100 years the New York State courts had consistently supported the Board of Health in its struggles against vested interests. In so doing the courts gained credit for themselves and at the same time gave evidence that the wide powers entrusted to the New York City Board of Health and Health Department had not been abused.

One of the older problems with which the Health Department had to deal was housing. By the twentieth century the regulation of tenements had been shifted to a separate city agency, and the health officials were only peripherally concerned. The infestation of these buildings by rats, however, represented a direct threat to public health, and on occasions led to direct Health Department action. The new Health Code, which became effective on January 1, 1959, permitted the Health Department to declare a particular area to be rat-infested and to require the landlords to remedy the situation. Acting under these provisions, in January 1964 the Board of Health declared that such buildings were "dangerous to life and health," and instructed the Health Department to take the necessary steps to eliminate the rats. Landlords were given five days notice to remedy the situation, after which the department moved in and charged the cost of extermination to the owner. Early in March a pest control unit was established and during the remaining months of the year it cleaned up over 1,200

buildings. In addition to exterminating rodents, the pest control unit sought to make the buildings as rat-proof as possible. By October 1966 over 63 percent of the buildings designated as rat-infested at the beginning of the program in March 1964 had been certified as free of rats.⁷³

The Health Department was involved with tenements in still another way, since tenement and apartment house furnaces were a major source of air pollution. As the relationship between air pollution and health became better understood, in 1965 the city established a separate air pollution agency with its own commissioner and a budget of \$1,300,000.⁷⁴

Another environmental hazard to public health arose from the increasing use of X-ray machines and of radioactive materials. Dentist offices, hospitals, and clinics contained hundreds of X-ray machines, all of which needed careful supervision. In addition, because of the heavy concentration of medical and industrial users of radioactive materials, New York City had an estimated 13,000 radiation sources, all of which were potential danger spots in the event of accidents. To meet this threat the Office of Radiation Control had been established in 1958, the first such unit to be created by a local health department. This agency, constantly on the alert for new sources of radiation, banned the use of radium dial pocket watches in 1962, and on October 15 of that year took over from the Atomic Energy Commission the responsibility for the licensing and inspection of nonindustrial users of radioisotopes in the city. In August 1966 the office established new and more effective regulations for controlling the transportation of large or dangerous shipments of radioactive material within the city. Henceforth these shipments were restricted to certain routes at certain hours and were required to have a police escort.⁷⁵

During these years, the Health Research Council received generous support from the city and continued to pursue a wide range of activities. In the fiscal year 1965-66 the council distributed \$4,185,000 in grants and awards and gave support to over 500 research scientists. These research projects ranged far and wide over the health and medical field: one sought a new method for predicting reading and writing disabilities in preschool children; another was concerned with the cause and cure of sickle cell anemia among Negroes; and a third dealt with the role of mineral

air pollutants such as asbestos and other particulates arising from construction work.⁷⁶

One of the greatest successes of the council came in the area of narcotics addiction. A \$100,000 grant to Dr. Vincent P. Dole in 1963 led to the introduction of the methadone program by which relatively large doses of methadone were used to stabilize addicts and permit their rehabilitation. Methadone treatment is still controversial, but it represents one of the first rays of hope in the seemingly impossible task of dealing with narcotic addicts. In the succeeding years the Health Research Council continued to support Dr. Dole's research, while at the same time seeking to encourage other approaches to the drug problem. From its inception the council had shown a strong interest in medical care and community health. Under Dr. James's administration, increasing attention was given to this important area. For example, in 1963-64 the sum of \$567,686 was allocated to research in medical care and community health; in 1964-65 this figure was raised to \$853,477.⁷⁷

The Health Research Council has proved a sound investment for New York City. The council's annual budgets have more than repaid the city by the savings effected in health care services and by the even greater but intangible contributions in terms of reducing sickness and death. Nonetheless, in recent years the council has suffered a considerable reduction in budget. Precisely because the benefits of medical research are not immediately evident, provide no patronage, nor result in marble or concrete monuments to political administrations, only the better politicians are willing to give it genuine support. The fact that the council has survived for 15 years shows that its work has not gone unrecognized among social-conscious New Yorkers.

As a final, and possibly ironic, note to the conclusion of 100 years of the Health Department's existence, arrangements were completed in 1965-66 to send microfilm copies of all vital records from 1880 to 1964, and all subsequent ones, to the state civil defense authorities for storage in Iron Mountain.⁷⁸ At the end of a century of incredible progress in terms of public health and longevity, the Health Department was preparing for the holocaust which conceivably could mark the end of Western civilization.

In June 1965 Dr. James announced that he had accepted a position as dean of the newly organized Mount Sinai Medical School

and would surrender his commissionership on November 1. For four years he had given the department what Mayor Wagner described as "skillful and imaginative leadership." He had carried on the work of Dr. Baumgartner in furthering the education and training of the existing staff and attracting able and idealistic personnel. He had also continued her efforts to expand the Health Department's role in the medical care area. He himself felt that, in addition to developing a first-rate staff, his most notable work had been in integrating the various city agencies in order to provide comprehensive care at the individual level. For example, the Queensbridge Health Maintenance Program had successfully brought medical, welfare, and housing services together for the benefit of the elderly. Maternal and child health had received special attention: family planning had been introduced on a broad scale and the quality of prenatal care improved; a comprehensive vaccine had been developed for children; and a pediatric clinic had made medical care readily available.⁷⁹ The most significant development overall was Dr. James's insistence that all New Yorkers should have ready access to quality medical care. In taking this stand he necessarily antagonized those conservatives within the profession who insisted that the existing medical system could provide the necessary services. The shift from medical care as a privilege to medical care as a right is only slowly gaining ground in the United States, but under Dr. James's administration the New York City Health Department was helping to lead the way.

Notes to Chapter 16

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Maternal and Child Health

I do not mean that they [the tenement mothers] were callous when their babies died. Then they cried like mothers, for a change. They were just horribly fatalistic about it while it was going on. Babies always died in summer and there was no point in trying to do anything about it. [S. Josephine Baker, *Fighting for Life* (New York, 1939), p. 58.]

By the early twentieth century the infant welfare and school health movement was in full swing. In the excitement attending this development two groups were almost lost in the shuffle, preschoolers, ages two to five, and mothers. While milk stations gave incidental help to pregnant and parturient women, their chief concern was with the babies. Neither the Health Department nor the many charitable organizations devoted to child health paid much attention to maternal mortality. One of the few groups to recognize that good prenatal care was beneficial to the mother and child was the AICP. This association had noted as early as 1908 that when visiting nurses contacted women before confinement, the babies were far more likely to be delivered by a physician. This was an advantage, the association commented, since maternal and infant mortality was far lower where physicians attended the mother. The Health Department officially began prenatal work in 1913, but its chief interest in so doing was to reduce infant mortality. Even this step was only a gesture; in 1918 the entire program consisted of seven nurses assigned to prenatal work during the summer months.¹

Maternal Mortality and Prenatal Care

During the World War I period the advocates of birth control helped to bring the question of maternal mortality to the fore. In addition to creating some public awareness of the problem, they stirred the conscience of medical societies. To the credit of the New York Academy of Medicine, its Public Health Committee had already drawn attention to the relatively high maternal mor-

tality rate. The committee wrote in 1917 that the deaths from preventable diseases of childbirth, such as puerperal septicemia, had "not been reduced to an extent commensurate with the reduction in mortality from other preventable diseases." Three years later this same committee began consideration of a measure advocated by the Voluntary Parenthood League to remove the federal restrictions on disseminating information relating to birth control. The committee decided that the proposed measure was undesirable, but it did recommend that the existing restrictions be made inapplicable to licensed physicians, dispensaries, and public health authorities insofar as they affected the health of their patients. When statements in the press implied subsequently that the Public Health Committee favored birth control, the committee issued a firm statement that it was "emphatically opposed to the methods and principles of the so-called birth control movement."²

The growing recognition that maternal mortality was a national problem led to the passage of the Sheppard-Towner Act in 1921, a measure which sought to raise standards of maternal and child health. It was 1925 before the Health Department was able to benefit from the provisions of the Sheppard-Towner law, but the AICP and several other private agencies helped fill the void by placing more emphasis upon maternal welfare. The NYAM, too, kept pressing for action. Its Public Health Committee pointed out in 1923 that New York City's puerperal mortality rate was much lower than that for the nation as a whole, but it warned that the rate had been slowly rising during the previous ten years. By the end of 1925, the Health Department using Sheppard-Towner funds had 12 prenatal clinics in operation in addition to its 70 baby health stations. The work of these clinics was augmented by private organizations such as the Elks and AICP which joined with the department in carrying on this work.³

In the meantime the staid and conservative NYAM became embroiled with the police over the birth control issue. Its Committee on Maternal Health had noted in 1925 that little research had been done in connection with the problems of sterility and conception, particularly as they related to female diseases. In consequence, the NYAM organized a Birth Control Clinical Research Bureau. An overzealous squadron of police raided the bureau in 1929 and seized its records, an act of stupidity for which the police com-

missioner subsequently apologized. In 1931 the academy's Public Health Committee approved the establishment of birth control clinics in conjunction with hospitals, but stressed that contraception was to be prescribed only for the cure and prevention of disease.⁴

In 1930 the academy received a three-year grant to study maternal deaths in the city. One finding was that the city only paid for deliveries of indigent patients in city hospitals if the case was considered an emergency one. Patients who had received prenatal care were ruled ineligible for financial help. As a result of this ruling, many maternity patients carefully avoided prenatal care. The most significant development arising from the Academy of Medicine's three-year study was the creation of an Advisory Obstetric Council within the Health Department in 1934. This body effectively helped to raise standards of prenatal care in the department's health stations, maintained close surveillance of midwives, and involved the local medical societies in reviewing all maternal deaths.⁵ The advent of the New Deal on the national level and the energetic administration of Health Commissioner Rice on the local level brought both financial resources and a new spirit to the Health Department. These factors, combined with improving living standards and the work of the Advisory Obstetric Council, sharply reduced the maternal mortality rate, from 6.4 per 1,000 in 1933 to 3.1 in 1939.⁶

In May 1940 Dr. Rice announced a new drive to reduce this figure even further. During the next few years, the department's efforts in this direction received a major assist from the federally sponsored Emergency Maternity and Infant Care Program. This program, which began on July 1, 1943, was established to help dependents of military personnel and was administered by the Health Department. It remained in operation for six years, until June 30, 1949, during which time some 53,000 parturient women in New York City were provided with prenatal and postnatal care. As mentioned elsewhere, an incidental result of this program was to raise the standards of maternity care for all patients. For example, between 1941 and 1947 the city's mortality rate was cut in half, from 2.2 to 1.1 per 1,000 live births.⁷

In 1948 the department's Hospital Consultation Service of the Maternity and Newborn Division made a major policy shift. In-

stead of concentrating upon controlling infections in newborn infants, the emphasis was now placed upon maternal and neonatal mortality. Working in close collaboration with the Health Department, the Department of Hospitals began withholding licenses from proprietary hospitals whose maternity services did not meet the requirements of the Sanitary Code. Faced with this threat, the hospitals had little choice but to fall into line. By 1956 only 6 out of the city's 99 hospitals received a rating of fair; all the others were rated good or excellent. While hospital care was reaching a high level, some 15 to 18 percent of mothers were still receiving little or no prenatal care. To deal with this problem, the Health Department began an intensive educational campaign involving a wide range of professional medical and welfare workers.⁸

In 1961-62 the department noted a relatively large increase in puerperal deaths, most of which it attributed to abortion efforts. The department also blamed some of the increase on the unwarranted practice of inducing labor and what it termed "the meddling interference with labor." The department once again appealed successfully to the medical societies and an effective collaboration was established.⁹ Health problems, since they involve fallible human beings as patients and medical personnel, are rarely ever completely solved, but by 1966 maternal mortality in New York City in terms of current medical knowledge was approaching the irreducible minimum.

In connection with maternal health, a brief mention of midwives is worthwhile. In 1900 they delivered 48.51 percent of the city's reported births; by 1923 this percentage had fallen to 21.30. In the meantime, beginning in 1909 the Health Department had assumed supervision of midwifery. As the twentieth century drew on, the department gradually tightened licensing requirements and through its visiting nurses kept a closer check on midwives.¹⁰ By the 1950s midwives were playing a negligible role in obstetrics, and at the end of the decade they had all but vanished. The year 1960 saw the introduction of nurse-midwives into the municipal hospitals and a ruling by the Board of Health that no more untrained midwives would be licensed. At the time when Dr. James assumed the commissionership in 1962, only two still held licenses. Both of these midwives were in their sixties and they had petitioned the Board of Health to allow them to deliver their

own grandchildren. The board made a special exception in these two cases, but limited the two women to practicing within their own families.¹¹

The Care of Infants

Despite efforts to improve the reporting of vital statistics, as late as 1900 the Health Department was still unable to determine with any degree of accuracy the death rate for children under five years of age. All that it could do was to calculate the percentage of deaths under five years in relation to the total deaths. The death statistics were reasonably accurate since bodies were not easily disposed of and legal questions were usually involved; the reporting of births was another matter. Both midwives and physicians were remiss in this responsibility, although the Bureau of Vital Statistics in 1900 laid the chief blame upon physicians. Even with the limited information available, it was clear that the loss of life among infants was enormous. During the 1890s the deaths among children below the age of five averaged about 40 percent of all deaths. The peak year was 1894 when the figure reached 42.64 percent. In the succeeding years this percentage slowly declined to a low of 36.46 for the year 1900.¹²

When the health authorities and general public became conscious of the wastage of infant life in the immediate post-Civil War years, their concern centered first on the incredible conditions associated with foundlings. As was indicated in earlier chapters, some improvement was made in the care of these infants, but once public interest waned, the old abuses soon reappeared. Late in the nineteenth century the AICP again took up the cause of these waifs. Working in conjunction with the State Charities Aid Association, it established a joint committee in March 1898 to study the situation. This committee soon discovered an appalling death rate among babies sent to the Infants' Hospital on Randall's Island. For example, in the year ending September 30, 1895, 129 foundlings were received by the hospital. Of these, four were immediately reclaimed by their parents, one was adopted the day after admission, and the other 124 died. The following year out of 131 received, six were adopted, and only one lived to the age of two years, at which time it was transferred to another institution. All the others died. The year ending in September 1897 was no

better—only one infant survived.¹³ On the basis of these incredible figures, one cannot help wonder whether they resulted from sheer neglect or whether infanticide was involved.

The joint committee, after citing the notable improvement in infant mortality brought about in Boston and Philadelphia through the system of placing unwanted babies in foster homes, recommended the same method for New York. With the backing of the two parent organizations, the joint committee offered to pay the salary, travel, and office expenses of an agent to supervise infants if the commissioner of public charities would place them in foster homes. The committee also agreed to pay for special food and to provide clothing and medical care. During 1898 some 45 infants were boarded out under this arrangement, and among these children the mortality rate fell to 62.2 percent. High as this figure was, it represented a considerable improvement. The following year 60 babies were sent to foster homes and the mortality fell to 38 percent. The publicity given to the actions of the joint committee pressured the commissioner of public charities into remedying the worst abuses in the Infants' Hospital, and here, too, conditions showed a definite improvement. By 1901 the mortality among these children had fallen to 31.1 percent. Meanwhile the mortality rate for children under the supervision of the joint committee continued to fall. By 1901 it had reduced infant loss to 10.7 percent, a figure which was probably well below the average for the entire city.¹⁴ An important factor in improving infant conditions on Randall's Island was the generosity of Mr. Nathan Straus. In 1898, in response to a request from the superintendent, he had installed a milk sterilizer in the hospital. The introduction of what in effect was pasteurized milk sharply reduced infant diarrheas.¹⁵

Just as the issue was beginning to disappear as a newsworthy item, an incident involving a Catholic infant asylum once again brought foundlings to public attention. In the fall of 1904 the New York Foundling Asylum placed 40 children under the supervision of several Sisters and sent them west in hopes of finding them homes. Precisely what happened is difficult to say since the accounts vary, but a number of the children ended up in the hands of poor Mexican families in a town in Arizona. The local Anglo-American families were outraged, and the incident precipitated a

riot. The upshot was the return of the Sisters with 21 children, the rest apparently left in Arizona. To make matters worse, the first report of the riot stated that the children had been sold to the Mexicans.¹⁶ The incident was a minor one, but it did serve to create a public awareness of the helpless plight of many children.

Educating Parents

A major cause for the generally high infant mortality was the ignorance of parents. All observers commented upon the dark, foul rooms in which infants and young children were kept during much of their time. They noted the tendency of mothers to keep young children swathed in layers of wool even during the hottest months and to feed solid food to the youngest of infants. The lack of washing facilities in the tenements made personal hygiene exceedingly difficult. Most slum dwellers, however, were acculturated to filth, and they saw little reason for keeping their babies clean.¹⁷

Recognizing this situation, the AICP, the Children's Aid Society, and other philanthropic agencies devoted considerable time and energy to organizing summer camps where tenement mothers and children could be placed for a few days in a clean and healthy environment. In addition to good food, fresh air, and medical care, all of these agencies sought to educate the mothers on the care of children. Each summer thousands of mothers and children were given brief respites in camps such as the Health Home, Sea Side Cottages, Floating Hospitals, and the Children's Summer Homes. Children and adults also benefited from privately operated public baths scattered throughout the tenement areas. Another valuable institution was the Sick Children's Mission maintained during summer months by the Children's Aid Society. In 1906 Dr. Adelaide Wallerstein opened the Wallerstein Clinic for Children, at that time the only clinic exclusively for children in the city. It was financed by a group of over 200 women and was manned largely by volunteer physicians.¹⁸

As might be expected, the AICP took leadership in transforming these summer camps from recreational centers into health care units. It began by giving physical examinations to all children attending Sea Breeze, its summer camp. As a result of these exam-

inations, it reported in 1905 that nearly all children examined were underweight and undersized and that their teeth were in a "frightful condition. . . ." The next step was to make the public aware of the problem. In March 1906 President Theodore Roosevelt was induced to visit the AICP's Sea Breeze Camp on Coney Island. As a result of this visit, John D. Rockefeller offered to donate \$125,000 on a matching basis to build a permanent seaside hospital for children suffering from tuberculosis. By July the AICP announced that it had raised its share of the money, and that it would move ahead with the project.¹⁹

Recognizing that there were many mothers who could not accompany their children to summer camps and who were unwilling to be separated from sick children, the AICP proposed establishing a summer camp in Manhattan. John D. Rockefeller again underwrote the program and offered the grounds of the Rockefeller Institute at 64th Street and the East River. A series of open air shelters were built, each accommodating 12 babies. The camp was designed for babies under 18 months, particularly those suffering from summer complaints, and had room for 600 infants. Mothers were invited to spend the day with their babies and to bring the older children. During the daytime, the staff taught the mothers and older children how to make beds, prepare food, bathe the babies, and run their homes as efficiently and economically as possible. The camp was operated from July 9 to September 8.²⁰

The newspapers, which often led reform movements and always reflected them, were not slow in joining the effort on behalf of infants. The *Evening World* began a crusade for "Clean Air, Clean Food and Clean Babies" early in July 1906. Working in conjunction with the AICP, the newspaper ran a notice during July and August advising parents of sick children that it would provide assistance within an hour of notification. The AICP took charge of these cases and secured the necessary help. It obtained Health Department physicians when needed and sent sick infants to Sea Breeze, where they were known as "the *World* babies."²¹

This brief account of private philanthropy scarcely does justice to the subject or to the Henry Street Settlement and the many volunteer groups dedicated to improving the condition of mothers and children. All of these efforts, however, were inadequate to care for the thousands of deprived children inhabiting the metro-

politan area of New York City, and it was becoming clear that governmental action on a large scale was necessary. The Health Department, as mentioned in Chapter 11, took the initiative in 1908 by establishing a Division of Child Hygiene under Dr. S. Josephine Baker, the first government agency in the world devoted exclusively to child health. One of Dr. Baker's first acts was to call a meeting of the many and diverse child health agencies to coordinate their activities. This meeting, known as the Conference on the Summer Care of Babies, included representatives from various municipal divisions, voluntary associations, and newspapers. Out of it came an integrated program for the summer of 1909 utilizing the combined resources of all organizations. Nurses from the Child Hygiene Division visited every home where a midwife had reported a birth, gave the mother instructions on child care and feeding, and distributed pamphlets on child care. In order to avoid antagonizing the organized medical profession, the Health Department nurses treated sick babies only under emergency conditions; ordinarily cases of sickness or destitution were referred to the voluntary agencies. During the summer of 1909 the department's nurses visited some 57,000 mothers.²²

Infant Milk Stations

Another major role played by voluntary organizations was that of providing good quality milk either free or at nominal prices to the poor. The work of Nathan Straus has been dealt with in previous chapters. In addition to the Straus milk depots, the Diet Kitchen, Good Samaritan Dispensary, Nurses' Settlement, Babies' Dairies, and the Morningside Dispensary also operated milk distribution centers. As of 1911, private individuals or associations were maintaining 30 centers where the poor could obtain milk for their infants. Five years earlier, 1906, the AICP had organized the New York Milk Committee. The committee's main purpose was to provide good quality milk for the tenement dwellers, but the committee also sought to educate mothers on the value of breast feeding and on the general care of their infants. In 1909 this agency was made independent of the AICP so that it could serve as a coordinating committee for the many volunteer groups.²³

The New York Milk Committee proved a valuable ally to Dr.

Baker, who was seeking municipal funds to develop a number of child health centers. It helped to arouse public awareness of the plight of slum children and it demonstrated that cheaper and better milk could reduce infant mortality. Far more important than the milk committee in bringing direct action from the city was a series of attacks on Nathan Straus in 1910. The *Herald* criticized the Straus milk pasteurization laboratory and thereby created a furor. Mr. Straus announced that he was closing all 17 of his milk stations because of these attacks. The other newspapers and civic leaders promptly rallied to his support. A public meeting was called in October in which leading citizens expressed their appreciation and urged Straus to continue his work. Somewhat mollified, he agreed to maintain his milk stations until the city would set up its own milk depots.²⁴

The following January (1911), Health Commissioner Lederle announced that \$40,000 had been appropriated for 15 city milk depots. On April 27 the first of these was opened. Later in the year Dr. Lederle requested an appropriation of \$300,000 to expand the program. The New York Milk Committee, in pressing for action by the city, had originally planned to have a total of 60 milk stations, 30 operated by private organizations and another 30 by the city. The Health Department moved rapidly, however, establishing 15 stations in 1911 and another 40 in 1912. As the city milk stations were opened, most of the privately operated ones were phased out. By 1914 the Health Department was maintaining 56 of them and providing supervision and medical assistance to 7 others still under control of voluntary associations. As mentioned in Chapter 11, in 1916 the name infants' milk stations was changed to baby health stations, a change which reflected their role as health and educational centers. By 1919 the department had 60 baby health stations in operation, each of which was attended by a nurse and a nurse's assistant and a medical inspector who divided his time between three stations. For a five-month period during the warmer season, an additional nurse was assigned to each station.²⁵

Although Mr. Straus had threatened to give up his milk program, he continued to maintain milk stations and the Straus pasteurization laboratory for another ten years. As the city opened its milk depots, he gradually closed his. He did not withdraw

completely from the program until September 1920 when the city assumed responsibility for his pasteurization plant and the last eight of his milk depots.²⁶ More than any single individual, Nathan Straus deserves credit for improving both the quality and distribution of milk in New York City. He was directly responsible for saving the lives of thousands of New York babies, and, since his milk depots were the forerunners of the child health centers, he indirectly contributed to saving thousands more.

The "Little Mothers"

Dr. Baker, always receptive to any method for improving child health, was familiar with the concept of the "little mother," the older sister who was often forced to assume responsibility for the younger children while the mother worked. The phrase "little mother" was used in an AICP report as early as 1904 and may well be much older. On this occasion the AICP mentioned that one of the purposes of Sea Breeze was to enable these "little mothers" to throw off their burden of responsibility and learn to play. In 1910 Dr. Baker urged the school authorities to organize a little mother's league to teach girls how to care for their younger brothers and sisters. When the school board expressed no interest, she persuaded one school principal, Miss Margaret Knox, to sponsor the idea. It immediately proved successful, and other school principals followed suit. With strong support from the Division of Child Hygiene, 183 of these leagues were organized within a year or so, and they proved to be one of the most effective means for carrying health education into the homes. In June 1914 thousands of girls participated in school health programs, all happily chanting:

I pledge to be the baby's friend,
And everybody tell
Clean air, clean clothing, and clean food
He needs to keep him well.

Whatever the merits of the poesy, the direct and indirect benefits to the city's health from these leagues were immeasurable.²⁷

As the Division of Child Hygiene began broadening its work, in May 1914 plans were announced for a Baby Week to make the public aware of the dangers to infant health during the summer

months. This health education work was expanded in the following years. By 1920 the department was conducting better baby contests in each area, with the finalists competing for the city title of best baby.²⁸ One beneficial effect of World War I was to focus attention upon child health problems. The Federal Children's Bureau and the National Council of Defense launched a campaign for a Children's Year in April 1918. The City Health Department worked closely with the Mayor's Committee of Women on National Defense and a large number of volunteer groups in contacting and giving physical examinations to as many preschool children as possible. The department's Bureau of Child Hygiene noted in 1918 that the preschool child was the one most neglected by health officials and by mothers. The mothers in particular tended to assume that having survived babyhood, their children no longer needed special attention. It also observed that the "control of infant and child morbidity and mortality is more of a socio-economic problem than a medical one," a statement unfortunately well ahead of its time.²⁹

By this time child health was becoming a major reform movement, agitated on a nationwide basis. One result of this was the passage in 1921 of the Sheppard-Towner Act which provided money to the states on a matching basis. Its effect was not felt immediately in New York City, since the state did not provide the necessary enabling legislation. In 1925, however, Sheppard-Towner funds made it possible for the Health Department to start establishing the first of 12 prenatal clinics. Although it provided only limited assistance, the Sheppard-Towner Act was an opening wedge which helped pave the way for substantial federal funds during the depression years of the 1930s. The formation of the Child Health Association at the national level was another indication of the strength of the movement. This association proposed that May Day be transformed into Child Health Day, a proposal which the City Health Department was happy to support.³⁰

When Dr. Baker resigned from the Child Hygiene Bureau in 1923, the bureau was able to report that infant mortality in New York City was 66 per 1,000 reported births, the lowest rate among the ten largest cities in the country. There were two areas in maternal and child care, however, which the bureau felt were still neglected, the prenatal and preschool periods. By 1926 Shep-

pard-Towner funds had made possible a start on the first, but little was being done for the preschoolers. The Bureau of Child Hygiene reported that its staff was inadequate to attend to the needs of this group.³¹ As might be expected, the AICP was one of the first organizations to attempt to deal with the problem, although only on a small scale. Its Mulberry Health Center was providing a limited health program for preschool children as early as 1921. In 1925 the AICP proposed to expand its program for children from two to six, "the so-called 'neglected age,' " too old for the baby health stations and too young for the department's school medical service. The Health Department, short of money and staff and plagued by considerable administrative inefficiency, was unable to take an active role. By and large, the department contented itself with urging that children entering school for the first time be examined by their family physicians.³² Aside from the fact that the vast majority of poor had no family physicians and summoned doctors only as a last resort, the suggestion was an admirable one.

In connection with child health, two other associations deserve a brief mention. Under prodding from Dr. Baker, several of the child health agencies banded together to form The Association of Baby Health Stations, an organization which was given strong backing by the Health Department and the New York Milk Committee. Subsequently its name was changed to The Children's Welfare Association. Its primary function was to avoid duplication and to coordinate the efforts of volunteer agencies. The New York Academy of Medicine was also doing some good work on the score of child health. In 1916-17 its Committee on Public Health investigated conditions in institutions for children and found considerable overcrowding. In 1922 the Laura Spelman Rockefeller Memorial Fund gave the academy a special appropriation to study New York City's child health needs. The study by the academy's Public Health Committee involved the use of a special staff of physicians, nurses, and social workers and was completed late in 1923. The study group found that there had been considerable improvement during the previous ten years, but that coordination among the various child health agencies was still poor. No effective machinery was available to deal with preschool children, and the school medical inspection system was in need of reorganization. The group also recommended the establishment

of a research agency to evaluate existing programs and to try new methods and programs.³³

The 1920s saw the child health stations gaining steady ground in the battle against communicable diseases. Immunization against diphtheria became routine, and a major campaign was started against this disease in 1928. In the ensuing years, as new preventives became available, they were quickly utilized. By 1949, whooping cough injections and a combined diphtheria-tetanus antigen were routinely administered to all babies registered in the health centers during their first year of life. Five years later, 1954, a combined diphtheria, whooping cough, and tetanus vaccine replaced the multiple injections.³⁴

In most areas of child and maternal health the Health Department continued to make steady and occasionally spectacular gains during the 1930s and 1940s. Aided by improvements in medical science and massive injections of federal money during the 1930s, health conditions generally improved. In 1937 the Bureau of Child Health reviewed infant mortality statistics for the previous 37 years and reported a steady decline. The sharpest reduction had been made in the deaths from diarrhea and enteritis, where the rate had dropped from about 39 per 1,000 live births in 1901 to less than 5 by 1937. Encouraging as these figures were, the bureau noticed that the decline in mortality among infants of less than one month had not kept pace with the general improvement in infant health. One reason for this, it suggested, was the number of deaths among newborn from epidemic diarrhea. After studying the problem in conjunction with its Obstetrical Advisory Committee, the Health Department in 1939 made a number of changes in the Sanitary Code (for example, making reportable all cases of diarrhea among newborn occurring in any hospital providing maternity service) and began thoroughly investigating all neonatal deaths. Despite these measures, 19 epidemic outbreaks were reported that year. More stringent regulations were established, and gradually the situation was brought under control. In 1950 the Division of Newborn and Maternity Service could report that for the first time since 1934 no outbreak had occurred which could be classified as true epidemic diarrhea of the newborn.³⁵

Another group with a relatively high death rate were premature infants. To tackle this problem, the departments of Health



Child Health Stations Were Formerly Located in Store Buildings. By 1937, the Department Was Housing the Stations in New Buildings (such as shown

Maternal and Child Health



at right). From *Annual Report of the New York City Department of Health*,
1937, p. 190.

and Hospitals appointed a Special Committee on Prematurity in 1938 to collect statistics and to develop desirable standards for hospital care of premature babies. The suggested standards were then incorporated into the Sanitary Code. The war held up construction of special premature infant centers, but by 1949 ten hospitals, with federal support, made plans to establish facilities for premature babies. The State Department of Health agreed to contribute \$12 per day for each infant toward the cost of maintaining the hospital centers, and the City Health Department offered to develop a training program for pediatricians and nurses in the care of such infants. The program got underway rapidly, and by 1950 six hospitals had been approved for payment. As the Health Department gradually raised its standards for premature baby care, Dr. Baumgartner secured a grant from the Milbank Memorial Fund to hire a special consultant in 1960 to devise means for broadening the work. Despite the progress that had been made, Commissioner Baumgartner estimated that between 5,000 and 15,000 premature infants were still not receiving the specialized care they required.³⁶

By 1960 one-third of all infants born in New York City and 22 percent of all preschool children were under the supervision of the child health stations. Immunization against diphtheria, whooping cough, poliomyelitis, and tetanus was accomplished by a single injection. In addition, during this year all stations began testing newborns for phenylketonuria. Under the administrations of Baumgartner and James, the emphasis in all health centers was shifting from treatment to prevention. Health station physicians began following a policy of treating mild ailments immediately rather than referring patients to overcrowded hospitals and clinics where delays often occurred.³⁷

School Health

From the vantage point of the present day, it is a little difficult to pass judgment on health conditions in late nineteenth-century American schools. One scarcely knows whether to take pride in the existence of public schools or to be appalled at the crowded and filthy conditions under which education was conducted. A Board of Estimate committee looking into New York's schools

stated that prior to 1902 it was the custom to fill each classroom with as many pupils as possible and that classes of 120 were not uncommon. Jacob Riis described one school in 1895 as a wooden shanty over a damp cellar, heated by a stove. Another school, he wrote, was overrun by rats. When a bill was proposed in the State Legislature to provide for sanitation, ventilation, and fire protection in schoolhouses in cities of over 5,000 population, it was easily defeated. One senator charged that the bill was in the interest of a "dudish society" and that it smacked of interference and paternalism in local affairs.³⁸

The advent of medical school inspectors in 1897 might have been expected to improve conditions, but this event unfortunately coincided with the return to office of the Tammany political machine. Under the corrupt administration of Mayor Van Wyck, for four more years the city did little to replace the dilapidated, dirty, and ill-ventilated structures which served as schools. When the reform government of Mayor Seth Low took over in 1902, the Board of Aldermen promptly resolved that the Board of Education should take immediate steps to relieve the deplorable conditions in the public schools. The resolution specifically criticized conditions in the lower east side, but the situation was only a little better in other sections of the city. A visitor in 1903 found 65 children in a Brooklyn schoolroom intended for 20, and in school after school saw two and three children sitting in the same desk. Wherever she went in the city she found the schoolroom "atmosphere foul" and the pupils studying by flickering gas lights, adding a "melancholy to the gloom." The entire school system was controlled by local politics, and the janitors were usually important political figures in their wards. Since their jobs were political sinecures, the janitors contented themselves with seeing to it that the principal's office was cleaned, while the rest of the building received virtually no attention. One school became so filthy as a result of the janitor's negligence that it had to be closed and 1,500 children sent home. In 1904 the State Legislature finally enacted a bill to improve environmental conditions in the schools, but its application was a long slow process.³⁹ Ironically, the New York school janitorial system is still (or was until several years ago) a major scandal.

The events which led to the appointment of school inspectors

in 1897 have already been recounted. Some question still remains as to the exact number of inspectors for that year. The figures cited range from 100 in James J. Walsh's *History of Medicine in New York* to 150 given by several other sources. Funds were appropriated for 150 inspectors, but the actual number appointed was around 134. The *Annual Reports* of the Board of Health during Mayor Van Wyck's administration are poor and meager. For example, the 1897 report, which was not published until 1900, says very little about school medical inspection. The *Annual Report* for 1898 lists one chief inspector and 129 medical school inspectors.⁴⁰ Since the inspectors were all part-time employees, the number undoubtedly fluctuated.

Dr. Josephine Baker, who was one of these early school physicians, presents a discouraging picture of the entire program. When she heard they were paying \$30 a month (an amount about double her first year's monthly income as a physician), she secured a letter of recommendation from a local politician. The Health Department, she later wrote, was located in a forlorn old building, Health Commissioner Murphy resembled a caricature of a Tammany politician, and the entire office reeked of negligence and slackness. Many inspectors, she claims, never visited the schools, but simply telephoned to ask about the situation. She described her work as a dismal and futile business, since little was done about the diseases uncovered during the inspections. She was probably correct in her assessment. In April 1900 a school principal accused the Board of Health of failing to report the presence of measles in the families of a number of his pupils. Commissioner Murphy, who was happily filling up the department with political appointees, cheerfully promised to investigate and there, no doubt, the matter ended.⁴¹

The Advent of the School Nurse

The inauguration of a new political regime in 1902 brought major changes in the school health picture. Instead of a routine 15-minute call at each school, the inspectors were now required to spend an hour each day and to examine all pupils suspected of having contagious diseases. Originally the health authorities intended to exclude all children with contagious diseases, but they quickly

discovered that to do so would depopulate the schools. Pediculosis or head lice was almost universal and skin and eye diseases were rampant. Under the circumstances, they decided not to exclude children with pediculosis, contagious eye and skin disorders, and pulmonary tuberculosis.⁴² It was this situation which led the Health Department to undertake its experiment with school nurses in November 1902, as recorded in Chapter 11. The advent of school nurses made it possible to treat the children in the schools, thus guaranteeing their continued care and at the same time allowing them to continue their education. These early nurses must have been noble spirits indeed. Nearly all of them acquired head lice in the process of inspecting the children, and their visits to the children's homes must have taken a strong stomach and an incredible faith in mankind.⁴³

Once school inspection was placed upon a sound basis, the findings of the school inspectors gradually forced the Health Department into remedial work. In June 1902 a group of ophthalmologists examined a large number of school children and discovered 12 percent of them suffering from contagious eye diseases, including 4.2 percent with advanced cases of trachoma. These findings led to a more careful check of the children's eyes in the fall. As a result, almost one-third of the students, most of whom were suffering from eye disorders, were sent home. The introduction of school nurses to treat minor complaints gave some relief, but the city dispensaries were literally swamped. To deal with trachoma, a serious disorder, the department opened up the old Gouverneur Hospital on an emergency basis to provide surgical treatment for advanced cases and outpatient care for less severe ones. In so doing New York became the first American city to establish a hospital in conjunction with its school medical inspection.⁴⁴ While communicable eye diseases were the most pressing medical problem among school children, the examinations also revealed a great many refractive errors, and on November 28, 1904, the school inspectors began systematically to test the children's vision. Among the first few thousand examined, 20 percent were found to have defective sight.⁴⁵

The next step came in March 1905 when the routine weekly inspection of children was turned over to the school nurses, thus allowing the physicians to devote their time to giving more thor-

ough physical examinations. This latter involved testing eyes, ears, nose and throat, a general check for cardiac, pulmonary, glandular, and skin disorders, and noting the child's nutritional condition. The school nurse program and the other measures taken by the Health Department brought a marked reduction in the number of children excluded from school. The figure fell from 65,294 in 1903 to 18,844 in 1905. At this time there were close to 500,000 students in the public schools, and the number of medical school inspectors was fluctuating between 50 and 135. Even granting that all the school physicians were hard working and conscientious, the physical examinations necessarily must have been cursory. If the figures cited in a medical journal are correct, the inspection must have been a casual one, indeed. According to this journal, during 1904 some 8,261,733 examinations were given and 515,505 pupils were treated by the school nurses and physicians, yet the total number of medical inspectors was only 50!⁴⁶

Efforts by the Health Department to provide remedial work occasionally backfired. In the spring of 1906 it was reported that the parents of a large number of children on the lower east side who needed their tonsils and adenoids removed could not afford carfare to take the children to the nearest dispensary. On hearing this, several physicians volunteered to perform the operations in the schools. Subsequently a task force of private physicians and Health Department doctors and nurses visited Public School 75 and operated on 83 children. Six days later a rumor spread that the school doctors were slitting the throats of school children as a prelude to a general massacre of the Jews. Two thousand frantic parents besieged Public School 75 desperately trying to snatch their children out of the hands of the school authorities, and similar riots occurred elsewhere. Altogether 12 schools had to be dismissed. The riots were blamed on the so-called snip doctors, private individuals who removed tonsils or adenoids for 25 to 50 cents and who resented the Health Department doing the work free of charge. To appreciate this outburst, it must be realized that fear of massacres was no vague abstraction to the Jewish immigrants on the lower east side, some of whom had witnessed them in their home countries. Furthermore, their apprehensions had been aroused shortly before this occurrence by a series of newspaper stories about a large-scale pogrom in Poland.⁴⁷

The development of the school medical inspection system greatly aided the work of the humanitarian reformers. John Spargo's *The Bitter Cry of the Children*, Robert Hunter's *Poverty*, and the appeals of Jacob Riis and others were making the reading public aware of conditions among tenement children, and the school medical inspection reports helped to bring the facts home. Partly as a result of this growing interest in children, in May 1906 under the leadership of the AICP a group of philanthropic agencies organized the New York Committee on Physical Welfare of School Children. Its aims were to determine the health of the children, availability of medical care, causes of physical defects and means for preventing them, and how to provide proper physical surroundings for the children. It also sought to develop a system of school records which would automatically provide significant information regarding the children's welfare. This information, it was hoped, could be used to stimulate public interest in school needs. It should be mentioned that a factor in the committee's organization was the large number of appeals from school principals to the AICP for clothes, glasses, food, shoes, and other items for needy children.⁴⁸

One immediate result of the committee's organization was an increased appropriation for school health. The Board of Estimate voted \$250,850 for the 1906-07 school year. While this sum must have seemed large to taxpayers in 1906, the AICP observed that it would merely allow for the examination of all children in Manhattan and would do nothing about pupils in other boroughs. The taxpaying public, however, was only slowly being conditioned to spending money for health. When the school superintendent suggested that an eye examination be given to each child and glasses be provided for those who could not afford them, his proposal was greeted with jeers and cries of socialism.⁴⁹ In 1909 School Superintendent William Maxwell criticized the Health Department for examining only 210,585 of the 600,000 children in school during 1908 and called for a Department of Hygiene within the Education Department. It is unlikely that the Education Department would have been any more successful in securing funds for school health, but the question is purely academic since nothing came of his suggestion. He also pointed out that almost 6,000 cases of malnutrition had turned up during the school examina-

tions, and he estimated that there were at least 18,000 cases presently in the schools. As a remedy, he urged a school lunch program so that the students could buy their lunches at cost. As an ironic footnote to these pleas on behalf of school children, the Health Department reported a marked reduction in the number of school medical inspectors for the year 1909.⁵⁰

The Division of Child Hygiene

In 1908 Dr. Josephine Baker took over direction of the newly created Division of Child Hygiene. For some years prior to this, school health work had been handled by the district medical inspectors of the Division of Contagious Diseases. In the spring of 1908 it was decided to separate the school work from that of the districts, and a test program was tried in three widely separated public schools. An inspector and a nurse were assigned to each of the three schools with instructions to determine the number of children with noncontagious remedial defects and to develop an effective program for correction. Whenever the school physician discovered a physical problem, he notified the child's parents and the school nurse. After four days, the nurse visited the child's home and stressed the need for medical attention. At the end of the school year, it was found that 81 percent of the children had received medical attention. Of the remaining 19 percent, the parents refused treatment in 4 percent of the cases, and in the other 15 percent the children received no help because of the ignorance or poverty of their parents. These findings demonstrated that a separate school medical inspection was needed, and in the fall this program was transferred to the Division of Child Hygiene.⁵¹

It was clear to Dr. Baker when she took over the school inspection program that she could not expect to get the money or personnel necessary to do a first-rate job, so her first efforts were directed toward making the most effective use of the school health staff. For example, she initiated studies to find out the best time to examine the children and to determine how many examinations were necessary. She also had the medical inspectors give lectures to the principals and teachers on how to recognize communicable disorders and physical defects. The following year, 1910, her divi-

sion began circulating a school health newsletter for teachers to help them with health education. By this year Dr. Baker had built up the school health force to a total of 142 medical inspectors and 137 school nurses. Her report at the end of 1911 reflects both the effectiveness of her administration and the low incomes of doctors and nurses. Dr. Baker reported that it was costing 57 cents per 1,000 children to examine them for contagious diseases, 97 cents for each physical examination, and 60 cents for a home visit by a nurse! By this date all children were given a physical on entering school and at graduation, and at other intervals whenever personnel permitted it.⁵²

The Fresh Air Movement

During these years, the school system was gradually taking other steps to improve the welfare of its students. In 1902 open roof playgrounds were established in connection with five of the schools, and a few additional ones were opened in the succeeding years. The early drive against tuberculosis emphasized the value of fresh air, and in December 1908 the first open-air school for children with so-called weak lungs began operation on an old ferryboat, the *Southfield*, which was classified as an annex to Public School 14. Subsequently three other ferryboats were requisitioned for this purpose, and another open-air school was established on the roof of the Vanderbilt Clinic. In April 1910 the first open-air class in a city school building was started in Public School 21 in Manhattan. Two years later the Board of Education opened its first "vision" school for 30 children. The staff consisted of two teachers, a nurse, and a visiting physician. The purpose of the school was to separate children with communicable eye diseases from healthy students while enabling them to continue their education. By this date the board was also maintaining a school for crippled children, nine classes for retarded children, and special classes for those with tuberculosis and anemia. The classes for retarded children, however, included morons, idiots, cretins, imbeciles, a number of epileptics, and, even worse, a large number of borderline cases.⁵³

The subject of ventilation had long been a favorite topic among health reformers, and the replacement of the miasmatic theory of

disease by the germ theory merely changed the rationale for justifying fresh air. Whereas sanitationists had formerly worried about the concentrations of carbon dioxide or carbonic acid in the air, in the early twentieth century they began making bacterial counts. A report to the Board of Estimate in 1913 stated that the wide variations in temperature found in many schools represented a menace to health and efficiency, and that a careful analysis of the air in the schoolrooms had revealed the presence of harmful bacteria. Despite these facts, the report concluded that conditions on the whole were "fairly good."⁵⁴

As the fresh air movement gained momentum, a question arose as to the relative merits of open-air classrooms versus open-window classes. In response to a request from the Board of Education, the NYAM's Public Health Committee in 1914 compared the two and concluded that open windows were just as effective and far cheaper than building the special facilities required for open-air classes. The committee also recommended that all teachers be urged to keep the windows open in their classrooms. In the process of looking into this matter, the committee discovered that no provision had been made for giving teachers physical examinations and that tuberculosis was widely prevalent among them.

Although respiratory disorders had provided a major impetus to the establishment of open-air classrooms, these classes included students suffering from a wide range of ills. Since only a limited number of pupils could be admitted, in 1917 the Bureau of Child Hygiene specified which children were eligible. The list included those with arrested or cured tuberculosis, those suffering from malnutrition, nervous diseases, cardiac problems, frequent colds or bronchitis, and children who tired easily or showed fatigue and languor. If eligibility had been restricted to students with tuberculosis and physical defects, it would still have been no problem to keep the classes filled. By 1918 a total of 109 open-air classes were in operation, and the bureau reported that to meet the growing demand more than twice that number were needed.⁵⁵

The main efforts of the school health staff were still directed toward reducing contagious and nuisance disorders, particularly those relating to the skin and eyes. While steady progress was being made, the enormity of the problems defied any quick solution.

For example, the percentage of children found to have pediculosis consistently averaged between 22 and 23 percent from 1909 to 1912. Head lice were so prevalent that only extreme cases were excluded from the schools. On the other fronts, the school health program was more successful as the following statistics show:⁵⁶

<i>Date</i>	<i>Children Examined</i>	<i>Trachoma</i>	<i>Conjunctivitis</i>	<i>Ring-worm</i>	<i>Impetigo</i>	<i>Scabies</i>
1909	674,677	45,615	49,807	7,788	12,516	4,006
1912	802,837	14,497	33,875	4,108	10,332	2,593

It will be noted that the department's greatest success was in reducing the extent of trachoma, a major cause for blindness among children. During this same period some gains were made in eliminating physical defects. Between 1909 and 1913 the percentage of children found to have physical defects other than those relating to teeth declined from 44.2 percent to 30.1 percent. The percentage of children requiring dental treatment, however, showed only a slight decrease, from 57 percent in 1909 to 49.4 percent in 1912.⁵⁷ In considering these statistics, the reader should be aware of discrepancies within the Health Department's own reports, and should realize, too, the cursory nature of the examinations.

By 1913 the school health program was beginning to make tangible headway against communicable diseases, and Dr. Baker, with strong support from the AICP, began asking for more funds to deal with physical defects. The AICP's Bureau of Welfare of School Children, an agency which had supplanted the former Committee on Physical Welfare of School Children, analyzed the department's child health statistics in 1913 and found that only 34.8 percent of the city's 825,000 pupils had been examined for physical defects. Of those who were examined, 72 percent needed medical care, but only slightly more than a quarter of these had received medical attention during the year. Over and above the AICP's own activities on behalf of the children, its representatives frequently appeared before the Board of Estimate seeking more money for the Bureau of Child Hygiene.⁵⁸

The Problem of Physical Defects

Dr. Baker was also constantly proselytizing for child health. In September she declared that the city had 60,000 cases of untreated

defective eyesight, 82,000 cases of enlarged tonsils, and over 400,000 of bad teeth. Something must be done about this, the *Times* editorialized in reporting her speech, but it warned against free treatment and free lunches, which "the more socialistic of the social workers advise," on the grounds that it would relieve parents of duties "precisely at points where they should be held rigidly responsible." The NYAM could also be counted on to support the drive for more school health funds. While these joint efforts brought no radical change, the Board of Estimate did provide \$7,500 to add three physicians and five nurses to the school staff for 1914.⁵⁹

In 1915 the city passed an ordinance bringing all schools, private and public, under the jurisdiction of the Health Department. The effect was to allow for investigations in special cases, but the department simply did not have the funds to supervise the health of children in private institutions. The AICP this year deplored the total inadequacy of the school medical inspection system, noting that there was only one physician for every 9,500 pupils and one school nurse for every 4,500. It declared that the nine clinics established by the Health Department to correct physical defects in school children were completely inadequate. While recognizing the right to free medical treatment for all school children, the AICP conceded that the cost would make such a system impractical. It did suggest, however, that more clinics be opened to take care of those too poor to pay for private physicians. The following year, 1916, Dr. Charles F. Bolduan of the Health Department proudly noted that the city had a complete system of school medical inspection covering 771 schools and 923,486 pupils, a system, he added with unconscious irony, which provided one medical inspector for every 9,200 pupils and one nurse for every 4,600 children.⁶⁰ During these years the city was steadily appropriating more money for school health, but unfortunately the commensurate increase in school enrollment kept the ratio of health staff members to children at the same level.

The effectiveness of school physical examinations was seriously hampered by the continuing Victorian attitude toward exposing the body. School inspectors were not allowed to touch the children. Each child was "required to pull down its own eye-lids, open its mouth, show its hands, and, in the case of girls, lift up its

back hair." For some years the AICP had complained about the school physicians having to examine children who were fully clothed. Its own physicians, who required the children to be undressed, had found far more physical defects. In 1915 the Board of Education required every child entering school for the first time to undergo a physical examination without clothing. As had been the case since 1914, those parents who wished could have the examination done by a private physician. Although one writer declared it outright immoral to strip children for medical purposes, the ruling provoked no major outcry. From its inception there had been occasional criticisms of the school health program. For example, an article published in 1914 in *Medical Advance*, a homeopathic medical journal, called school physical examinations a "violation of personal liberty, and hence contrary to the principles of a free government," but items such as this were the exception. By the following year approximately one-sixth of the children entering school were examined by private physicians.⁶¹

The mass attack upon tonsils and adenoids conducted by the Health Department in the early twentieth century deserves some study. Whether or not the wholesale removal of these organs was necessary may be open to dispute, but there is no question that the surgery was performed under far from ideal conditions. The NYAM's Public Health Committee began studying these operations in 1913, and, as a result of its work, in May 1914 the members of the academy resolved that all such surgery should be performed in institutions with operating rooms and recovery wards, and that the work should be done only under a general anesthetic. The Health Department accepted the recommendations and made preparations to close its five nose and throat clinics at the end of 1915. In accepting the recommendations, the department may have been influenced by its lack of an adequate budget. In March 1916 the Health Department announced that, because of a shortage of funds, it could no longer give physical examinations to high school boys competing in interscholastic events. The AICP bitterly condemned the action as a "step backward," declaring that 50,000 children needed nose and throat attention. To help meet the crisis, the AICP made strenuous efforts to improve the facilities in the municipal and private hospitals.⁶²

Despite considerable progress, trachoma continued to be a serious problem in the schools. Early in 1912 Dr. William Park proposed to establish a special school for those children with trachoma who would ordinarily have been excluded from class. His suggestion was accepted by the Board of Education, and Public School 21 in an Italian area on the lower east side was designated for this purpose, and a special nurse and ophthalmologist were assigned to it. In addition, children with eye problems from some 60 schools on the lower east side were sent to the Health Department's eye clinic at Hester and Allen streets for diagnosis and treatment. Four years later, in 1916, an important advance was made in dealing with trachoma when the "intense bichloride rub" treatment was introduced into the department's clinics.⁶³

Although a start had been made on the problems of refraction, the Bureau of Child Hygiene had neither the funds nor the staff for proper eye care. The *New York Medical Journal* in 1913 noted that the number of qualified ophthalmologists employed by the city was inadequate to deal with the many children referred each year to the municipal eye clinics. At present, the editor wrote, "too much hurried, slipshod work is to be seen in the refraction rooms of our metropolitan clinics." The growing public awareness of the need to promote eye care among school children is reflected in the actions of the boards of Education and Health. In 1915 the Health Department requested the NYAM's Public Health Committee to study the relationship between seating and lighting in the schools and the incidence of myopia among the children. This same year the Board of Education appointed a special committee to examine both the type and the paper used in school textbooks.⁶⁴ By 1918 the Bureau of Child Hygiene was maintaining 9 eye clinics, 5 in Manhattan, 2 in Brooklyn, and 1 each in the Bronx and Queens, and the Education Department had established 9 classes for the blind and 18 sight conservation classes for those with weak eyes. The Board of Education also instructed teachers to cooperate with the school health staff by giving periodic vision tests to their pupils.⁶⁵

Despite steady progress in school health, the AICP and other agencies continued to be critical of the failure to correct the defects found through the inspection system. Recognizing the

justice of these complaints, in 1917 the bureau established a model medical inspection system. For the experiment, Public School 21 with 2,500 students was selected. This institution, which had been designated as the ophthalmic school in 1912, had gradually developed into a special purpose school and was ideally suited for an experiment of this type. It was already giving special instruction to the blind, the mentally defective, and the crippled, and had several open-air classes. Furthermore, the Health Department had previously installed a dental and an eye clinic in the school. In connection with the experimental inspection system, a special doctor and nurse were assigned to the school and a close working relationship was established between the medical staff, the teachers, and the parents. The effect of this concentration of medical resources was to bring about a sharp increase in the number of defects corrected and a corresponding reduction in communicable diseases. The Bureau of Child Hygiene concluded, however, that the program was too costly to be applied to the entire school system. It did suggest that one medical inspector should be allocated for each 5,000 children and one nurse for every 3,000, recommendations which would have involved nearly doubling the number of medical school inspectors.⁶⁶

The end of World War I brought the Copeland and Monaghan administrations and the resignation of Dr. Baker as head of the Bureau of Child Hygiene. Without her dynamic leadership the school health program entered a period of relative stagnation. The Health Department in 1920, in requesting more funds for school health, deplored the unsanitary conditions which characterized the schools, citing the worn-out toilet and washing facilities and lack of proper ventilation. The Public Health Committee of the NYAM added its voice to those calling for larger appropriations in 1924, but it also recommended that the Health Department reexamine its medical inspection system.⁶⁷ Despite these pleas, the budget for school health showed only nominal gains in these years. When Dr. Harris assumed charge of the Health Department, he reported in 1925 that the steady annual increase in school enrollments without a commensurate increase in personnel meant that the Bureau of Child Hygiene was not able to give the children as much attention as ten years earlier. Whereas in 1918 there had been one medical inspector for each 11,067

children and a nurse for each 4,396, the comparable figures for 1925 were 11,410 and 5,176. While the Board of Education had opened a large number of special classes for handicapped children, the Health Department could not supply the necessary medical supervision.

Improvement in Child Health

Thanks to the rise in living standards and the long-range effect of health education, the general health of school children was improving. The percentage of children suffering from malnutrition, tonsil and adenoid infections, and uncorrected eye problems was declining. The major diseases, according to the 1925 report of the Bureau of Child Hygiene, virtually had been eliminated from school children, largely as a result of conditioning the parents to such practices as mass inoculation with "toxin antitoxin" for diphtheria and smallpox vaccination.⁶⁸ One area which showed particular gains related to eye problems. The Health Department now had 11 eye clinics providing medical care. In addition, the clinic staffs were teaching eye hygiene and sight conservation to teachers, nurses, and social workers. These clinics had already made significant progress in achieving their two major objectives: to reduce the incidence of contagious eye diseases and to bring about an increase in the number of refractions. In 1925 only 71 cases of trachoma were treated in the eye clinics, indicating that this particular problem had almost been eliminated. On the score of refractions, most of the children who had previously been sent to sight conservation classes were now attending regular classes with the help of glasses provided by the eye clinics.⁶⁹

The picture, however, was not quite as rosy as the Health Department reports make it appear. The staff of the Bellevue-Yorkville health demonstration spent six months in 1927 examining all third-grade children in 24 elementary schools and found the amount of physical defects 35 percent higher than the comparable Health Department's figures for 1921. One out of every four children, for example, suffered from defective sight. The "Health Inventory of New York City" in 1929 also reported that only about one-fourth of the physical defects found by the school medical inspectors had been corrected.⁷⁰ In defense of the Health Department, it should be pointed out that rising living

standards and improvements in diagnostic techniques meant that many conditions which had formerly been overlooked were now classified as physical defects.

A major innovation, already mentioned in Chapter 13, was the introduction in 1929 of the "squad system" of school inspection. First used in Detroit, this method involved a team of three physicians moving from school to school, each physician checking every child in his own area of competence. In giving these more comprehensive physical examinations, the medical inspectors concentrated on kindergarten or the first grade, hoping to correct defects as early as possible. After three years experience, it was found to be more effective to have one physician make the entire inspection, but the idea of the team of physicians was retained. This same year, 1932, the school medical inspectors began examining twelfth-grade students in the vocational high schools.⁷¹ The traditional restriction of school health work to elementary schools had been based upon the prevailing assumption that students in high schools came from middle-class families who presumably could and would provide adequate medical care for their children. Hence it was no accident that health care at the high school level began in vocational schools, institutions designed to give trade school training to children from lower-income families.

The onset of the Great Depression temporarily forced the school health program to mark time, but the advent of Roosevelt and the New Deal on the national level and La Guardia on the local one infused a new spirit into the entire Health Department. In 1934 a separate Division of School Hygiene was organized, and an effort was begun to reexamine and revitalize the school inspection system.⁷² As intelligent observers had noted in the past, too much emphasis was still being placed upon discovering physical defects and too little was being done about correcting them. Cooperation between the departments of Health and Education was still only nominal, and the perennial problem of educating parents about their health responsibilities still remained.

The Depression forced a sense of social responsibility upon American political leaders, and, scarce as funds were, more of them became available for health purposes. Assisted by state and federal money, the Bureau of Child Hygiene was able to expand its services. The Committee on Economic Security, which re-

ported to Roosevelt on January 15, 1935, clearly showed the deficiencies in America's health distribution system, and its main recommendations were embodied in the Social Security Act of 1935. Through this agency funds were immediately channeled into maternal and child health, child welfare, and crippled children programs.⁷³ Over and above the direct and indirect benefits to school children from this source, the Works Progress Administration and other emergency agencies enabled the City Health Department to add a wide range of competent medical workers to its staff. For example, with the help of WPA funds, the school dental program was rapidly expanded, and WPA workers began testing the hearing of school children with audiometers.⁷⁴

Throughout most of its history the American medical profession was undereducated, underpaid, and overcrowded. Revolutionary changes in medicine and the emergence of the American Medical Association as an effective professional organization at the beginning of the twentieth century led to a rapid rise in educational standards and income and a steady decline in the number of physicians. Although their income was rising, physicians had been conditioned for too long by genteel poverty, and they zealously fought any encroachment upon private practice by government agencies. They were quick to criticize the work of Health Department physicians, although all evidence indicates that routine physical examinations conducted by departmental physicians were usually more thorough than those by private practitioners. For example, the Health Department complained in 1920 that private physicians reported scarcely any defective vision among children coming under their care, whereas the school inspectors were finding a great many cases among these same children. Yet the school inspectors seldom had as much as 20 minutes to give a complete physical examination.⁷⁵

Despite this fact, health commissioners usually leaned over backward in deferring to the medical profession, even on such matters as physical examinations. Dr. Shirley Wynne informed the presidents of the five county medical societies in 1929 that he planned to send a letter to each parent urging them to have their children examined by a private physician before starting school. Only those children whose parents were too poor to pay for private medical care would be examined by school physicians.

Just prior to this the Queens County Medical Society had warned that school physical examinations might "tend towards State Medicine," a phrase at that time equated with bolshevism.⁷⁶

Dr. Josephine Baker, who had done so much to promote the health of school children, had long urged that health resources should be concentrated upon the preschool group. Comparative studies of school health in 1909 and 1921 showed that although there was a general decline in the incidence of physical defects among all age groups, the relative age incidence remained the same. In commenting upon these figures, the editor of the *New York Medical Journal* quoted Dr. Baker to the effect that most of the physical examinations in the public schools were wasteful and unnecessary. Dr. Baker's thesis was that if examinations and follow-up treatment were made available to preschoolers, the major school health problems would not develop. In 1939 Dr. Baker, in looking back over her career, reiterated this view. Despite the tremendous amounts of money spent on medical inspection, she wrote, almost nothing had been done about correcting the physical defects which were uncovered. It was rare for as many as 35 percent of those children needing help to receive medical attention. She concluded that school medical inspection was a failure and that the money and attention should be concentrated upon the preschool group.⁷⁷

Dr. Baker's conclusions were confirmed by Dr. Dorothy B. Nyswander, who reported that in 1936 two separate inspection systems existed, one under the Board of Education and another under the Health Department. The Board of Education set aside one day as Health Day during which the teachers checked the children's height, weight, vision, hearing, and teeth. The teachers were then responsible for trying to get any defects corrected. The work of the teachers was entirely separate from that of the Health Department, whose physicians and nurses were doing much of the same work. To add to the confusion, WPA workers were testing hearing with audiometers and reporting the results to the principals—but not to the teachers or the school nurses. The end result was a great deal of duplicated effort and record keeping but little accomplished in the way of treatment. Dr. Nyswander pointed out that the caliber of school physicians was quite high. Most of them had graduated from class A schools, had some post-

graduate work, and were about 40 years of age. Their view of school health, however, was a narrow one. Only 4 out of 108 queried mentioned that educating the child or his family on health matters was a part of his responsibility.⁷⁸

The Astoria Plan

In 1936 the Astoria Plan, an experimental program designed to eliminate duplication and coordinate all school health activities, was introduced into New York. Under the plan, physical examinations were given when the children first entered school, and thereafter only when the teacher and nurse in conference decided it was necessary. Periodically the nurse and the teacher would discuss each child in the class to see if there were any health problems. The result was that school physicians spent a minimum time on routine examinations and were able to devote most of their attention to those children needing help. As part of the program, the parents were drawn into the teacher-nurse-physician conferences, thus helping to insure that the child received treatment. As the program developed, an increasing emphasis was placed on having at least one parent present during the physical examination.

By 1939 it was clear that the Astoria Plan offered many advantages, and certain aspects were applied on a citywide basis. Whereas only 35 percent of parents had been present during physical examinations in 1938, the figure rose to 62 percent in 1939. This same year school physicians throughout the city began to concentrate upon those children singled out as a result of nurse-teacher conferences, and routine physical examinations were restricted largely to the kindergarten and first grade. With the intent of applying the Astoria principles generally, beginning in 1939 a training program was set up in Astoria district. During the next two years, the supervisory staffs of all the health districts were required to undergo a three-month intensive training course in the Astoria Center. A major aim of the course was to teach school physicians that health education was at least as important as diagnosing defects and diseases. By the spring of 1941 the last of the supervisory staffs to undergo this training com-

pleted its work, and the Astoria Plan had been applied throughout the city.⁷⁹

World War II and After

As America switched its interest from domestic to foreign concerns and war industries took up the economic slack, the federal government began cutting back on the relief agencies, causing the Health Department to lose many valuable staff workers. Added to these losses were the wartime demands for medical personnel of all types. The situation steadily worsened during the 1940s as the demand for doctors and nurses increased. During 1946-47 the nursing shortage was so critical that health services in 100 elementary schools were discontinued for several months.⁸⁰ Although the situation improved slightly, public health nurses continued to remain in short supply for many years after the war.

Despite personnel shortages, the Bureau of Child Hygiene began moving to improve health work at the high school level. In 1941 special personnel were assigned to the vocational schools. This step was taken, the bureau reported, because the existing service was completely inadequate, but it added that "spreading a little service over a wider area" was no solution.⁸¹

In 1944 a special division for secondary school health was created, and medical and nursing personnel were assigned to each vocational school. With the establishment of this division, the next step was to extend health services to the academic high schools. A start had been made in 1937 in the Seward Park High School where a joint medical program involving both private and governmental agencies revealed that a high percentage of the students needed medical assistance. In 1945 a special appropriation made it possible to extend medical and nursing services from Seward Park to five additional academic high schools. Funds were provided the following year to add six more schools to the medical program but the shortage of public health nurses limited the expansion to two schools with special problems. One advantage of assigning medical personnel to high schools was that it eliminated the need for special working-paper clinics, since students applying for working papers could be examined by school physicians.⁸² Under the child labor laws, children under a certain age dropping

out of school to go to work were required to have a certificate of physical fitness, popularly known as working papers.

Relatively early in school health work the need to provide help for children with cardiac problems had been recognized, and gradually cardiac services had developed. By 1941 the number of cardiac classification services had grown to 11, and the Health Department was sending cardiologists into each health district to hold consultations. In 1945-46 an intensive study of rheumatic diseases in children was undertaken in conjunction with the United States Public Health Service, New York University, and the Board of Education. Its aim was to study the administrative methods by which the city identified, provided follow-up treatment, and supervised children suffering from rheumatic diseases. As a result of the study, a register of all such children was established and they were given medical supervision throughout their school life.⁸³

Aside from more obvious problems such as the mentally retarded and epileptics, little had been done about mental health prior to World War II. In 1944 the Health Department began collaborating with the Board of Education in cases of truancy and delinquency. It was agreed that each child brought before the Domestic Relations Court was to be examined by a Health Department physician in the presence of his parents. A more important development came in 1949 when the Bureau of School Health assigned medical personnel with a special aptitude for working with severe behavioral problems to the "600" schools. These were special schools for children unable to adjust to the regular school environment. Traditionally school systems have used vocational institutions as a dumping ground for slow or problem children, and this may well account for the Board of Education's decision in 1951 to try the experiment of assigning a psychologist to each of eight vocational high schools. Before a student was referred to the psychologist, he was first screened by the school nurse and physician. Subsequently the psychologist met with the school guidance counselor, nurse, and physician before taking any action with respect to his patient.⁸⁴

This concern with mental health may have been conditioned by the emergence of narcotic addiction in the schools. The Bureau of School Health reported in 1951 that the use of nar-

cotics by adolescents constituted one of the gravest problems that it faced. During the previous year 150 students had been identified as regular drug users. To deal with this situation, teachers were instructed to refer students suspected of using narcotics to the school physician, who, if he confirmed the teacher's suspicions, was authorized to send them to a hospital for treatment. By this time psychiatry was among the subjects included in the indoctrination course for all physicians entering the school health service.⁸⁵

In the succeeding years health services were steadily increased in the schools. By 1956 the Bureau of School Health could report that all elementary and junior high schools, public and parochial alike, were provided with health services, along with about half of the public and some of the parochial high schools. Four years later this service had been extended to 62 of the city's 94 public high schools and to 45 parochial high schools. Even more encouraging was the fact that 68 percent of children with medical problems had been placed under medical care. In addition the bureau was working with the Education Department in the operation of 326 special classes attended by some 5,000 pupils. As a result, children with cardiac, sight, hearing, and neuromuscular disabilities were able to receive an education under medical supervision.⁸⁶ Much still remained to be done as the Bureau of School Hygiene entered the decade of the 1960s, but the previous 60 years had been ones of remarkable progress.

School Dental Programs

Dental care for the vast majority of Americans is a fairly recent phenomenon. Prior to World War I, except for the middle- and upper-income groups, little attention was paid to the teeth. In New York City the first tentative steps toward promoting dental hygiene were taken by private groups. In February 1907 the city's first free dental clinic was opened in the Children's Aid Society on West 53rd Street under the sponsorship of the New York City Committee on Physical Welfare of School Children. The next year Bellevue Hospital opened another one. In May 1909 the New York Dental Council, in cooperation with the Health Department and several private agencies, examined 500 children applying

for working papers and found only 14 of them with sound teeth. Speaking of school children in general, the Health Department this same year declared that most of them showed a "complete lack of dental hygiene, their mouths, in many instances, filthy to a degree almost unbelievable." On the basis of its school medical inspectors' reports, the department concluded that there was an "almost complete lack of dental treatment among the inferior classes, coupled with an almost universal need."⁸⁷

In the succeeding years a few more dental clinics were opened, but in terms of the total needs, their efforts were negligible. Moreover, most of them made little pretense at treatment but practiced "indiscriminate extraction." Despite this appalling situation, the department received no funds for dental care. With the help of a local philanthropist, Peter T. Barlow, it was able to open its first free clinic in January 1910 on East 121st Street. When Dr. Herbert L. Wheeler advocated in 1911 that the city provide free dental care for children, the *Times* argued that there were more important problems, and that in any event this tendency toward "free everything" would only lead to socialism. Despite the grave danger of undermining parental responsibility, the need was so pressing that in 1913 the Board of Health opened six dental clinics, two in Manhattan, three in Brooklyn, and one in the Bronx. A total of nine dentists served in the six clinics, which may explain why the Health Department reported that its clinics were worked to capacity at all times.⁸⁸

The AICP through its various committees and agencies constantly sought to increase the available dental services. Recognizing that oral hygiene was largely an educational problem, in 1914 it began agitating for a school to train women technicians. With help from the local dental societies, in July 1916 the School for Dental Hygiene with an enrollment of 60 women was opened in connection with Columbia University. The following year the Bureau of Child Hygiene employed three dental hygienists. Regrettably their tenure was short since a budgetary cut in 1919 eliminated their positions.⁸⁹

Fortunately the setback proved only temporary. Led by Dr. Baker, a movement to establish a special division to deal with oral hygiene carried the day early in 1920 when the City Council voted to establish a Division of Oral Hygiene within the depart-

ment and appropriated \$10,800 to establish nine new clinics within the schools, each one staffed by a dentist and a dental hygienist. Apparently dental clinics were established in a few schools, but the Health Department did not establish a dental division for several years. Late in 1921 an appropriation was made for additional clinics, but their establishment was delayed by the lack of equipment. To staff the clinics, the department was given funds for 5 full-time dentists, 9 dental nurses, and 18 dental hygienists. An agreement was also reached with the Education Department that all school dental clinics, including those established by the AICP and the Red Cross, were to be under the technical supervision of the Health Department. The Education Department was also cooperating by conducting toothbrush drills twice a term for all students and more often in the lower grades.⁹⁰

Since the various estimates of the number of school children needing dental work ranged from 65 to 90 percent, the Health Department's clinics at best could provide only token help. In 1920 the Health Department stated that sufficient municipal funds for dental clinics would "not be forthcoming for many years," and it expressed the hope that public-spirited citizens and private agencies would move into the breach, as they had in Boston and Rochester, New York. Basic to the problem was the shortage of dentists. In 1924 the United Hospital Fund's Committee on Dispensary Development estimated that New York City, which had 5,000 practicing dentists, needed a minimum of 12,000.⁹¹

During the 1920s there was slow but steady progress, with occasional setbacks. For example, in 1923 the Board of Education voted to discontinue the school dental clinics but backed down and rescinded its vote when the NYAM and other organizations vigorously protested. The NYAM's Public Health Committee in 1926 estimated that 60 percent of school children had defective teeth despite the 50 dental clinics which were performing simple curative work. It recommended that an itinerant corps of dental hygienists go from school to school. The Bureau of Child Hygiene accepted the suggestion and groups of hygienists were sent into the schools during 1927 to provide prophylaxis and carry on health education programs. The following year a Division of Dental Services was officially established in the Bureau of Child Hygiene.⁹²

To put these developments in their perspective, prior to 1928 only about 20,000 children a year out of the well over 1 million in school were examined by dentists, and the total budget for the Health Department's dental program amounted to about \$76,000 per year. In 1929 the NYAM estimated that only 22,000 out of the 1,500,000 school children had received dental care. It welcomed a decision by the Health Department to concentrate upon diagnostic work and education. This new plan, the academy noted happily, would make it possible for 100,000 children to receive dental benefits without increasing the budget of \$76,000! Fortunately the AICP and other voluntary groups were helping to fill the void. The AICP alone reported that it had treated almost 12,000 patients in 1930 and that its services included 27,000 fillings and 13,000 extractions, a ratio of fillings to extractions which was probably better than most free clinics.⁹³

Ironically the Great Depression gave a tremendous impetus to dental care. In December 1934 Health Commissioner Rice declared that dentistry could no longer be content to serve the well-to-do but must look forward to providing care for the masses. By this time, as a result of the leadership displayed by the state commissioner of health, Dr. Thomas Parran, New York had already taken a major stride toward broadening its dental program. In 1933 Dr. Parran had obtained funds from the Temporary Emergency Relief Administration to hire 53 unemployed dentists and 13 dental hygienists. As the New Deal matured, support for the city's dental program gradually was shifted over to the Works Progress Administration and Civil Works Administration. By 1938 the Health Department was operating 138 dental clinics with a staff of 346. Of the 187 dentists in the Division of Dental Services, 63 were on civil service, 104 were on WPA, and 20 were paid by the Emergency Relief Bureau. The number of dental clinics continued to climb until 1940, when the outbreak of World War II brought a curtailment of dental services.⁹⁴ It should be kept in mind, however, that during these years none of the dentists worked full time except for the chief of services.

During the war years, the dental division emphasized prophylactic and educational work among preschool children and in the lower grades. Dental repair work, because of the shortage of personnel, was limited to young children. A major innovation

was made in 1945 when an orthodontic program was established with the help of state and federal money. Some 133 orthodontists participated in the program, and, as it developed, orthodontists became permanent employees of the Health Department. On July 1, 1949, the Health Department accepted responsibility for the program and prepared a manual of procedures.⁹⁵

Meanwhile, the Division of Dental Services had been separated from Child Hygiene and given bureau status in 1947. The new agency, the Bureau of Dentistry, promptly began revising and broadening its program. Health education was strengthened and new procedures devised for follow-up dental care. In 1948 the dental clinics in the health centers were placed on a full-time basis and the part-time dentists were gradually replaced with permanent civil service personnel. In all, 12 dentists, 7 supervising dentists, 8 dental externs, and 25 dental assistants were put on the payroll. Another significant advance was made that year with the introduction of fluorine treatment. Since this was an experimental program, arrangements were made to maintain regular checkups on all children who had undergone the application of fluorine.⁹⁶

The decade of the 1950s saw the dental program rapidly expanding and the percentage of children receiving care rising commensurately. Much of the credit goes to the rising standard of living and the growing health consciousness of the public. A far higher percentage of parents were seeing that their children visited private practitioners once the school dentists had drawn attention to dental problems. The Bureau of Dentistry estimated that in 1953 some 590,000 school children received dental care. Only 6 percent of these, however, had been treated in the Health Department's clinics.⁹⁷ The fluoridation issue, discussed in Chapter 15, preoccupied a great deal of the Bureau of Dentistry's attention during the 1950s and early 1960s. Unlike most bitter controversies which generate more heat than light, fluoridation served to publicize the need for oral hygiene. It was also one of the happy occasions when the good guys won.

The sheer number of school children in New York City makes it necessary to speak in percentages or relative terms. The fact that almost 600,000 children received dental treatment in 1953 is less impressive when compared to the number needing help. In 1960 the Bureau of Dentistry reported that of the 1,021,700

children referred for care, 356,997 received no dental attention. It added that the facilities for those children eligible for treatment at the bureau's clinics were far from adequate.⁹⁸ During the 1960s the fight for fluoridation of the city's water supply was finally won, and the Bureau of Dentistry continued to make slow headway. As with all health frontiers, however, solving the more obvious problems simply brought the more subtle ones into focus.

Malnutrition and School Lunches

Malnutrition, an old problem among New York school children, was widespread until at least the 1930s. Although a good part of the cases resulted from poor dietary habits, as is true today, many of the children in this early period literally came to school hungry. Public recognition of this fact tended to occur in waves and usually was associated with periods of economic depression. The main years of agitation were 1905 to 1908, 1913 to 1920, and 1927 to 1933. Individuals such as Lillian D. Wald and Josephine Baker and organizations like the AICP were constantly trying to awaken the public conscience, but for much of the time the public remained deaf to their pleas. It took Robert Hunter's book *Poverty*, published in 1905, to bring the first real action. Capitalizing upon the publicity this work received, John Spargo, Lillian Wald, and a host of other reformers began pressing for school lunch programs. Their investigations all bore out Hunter's contention that about 70,000 underfed children entered New York City schools each morning, many of whom arrived without breakfast. The Salvation Army quickly moved in and established nine breakfast stations for children. Unfortunately this effort was not too successful, since no allowance was made for the cultural variations among the three main groups involved, Jews, Irish, and Italians. A more successful experiment was tried by Miss Elizabeth Farrell. She asked the children in one public school to bring bread, and she supplied them with milk and additional food prepared by the cooking class at a cost of 1 penny.⁹⁹

The next impetus toward school lunches came from the teachers and principals. In February 1905 a school principal addressed the Women's Health Protective Association and asserted that he had seen children faint "in their seats from sheer hunger." Other

educators took up the issue, and early in June two local school boards called meetings to raise funds for diet kitchens. The members of the City School Board professed shock on hearing of these conditions and appointed a committee to investigate. The board could hardly have been too surprised, since School Superintendent William H. Maxwell had been an early advocate of providing meals at cost to all school children and of giving them to the needy. A Children's Relief Society was immediately established, and on June 4 it began feeding about 200 children per day. Other organizations sprang into existence to provide some temporary relief. The most effective of these was the School Lunch Committee directed by Miss Mabel H. Kittredge. It began serving lunches in Public School 51 in November 1908 and in Public School 21 in March of 1909. Those who could afford it were charged 3 cents, and the menu was varied to make it suitable for Jewish, Italian, and Irish children.¹⁰⁰

The lunch program was not without opposition. On June 11 the Board of Education criticized the "hysterical sentimentality" which had led to free lunchrooms. One commissioner declared that the stories of starving children were untrue and another asserted that the city had been misrepresented. One of the principals was reminded that she was paid "to do school, not settlement work."¹⁰¹

The furor about hungry children died down by the end of 1908, but Miss Kittredge's School Lunch Committee continued to function effectively. By 1912 it was operating in seven schools and feeding 1,500 children, and a similar School Lunch Committee had been established in Brooklyn. In this year Dr. Ira S. Wile, addressing the American Academy of Medicine, stressed the need for school lunch programs in the elementary schools. He pointed out that 64 percent of the malnutrition cases in the elementary schools came from families with an income below \$16 per week. Even the *Times*, an ardent foe of socialism, in March 1913 came out in favor of the city providing school lunches at cost. In this same year the School Lunch Committee became an associate activity of the City Department of Social Welfare and extended its service to two additional schools. In 1914 the number of schools with lunch programs was increased to 17, and in the academic year 1914-15 to 19.¹⁰²

As a result of depressed economic conditions Education Superintendent Maxwell made a determined effort to promote school lunches. In January 1915 he announced that he had raised \$9,000 by voluntary subscription and was opening 24 school restaurants. He ordered 100 of the girls' cooking classes to prepare the food and announced that the price would be 1 cent per food item. Before the year was over, Maxwell managed to raise \$19,000 for his lunch program. While initiating his own program, he appeared before the Board of Estimate along with several other prominent citizens to urge a city appropriation of \$26,500 to equip 53 schools with kitchens. With the support of the Board of Education, an appropriation of \$25,000 was made. The School Board then requested the School Lunch committees of Manhattan and Brooklyn to conduct the program. By 1916 almost 100 schools were serving a lunch of some type.¹⁰³

In 1916 the AICP's Bureau of Welfare of School Children working with the Child Hygiene Bureau of the Health Department began using the Dunfermline scale for measuring defective nutrition, and concluded that this measuring device was not adequate. This led the NYAM to undertake a study of its own the following year. From the academy's work came the establishment of the "food scout demonstration" in Public School 40 sponsored by several agencies. This experiment clearly demonstrated the value of educating children and parents in elementary nutrition. The outbreak of World War I caused a sharp increase in the number of school children suffering from malnutrition. The Bureau of Child Hygiene estimated the percentage of children showing symptoms of malnutrition at 6 in 1915, 11 in 1916, and 21.6 in 1917. As indicated in an earlier chapter, Dr. Baker was using every opportunity to drive these facts home.¹⁰⁴

Early in 1918 a long public debate began over the question of a large-scale school lunch program. The NYAM's Public Health Committee suggested that a separate lunch division be established in the Education Department to feed the children and to educate the parents on nutrition. The Board of Health also favored having the Board of Education take over and enlarge the school lunch program. During the hearings many prominent individuals testified in favor of lunches, and the *Times*, although expressing reserva-

tions, conceded that they were needed. The result was that the City Council voted \$50,000 to create a Bureau of School Lunches in the Department of Education.¹⁰⁵

In connection with this development, Dr. Baker later wrote with a tinge of bitterness that by the end of World War I New York children were as well off as those in London, and "in general, we were looking after our own children almost as well as if they had been poor little Belgians." The AICP at the end of 1919 reviewed with satisfaction its activities in feeding school children over the previous years and stated it was happy to turn this work over to the Board of Education "where it logically belongs." Its mission, the *Annual Report* declared, had been completed. This rejoicing, regrettably, was premature. By 1920 budgetary cuts reduced the number of schools serving lunches to 14. What was even worse, the genial corruption pervading the city administration during these years inevitably affected the schools, and many lunch programs were farmed out to concessionaires whose sole interest was in making a profit.¹⁰⁶ By this time, however, the wave of reform had subsided, and the public was no longer interested in school children.

In 1926 the NYAM's Public Health Committee recommended that the school lunch program be supervised by trained dietitians. This recommendation coincided with an effort by Health Commissioner Harris in 1927 to draw public attention to hunger in the schools. He stated in January that an estimated 250,000 to 300,000 school children were suffering from malnutrition. These voices were not exactly crying in the wilderness, but it was not until the election of Roosevelt and the establishment of large-scale federal relief programs that the school lunch movement received a major impetus. During the 1930s the WPA and other federal agencies made possible a tremendous expansion of school lunch programs.¹⁰⁷ The advent of World War II, as has been described in Chapter 15, helped to make Americans more conscious of nutrition, and the Health Department began moving toward a formal nutrition program. Nutritional education gradually became a more important part of the department's work in the ensuing years, but it was increasingly clear that the basic need was an attack upon the major problem, poverty.

Handicapped Children

The Health Department began inspecting children for orthopedic and visual defects in 1903, but it was not until 1905 that the first public school class for crippled children was established. In the meantime the East Side Free School for Crippled Children had been opened by a voluntary association in 1902, and it was due to the urging of Mrs. Henry Goldman, the head of this group, that a public school devoted entirely to crippled children was opened on Montgomery Street in 1906. Two years later a public school for deaf mutes was established. In these same years the Board of Education began instituting special classes for mentally defective children, and by 1912 some 142 of these were in existence. Although these classes came under considerable criticism in this latter year, they managed to survive.¹⁰⁸

The reports of the school inspectors repeatedly showed a fairly high incidence of cardiac problems, but special cardiac classes were not started until 1917. Six years later, the Association for the Prevention and Relief of Heart Disease (the forerunner of the New York Heart Association) concluded that these classes were unnecessary. Despite this and a similar recommendation by the NYAM's Public Health Committee in 1925, the cardiac classes continued to grow until 1941 when some 1,977 children were enrolled. In 1940 the findings of the Committee for the Study of the Care and Education of Physically Handicapped Children reaffirmed the conclusions of earlier studies and cardiac classes were discontinued. The few children needing special attention were placed in lowered vitality classes, and the others were referred to the school physicians for supervision. By the 1950s the tendency was to return as many as possible of these children to regular classes, and in 1955 supervision of cardiac children was turned over to the regular school physicians and cardiac specialists.¹⁰⁹

In 1925 the Public Health Committee of the NYAM surveyed the work of the Association for the Aid of Crippled Children which at that time was keeping about 3,000 children under surveillance in Manhattan and the Bronx. The committee praised the association's work, but noted that there were an estimated 18,000 crippled children in New York City. This same committee also reported that while the Education Department was spending a

considerable sum on mentally defective children, it was doing little about the emotionally unstable and precocious ones. The Board of Health had made a start by attempting to group students according to their mental ability in ten experimental schools. The committee suggested that it would be advisable to give mental tests to all students entering school to sift out the "laggards" and "precocients." These recommendations brought no drastic changes, but the school system slowly began to take into account those students with emotional problems and those whose behavioral difficulties arose from either a high or low intelligence.¹¹⁰

In 1926 the State Department of Education established a special bureau for crippled children, but this action had little effect upon New York City which at this time was well ahead of the state requirements. The next major development with respect to the handicapped came as a result of Mayor La Guardia's Commission for the Study of Crippled Children appointed in 1938. The work of this group has already been discussed in Chapter 14. Its most significant consequences were the establishment of a Division of Crippled Children in the Health Department and the creation of a central register.¹¹¹

In 1945 the administration of the State Aid Program for Physically Handicapped Children, previously handled by the Domestic Relations Court, was transferred to the Health Department. As a result of this measure, the Health Department was now in a position to help determine standards for hospitals and convalescent homes treating these children. Shortly afterward a hospital-school, the first of its kind, was established to provide both education and medical care for children with cerebral palsy. In November 1951 the Division for Physically Handicapped Children was raised to the status of a bureau. In conjunction with the State Aid Program, the city and state now jointly paid for all medical and rehabilitation costs for children with severe orthopedic problems, congenital heart disease, cleft palates, harelips, orthodontic difficulties, and certain other conditions requiring plastic surgery.¹¹²

During the succeeding years, programs for handicapped children moved rapidly ahead. In 1953 the State Department of

Health financed a cleft palate rehabilitation center at Mount Sinai Hospital. In 1954 a Subcommittee on Epilepsy of the Interdepartmental Health Council of New York City recommended the creation of three or four centers for the diagnosis, treatment, and rehabilitation of children and adults with epilepsy. An inpatient service for severely disabled cerebral palsied children was opened in October, and was tied in closely with the four hospital-schools for children suffering from this disorder. When it became clear that state aid funds would be withdrawn at the end of 1954, the Bureau for Handicapped Children made arrangements for financing its work under the Medical Rehabilitation Program. By 1960 over 14,000 children had been helped under the Medical Rehabilitation Program. Moreover, the authority to approve payment given to the bureau had enabled it to raise standards of medical care in the hospitals. By this date 50 hospitals and 3 convalescent institutions had been approved for payment.¹¹³

The success of the cerebral palsy classes led to an increase in their number by 1960 to 19. The following year 13 classes for children with brain injury were opened in the school system. In 1962 the program was expanded to 36 classes. This same year also saw the development of a citywide drive to improve the quality of care to child amputees, and an expansion of the programs for handicapped into the high schools. The initial high school program involved only five schools, but plans were made to broaden it in the ensuing years. As a result of a conference in 1959 sponsored by the Heart Association and the Health Department, a unified citywide program for school children with heart disease or a history of rheumatic fever was developed in 1961. Its major aim was to provide closer supervision of these children and to give them the best medical care.¹¹⁴

As the Health Department neared its one hundredth anniversary, its staff could look back with justifiable pride at the enormous strides made in caring for school children, and in the relatively effective administrative machinery it had evolved for identifying, treating, and rehabilitating those with physical and mental handicaps. The problems of the handicapped were not solved, but the Bureau of Handicapped Children was closing in on the more difficult cases.

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Environmental Conditions in the Twentieth Century

The attitude of many New Yorkers on the . . . important environmental matters is often mis-called "apathy." It is not apathy at all but rather silent desperation. ["Toward a Quieter City, A Report of the Mayor's Task Force on Noise Control" (New York, 1970), p. 13.]

By the beginning of the twentieth century, the Health Department had shed many of its former responsibilities. Street cleaning and garbage collection had been set up as separate city departments, the water system was no longer a major concern, and responsibility for tenements was shortly to be turned over to a new city department. The Health Department maintained jurisdiction over all of these areas, but it no longer had direct responsibility for them. Of these, street cleaning and garbage collection continued as the major trouble spots. The effectiveness of the Department of Street Cleaning varied in direct ratio to the honesty and efficiency of the city administration, although on the whole conditions were much better than they had been in the preceding century. The Public Health Committee of the NYAM frequently discussed street sanitation and proposed new and better cleaning methods. Public health, it declared in 1907, demands "that the streets of New York be kept in a cleaner and more sanitary condition than has been customary up to this time. . . ." It blamed part of the difficulty upon the ignorance and indifference of the public. In the succeeding years the committee devoted several meetings to considering the pathogenicity of dust and the best ways for minimizing the danger. Periodically it issued a public protest against the condition of the streets. The Health Department remained more or less aloof from the affairs of the Street Cleaning Department except for those occasions when a garbage strike forced it to intervene. In 1916 it gave an assist by adopting a regulation requiring all householders to sweep their sidewalks—a regulation far easier to pass than to enforce.¹

Although gradual improvements were introduced into street cleaning, it was not until the garbage collection issue reached a crisis level that a major overhaul of the street cleaning system was effected. Throughout most of its history the Health Department had been complaining about the nuisances created by the various city garbage dumps. In what was an entirely new switch, in 1921 the NYAM complained about living conditions among the garbage-sorting workers on Barren Island, noting the poor food supply and lack of medical service. The Health Department investigated and forced some improvements. Significantly the department's inspectors found nothing wrong with the processing of garbage. A major share of New York's garbage was carried out to sea in barges and dumped into the ocean. Health Commissioner Harris complained about this practice in 1927, declaring that garbage should be taken care of properly and not made dependent upon "the vagaries of tides and gravity." The following year the NYAM held a public meeting to protest the general unsanitary conditions and the antiquated system of ash and garbage collection. With the cooperation of about a dozen civic organizations and various municipal officials, a Committee of Twenty on Street and Outdoor Cleanliness was appointed. Its aim was to educate the public to its responsibilities. Trash baskets were placed on corners and signs were posted urging people to clean their sidewalks and to curb their dogs. Although accomplishing a great deal, the academy conceded at the end of the drive that "there is still much to be done in making New York a really clean city."²

In 1929 Mayor Walker responded to pressure for reform by pushing a bill through the State Legislature creating a new Department of Sanitation. While this measure revised and improved the city sanitary administration, it could do little about the basic problem which had confronted New York from its inception.³ Throughout its history the city periodically had been inundated by waves of immigrants coming from rural areas. These newcomers had no conception of the need for sanitation nor of the sanitary problems created by a high density population. As the massive influx of southeastern Europeans was drastically curtailed by World War I and the resulting laws against immigration, New York encountered new waves of illiterate rural migrants from the

American south and a large-scale immigration of economically depressed Puerto Ricans. Until these newcomers are acculturated and the city can achieve a relatively stable population, visitors to New York will continue to be appalled at the carpets of glass and rubbish and the piles of garbage in the playgrounds and streets of the poorer neighborhoods. The "midnight mail," as the practice of throwing garbage out of the upper story windows is called, originally stemmed from laziness or ignorance. It still continues today and, ironically, is often practiced by responsible older citizens who are fearful of getting mugged in the halls while carrying the garbage downstairs. The problem in this case is one for the police rather than the Health Department.

While the general condition of the city streets still leaves much to be desired, during the first half of the century, technological and economic changes solved many former nuisance problems. For example, in 1898 the sanitary superintendent reported removing 12,861 dead horses, 7,239 barrels of fish, 3,406 barrels of offal, and 1,529 quarters of veal from the streets. More efficient food-processing techniques solved the offal and fish problem, and the automobile, although it brought new health hazards, eliminated the need to collect dead horses. As commercial food distribution agencies improved, the city eliminated another source of nuisances, the city markets. An ordinance in 1903 ordered the discontinuation of the Centre and Union markets. The slaughterhouses continued to create occasional difficulties, but nothing comparable to those encountered in the nineteenth century. Because of the religious issue, the chicken slaughterhouses remained a trouble spot. The Health Department complained in 1920 that the minimal fines levied against the operators made it impossible to crack down upon them, although it conceded that the courts were increasing the penalties. By 1931 only four sites within the city were approved for chicken slaughtering, and the creation of a special permit board reduced the issue to minor proportions. Before leaving the topic of nuisances, it might be well to mention that it was 1914 before the Health Department forbade keeping chickens within the city limits, and that in 1941 complaint was made against four individuals for keeping pigs in the Bronx.⁴

The new knowledge about bacteria and the danger from airborne germs led to considerable apprehension over spitting,

carpet-beating, and crowding in public places. The drive against tuberculosis had led to an antispitting ordinance which was periodically enforced quite rigorously. Dr. A. N. Bell, editor of *The Sanitarian*, carried on a constant crusade against the "spitters," and the newspapers frequently added their voices. A two-day drive by the Health Department in 1917 resulted in 400 summonses for spitting. Another one in 1920 aimed at spitting and smoking on subways and public conveyances brought 1,358 convictions within a 45-day period. The fears about carpet-beating did not last as long as those relating to spitting. In 1904 it was suggested that the Health Department should provide a carpet-cleaning service for the poor whose rugs were thought to be infected. Within a few years, however, carpet-beating was considered a source of irritation rather than a hazard to health.⁵

The practice of fumigating the homes and clothing of those sick with communicable diseases was one which dated at least as far back as the Black Death in the fourteenth century, and the immediate effect of the discovery of bacteria was to give it a greater impetus. Reflecting a better understanding of pathogenic organisms, in 1914 the Health Department announced that it would stop fumigation in four of the five boroughs as an experiment. The following year the department decided to eliminate the practice entirely on the grounds that cleaning, fresh air, sunlight, repainting, and repapering were more effective than fumigation.⁶

In 1914 Health Commissioner Goldwater criticized the unsanitary condition of the subway cars and spoke of the danger to health from passengers who were coughing and sneezing. In February 1915 culture plates were placed aboard certain express trains which showed that the number of germs increased in direct ratio to the number of occupants in the coaches. The germs were described as "blood-poisoning, cold-breeding and pneumonia-producing." As a result, the Board of Health promptly passed an ordinance limiting the occupancy of subway cars. The new regulation created considerable furor, and even led to a bill in the State Legislature to take away the Board of Health's authority. The Academy of Medicine and city officials supported the Health Department, and the crowding ordinance remained in force during Goldwater's and Emerson's administrations. It fell into abeyance after 1917, and the entire issue died in 1923. In July of that

year Dr. William H. Park, director of the research laboratories, declared that the subways were healthful since they brought individuals into contact with many diseases and thereby helped them to develop an immunity to a variety of disorders.⁷

Public apprehension about germs enabled Health Commissioner Copeland to launch an attack upon the telephone company in 1919. After he had spent 41 minutes in a phone booth trying to get a number, he ordered his inspectors to start checking the booths for germs! He also had the Division of Industrial Hygiene look into working conditions in the phone company buildings. Copeland's personal pique undoubtedly helped to make conditions better for telephone workers, and it certainly caused the company to keep a closer surveillance over its telephone booths. Eight years later, Dr. Harris, a far better commissioner, began a drive to clean up barber and beauty shops. He called attention to the misuse of X-rays and electric needles, the improper sweeping methods, and the doubtful cleanliness of instruments and drapes used by barbers and beauty operators.⁸ His actions subsequently resulted in a series of relatively effective laws regulating these services.

By 1941 the work of the Sanitary Bureau was to a large extent supervisory and much of it was performed in cooperation with other city departments and agencies. Housing, air pollution, water supply, sewerage, bathing, public conveyances, rats, and so forth all came under the purview of the Health Department, but in most cases its inspectors merely double-checked on the work of other departments which had prime responsibility.⁹ As potential health dangers were recognized, a division was first established in the Health Department. Eventually, if the matter was significant enough, a separate city division was established. Tenements, water, and street cleaning have already been cited as examples of this; in the succeeding years the same procedure was followed with air pollution, recreational facilities, and rat and mosquito control.

Municipal Baths

One aspect of the sanitary movement in the late nineteenth century was a renewed emphasis upon personal hygiene. Since facilities in most tenements were scarcely conducive to either washing or bathing, the health reformers turned to the idea of municipal

bathing houses. New York and other American cities lagged behind western Europe in this respect, but by the 1890s the bath movement was in full swing. The first baths in New York City were the work of voluntary organizations such as the AICP. In 1900 the city, with encouragement from Dr. Simon Baruch, the AICP, the NYAM, and others, began constructing a municipal bath. By 1902 there was one municipal bath open the year round, 15 so-called floating baths open during summer, the People's Baths operated by the AICP, and several smaller ones under the sponsorship of various private organizations. Most of the baths were simply enclosed areas located in the waters surrounding the city. An epidemic of "pink eye" which developed in the summer of 1900 was attributed to one of them which was reputed to have been polluted "by adjacent sewage outfall."¹⁰

The danger from polluted water was raised again in 1902 and 1903 and gave a stimulus to the construction of interior baths. It was argued that floating baths were impractical "on account of the vast amount of sewage deposited in our rivers." Several reports recommended that the city gradually phase out the floating baths. Beginning in 1902 the City Council began appropriating relatively large sums of money to build new interior baths, but apparently nothing was done about bathing in river water. In 1906 the Board of Estimate provided \$15,000 to make general repairs to the 14 free floating baths. Nonetheless, construction of interior baths was pushed ahead and by 1912 no less than 12 municipal bathing establishments were in operation and funds had been appropriated for a thirteenth.¹¹

The need for these baths was shown by an AICP survey in 1913 which revealed that in sections of the city containing 400,000 people, less than 10 percent of the families had bathtubs or other bathing conveniences. The AICP was also concerned with the danger of infection arising from the floating baths and arranged to collaborate with the Health Department in studying the bacterial count of the river water and in attempting to reconstruct one of the city's floating baths so as to use fresh water rather than the sewage-contaminated river water. The consistently high bacterial count revealed by this study convinced Health Commissioner Goldwater that all floating baths on the city's waterfront

should be abolished. As a result, in April 1914 the Board of Health ruled that no floating baths using harbor water would be permitted in the Hudson, Harlem, and East rivers or in the Narrows. Bathing beaches in these areas were to be allowed to operate during the summer of 1914, but they were to be closed permanently at the end of the season. With respect to other bathing beaches, none were to be permitted within 150 feet of a sewer opening, the bathhouses were to be kept clean, and articles for rent such as bathing suits and towels were to be sterilized. The following March the board issued an order forbidding bathing establishments in nearly all of the city's river and harbor waters. Over 540 of the city's 576 miles of waterfront were declared unfit for bathing. Where bathing was permitted, no beaches could be located within 150 feet of a sewer outlet. In issuing this order, Deputy Commissioner Haven Emerson pointed out that an estimated 700,000,000 gallons of sewage per day were emptying into these waters.¹²

Pollution of Harbor Water

The pollution of New York's waters was no new problem in 1914, but by this time it was clear that something had to be done. Up to the 1890s the major concern with sewage had been to construct newer and better sewers; few individuals gave any thought to what effect millions of gallons of sewage would have upon the rivers and harbors. In 1893 the Passaic River in New Jersey had become so offensive that the Passaic Valley Sewerage Commission was formed. It recommended that the sewage from an area of 83 square miles with a population of 500,000 be collected into one large sewer and discharged into the waters of upper New York Bay. New Yorkers, at first, paid little heed to this, but as the project became a reality, they suddenly began to realize its potential effect upon the city's already polluted harbor waters. A sewerage commission was appointed in 1903 and two successive reports were issued on the condition of New York Bay. These reports showed the harbor waters to be incredibly polluted and that the most likely prospect was for the pollution to increase. In May 1906 the State Legislature established a five-man Metropolitan Sewerage Commission, at least three of whose members were re-

quired to be sanitary engineers. The commission was given the task of making a detailed report on or before February 1, 1909, on the best means for improving and protecting the waters in and around New York City.¹³

The commission made a thorough study and published its findings on April 30, 1910. The State Legislature continued the work of the commission for another three years, and two more reports were issued, one on August 1, 1912, and the other on April 30, 1914. Upon publication of this last report, the commissioners resigned, declaring that their work was finished; it was now up to the city and state to act. They reported that as of this time, 1914, the crude sewage from a population of 6,000,000 persons was being discharged without purification or regulation of any kind into the harbor waters. They added that among the great cities, New York was virtually alone in its failure to provide a comprehensive drainage system and sewage disposal program.¹⁴

The appearance of these reports aroused some public interest. The *Times* and other newspapers editorialized on the condition of New York waters and the dangers to bathers, but nothing concrete was done.¹⁵ The Metropolitan Sewerage Commission had recommended that the city spend over \$50,000,000 for a comprehensive sewage disposal system. Municipal officials and responsible citizens were appalled by this figure, and the city engineer was directed to devise a more modest proposal. In 1917-18 the NYAM's Public Health Committee considered the entire question and agreed that the original proposal, because of its enormous expense, was not feasible. The condition of the East and Harlem rivers, however, was so bad that the NYAM urged immediate action to relieve these waters of pollution.

The academy was no doubt influenced by the statement in its Public Health Committee report: "Manhattan Island can still be called, as it was at the time the studies were made, 'a body of land entirely surrounded by sewerage.'"¹⁶ While the need for immediate steps was obvious, sanitary engineers could not agree upon the most efficient and economical method for processing sewage, and municipal authorities were loathe to embark on wholesale expenditures. In 1924 the borough president of Manhattan pointed out that the city had spent nearly \$200,000,000 on its water supply

in recent years and yet had spent virtually nothing to take care of waste water. Two years later the NYAM commented that despite some minor improvements in sewage disposal, the situation had not changed materially since the original surveys.

During this same year, 1926, the Board of Health reported 913 cases of typhoid, of which 112 were traceable to bathing in the city's polluted waters. Fortunately relief was on the way. In 1927 the largest sewage plant of its type in the country was placed in operation in Jamaica Bay and plans were made to erect additional plants. Under Mayor Walker in 1929 a referendum was held in which the citizens voted in favor of a measure to overhaul and centralize the sewage and sanitation systems. In consequence, a new Department of Sanitation was created and a comprehensive sewage program was devised. Although the Depression delayed construction, the 1930s saw the beginning of an extensive building program. By 1941 New York had spent \$41,000,000 for the construction of new sewer works, yet one authority estimated that another \$148,000,000 was still needed to complete the job. Additional new plants were built after World War II, three of which, costing a total of \$48,000,000, were opened in 1952. Despite the large expenditures for sewage treatment facilities during the previous 30 years, by 1962 only about 75 percent of the city's sanitary and industrial sewage was being processed.¹⁷

As of the present, New York City is still not adequately treating its own sewage nor has it solved the problem of pollution coming from New Jersey. The major difficulty, however, arises from the existence of combined sewers, i.e., using the same system to handle drainage and sewage. Even relatively light rains can create higher flows than the plants can process, with the result that raw sewage is discharged into the adjacent waters. To replace the existing sewer system with a dual one presents almost insurmountable problems. It was estimated in 1962 that to convert the sewers in the Jamaica Bay area alone would cost an estimated half a billion dollars.¹⁸ The prospect of New Yorkers once again swimming in the Hudson and Harlem rivers seems a very faint one, indeed. All that can be said is that the past 40 years have seen a remarkable improvement. If the present emphasis upon ecology is not a passing fad, the next 40 may be even better.

Water Supply

The Tammany administration which held sway during the years from 1898 to 1901 was characterized by a general inefficiency. During this period New York was beset by water shortages and by the growing threat to its water supply from the worsening sanitary conditions in the Croton watershed. In 1901 a new city charter was enacted which combined the Department of Water Supply with the former Bureau of Lamps and Gas of the Public Buildings Department to form the Department of Water Supply, Gas and Electricity. The revised city government was inaugurated by a reform administration in 1902 which brought major improvements in all areas, including the city's water supply. By this date technological breakthroughs were making rapid filtration plants economically feasible, and in August 1905 Health Commissioner Darlington urged the erection of a \$17,000,000 filtration plant to guarantee the safety of the city's water supply. Typhoid fever was a constant threat, and Darlington pointed out that the expense of the filtration plant would be much less in the long run than that of caring for the sick and dying. In the six weeks prior to his request, no less than 519 cases of typhoid had been reported.¹⁹ The following year the Water Department requested bids to build a test filtration plant at the Jerome Reservoir, but still nothing was done. In 1907 Dr. Eugene H. Porter, the State Health Commissioner, informed Governor Charles Evans Hughes that the New York City administration was responsible for many cases of typhoid because of its failure to filter the city water supply. The commissioner then wrote Dr. Darlington ordering him to build a modern filtration plant. The water situation during the summer of 1907 was complicated by a long drought. Late in August Dr. Darlington advised New Yorkers to boil their water before drinking it. Some relief was given by a state law in May 1908 which empowered New York City to build sewage disposal plants and sewer systems for the towns and villages in the Croton watershed. Despite considerable pressure from the state and city health departments and from progressive citizens, however, it was not until 1911 that the Board of Estimate appropriated almost \$9,000,000 to construct a filtration plant at the Jerome Park Reservoir, the main supply for Manhattan and the Bronx.²⁰

The major problems in the ensuing years arose from the peri-

odic droughts. These crises invariably led to the same suggestions that one finds in the nineteenth century—the use of river water for fire fighting and street cleaning, the metering of commercial and residential users, and a more careful checking for leaks and breaks. From a health standpoint the sanitary inspectors during these periodic crises tended to redouble their efforts to sample the city's water supply, since a lowering of pressure increased the possibility of contaminated water entering the system. The other danger mentioned in an earlier chapter relates to the threat from improper plumbing, more specifically, cross sections between water and sewer lines. On the whole, the Water Department, double-checked by the sanitary inspectors of the Health Department, has done a creditable job, and the water supply, which constituted one of the major health problems down to World War I, no longer occupies a major part of the Health Department's attention.

Smoke Nuisance

The Health Department had long warred upon excessive smoke, particularly after the elevated railway brought steam engines belching smoke and steam into the upper stories of homes and offices, and one of its earliest ordinances had been aimed at the "smoke nuisance." The city charter for 1901 continued the ordinance against the emission of excessive quantities of smoke, but its enforcement was only occasionally effective. A state law the following year required all municipal "garbage disposal crematories" to install devices to prevent the emission of noxious gases and fumes. Since New York City simply dumped its garbage and rubbish into the ocean, this law did not apply. During 1902 and 1903 the Board of Health was compelled to relax enforcement of the smoke ordinance as a result of an anthracite coal strike. As the city was forced to use soft or bituminous coal, the sanitary inspectors concentrated their attention upon showing furnace and boiler men the best ways to burn it. When the end of the strike made hard coal again available, the board reported that the worst offenders had been prosecuted and that the city's atmosphere was now clearer than ever before. The fact that only eight violators were fined during 1903 raises a few doubts about this optimistic statement.²¹

The department's antismoke efforts ran into a temporary roadblock in 1904 when a local court voided the smoke ordinance on the grounds that it was in restraint of trade. The court, however, conceded that the Health Department could forbid the use of soft coal. Apparently this legal decision was not upheld since the department continued to take limited action against smoke offenders. Yet the threat of legal intervention may have been responsible for an amendment adopted by the Board of Health in 1905 which ordered that "no summary arrests" or "criminal action be taken" without the specific consent of the board. Previously the assistant sanitary superintendent had been issuing summonses upon his own authority. The NYAM claimed in February 1906 that since the passage of this amendment on September 27, 1905, the prosecution of smoke violators had been "practically abandoned." Although the board refused to change its position, during 1906 the Anti-smoke League, a volunteer group, began actively working with the Health Department in helping to enforce the law. By the following summer, the *Times* claimed that the efforts of the league had brought a stop to "the belching of quantities of sooty smoke and cinders from the chimneys of all but the big public service plants in the city. . . ." Despite the best efforts of the Health Department and the league, only five offenders were fined for a total amount of \$240 during 1906.²²

The New York Edison Company was a consistent source of air pollution, and it was repeatedly cited by the sanitary inspectors. Unfortunately the inspectors' efforts were nullified by the nominal fines levied by the courts, since it was obviously cheaper for the company to pay an insignificant fine than to remedy the situation. As the pressure for action mounted, the company began investigating methods to control the smoke. Commissioner Lederle in 1911 stated that the company had employed a consulting engineer and spent \$200,000 but without much success. Precisely how cooperative the Edison Company was is open to question. The *Times* reported on January 17, 1911, that the company had run out of hard coal and had started using the illegal soft coal. When sanitary inspectors tried to photograph the smokestacks as evidence for a legal case, the company had scouts on the roof who promptly warned the engineer to stop feeding coal. This same month a fine of \$500 was levied against the Edison Company for

creating a smoke nuisance. As the Health Department began pressing its charges, the company's lawyers fought back and gained a ruling by one of the lower courts declaring the smoke control ordinance unconstitutional. As of this time, the Health Department had instituted 28 actions against the company. Fortunately, the Appellate Court sustained the department's authority, but since the penalty for violation was still relatively slight, little could be achieved by legal efforts.²³

The work of the Antismoke League and the Health Department did succeed in drastically reducing the outpouring of smoke, and for a few years the matter rested. In the meantime a new source of air pollution had appeared, the gasoline engine. In 1909 the park commissioner had ruled it illegal for smoking automobiles to pass through Central Park. After several hundred arrests, he succeeded in enforcing his regulation. In February 1910 the National Highways Protective Society sent a petition signed by 20 physicians to the Board of Health asking it to eliminate the nuisance created by gasoline vapors from automobiles. After some delay, Health Commissioner Lederle began arresting drivers of cars with smoking exhausts. During the first three weeks in November, he announced, some 369 arrests had been made and 286 of the violators fined. The drive against automobiles with excessive exhaust fumes continued into 1911 and then seems to have faded out.²⁴ Improvements in the internal combustion engine helped to reduce the more obvious exhaust emissions, but public apathy was probably the major factor.

The New York Academy of Medicine revived the question of pollution from automobiles in 1921 when its Public Health Committee urged the Police Department to enforce the regulation against smoking automobiles. The following year it became concerned over the increasing amounts of carbon monoxide caused by the growing motor traffic and employed Professor Yandell Henderson to study the air in New York City. His report, presented in 1923, showed that "under certain atmospheric conditions the carbon monoxide gas at congested points in the City exceeds the upper limit of a well-founded health standard." The Public Health Committee urged the Police Department to conduct clinical studies on traffic officers at crowded intersections, but the latter did not consider it important. Pressured by the academy, in

1925 Health Commissioner Monaghan launched his own investigation of carbon monoxide in the city's atmosphere. Dr. Monaghan, who ranks among the worst of New York health commissioners (no mean accomplishment), cheerfully reported several months later that there was no danger from carbon monoxide, even in heavy traffic. Not a single traffic officer, he reported, had had to leave his post because of carbon monoxide poisoning. From reading Dr. Monaghan's pronouncements, one gets the feeling that as long as the policemen could stand up, there was nothing to worry about. Although the Public Health Committee summarized its findings with respect to carbon monoxide in the *Bulletin* of the academy and suggested the possibility of catalytic agents to reduce the amount of exhaust gases, the whole subject fell from public view, not to be revived until well after World War II.²⁵

Just as the New York Academy of Medicine had anticipated the danger from excessive exhaust fumes from automobiles, Dr. Jerome Meyers in 1928 suggested a definite relationship between gross air pollution and a high incidence of cancer. He surveyed the cancer deaths on Staten Island from 1914 to 1920 and showed that there was an exceptionally high incidence of them on the north shore of the Island where the residents constantly complained about the fumes from industrial plants in Bayonne, New Jersey. He further suggested that the carcinogenic agents were derived from the improper combustion of coal and oil. The Health Department reprinted his article, which had originally appeared in the *New York State Journal of Medicine*, but the interest it aroused was purely academic.²⁶

In the years following 1913 neither the Health Department nor the public paid much attention to the problem of smoke. The Health Department continued to act upon complaints but took little initiative on its own.²⁷ In September of 1925, however, another major anthracite strike once again brought air pollution to the fore. The Health Department, as it had done in previous strikes, began a campaign to educate the public in the best ways to burn soft coal and at the same time began a strict watch for major violations of the smoke control law. During 1926 some 1,106 violators were brought to court, the largest number for any previous year. The strike ended early in the year, but, largely because of the leniency of the courts, a pall of smoke continued to

hang over the city for many months. In the winter of 1926–27 the *Sun* and other newspapers campaigned for cleaner air. It was high time; a United States Public Health Service report in 1926 estimated that New York City was losing 31 percent of its sunlight because of smoke and haze. One result of the newspaper agitation was the appointment of a Smoke Abatement Committee to advise the health commissioner. This committee promptly began working with large plant owners, steamship companies, labor unions, and civic organizations to seek compliance with the smoke laws through voluntary action.²⁸

Supported by a growing public awareness, in December 1927 Dr. Harris requested \$300,000 to form a division of smoke abatement. The new division was to serve both as an educational agency and as a means for dealing with willful violators. Although no immediate action was taken, by 1929 a smoke squad was in existence. This squad consisted of ten inspectors trained in the most efficient ways to stoke furnaces and boilers. They gave advice to offenders and issued summonses only when no effort was made to correct the situation. Late in 1930 Health Commissioner Shirley Wynne assigned 90 additional inspectors to smoke control work in an effort to reduce the usual winter pall of smoke. The following year Dr. Wynne proposed to establish a special training course for the members of “The Black Watch,” as the smoke squad was called. The combined efforts of the Smoke Abatement (or Control) Board and the smoke squad evidently bore fruit. In December 1933 Dr. Thomas Darlington, head of the Smoke Control Board, claimed that the amount of smoke had been reduced by 80 percent during the past four years. Some of the credit, however, may well have been an incidental result of the economic depression which closed down many industries and businesses and reduced the output for others. In any event, the economic pinch at all levels of government led to the elimination of the smoke squad in 1934, and air pollution once more ceased to be a major public issue.²⁹

During the next 12 years, the only work in the air pollution field was a thorough survey of New York City done under the auspices of the WPA—that incredible agency which contributed so much to America during the 1930s and early 1940s. Parenthetically, one can scarcely study the history of any aspect of Amer-

ican society during this period without encountering either the WPA or some other New Deal agency. The WPA air pollution project in New York began in September 1935 and continued until June 30, 1937. It sought to find the sources of pollution, the amount and nature of sootfall, and the types and amount of pollen, dust, gas, and bacteria in the air. Sootfall counts were taken in 130 locations in the five boroughs and thousands of bacteriological samples were collected in subways, schools, and public buildings.³⁰ Like most such studies, alas, the results were filed away and forgotten.

The end of World War II saw a revival of the air pollution question, and this time it remained to stay—if not a burning issue at all times, it at least did not die out. As the public began demanding action, the Health Department in October 1946 reconstituted its smoke control unit with seven trained health inspectors. In the ensuing years this unit forced industry to spend over \$20,000,000 for smoke abatement. Consolidated Edison alone announced that it intended to spend \$16,500,000 between 1948 and 1951 to reduce the amount of smoke and fly ash. In January 1947 Councilman Joseph T. Sharkey proposed the creation of a special bureau within the Health Department to combat air pollution. The issue was hotly debated for the next two years. When in March 1949 the Sharkey Bill finally became law, the City Council decided to place the smoke control bureau under the Housing and Buildings Department. The enormity of the air pollution problem in New York City coupled with a growing public outrage led to the establishment of a separate Air Pollution Control Department in 1952.³¹ The following year the new department was provided with its own laboratory and in the succeeding years the city steadily increased the department's allocation. The budget for 1955 amounted to \$433,892; ten years later, almost \$1,000,000 of federal, state, and city funds was being allocated for air pollution control work in the city. While the Air Pollution Control Department was dealing with the sources of pollution, the Health Department continued to study the effects of pollution on individual groups. In 1961–62 some 5,500 postal workers and another 6,000 Transit Authority employees were given pulmonary function tests and interviewed to determine the nature of their work and other relevant information.³²

During the 20 years from 1946 to 1966 air pollution was a live and hotly debated public issue. As already noted, the city had established a separate department to deal with it and was spending larger and larger amounts of its revenue in trying to improve the city's air. Despite all these efforts, in 1965 a special committee appointed by the City Council to examine the situation reported that the city was not gaining in the air pollution struggle. It estimated that Manhattan alone was receiving 80 tons of dust-fall per month, i.e., large particles, and that the amount of small particles and of sulphur dioxide in the air was greater than for any other city. A year later, on May 10, 1966, the Mayor's Task Force on Air Pollution declared: "New York City pumps more poisons per square mile into its air than any major city in the United States." All that saved the city, the task force concluded, was the open topography and the winds, for if New York were as sheltered as Los Angeles, it would be uninhabitable.³³

Throughout its history, the Health Department had recognized problems, provided methods for dealing with them, and then spun them off to be handled by separate city agencies. In the case of air pollution this same pattern was followed: the problem was recognized, solutions were suggested, and the administration was turned over to a separate city agency. Unfortunately, eliminating the sources of air pollution is an expensive proposition, and it cannot be solved until the public is willing to pay the price. One of the chief objections to the sanitary movement of the nineteenth century was its high cost; eventually the public realized there was no choice. The 1860s saw New Yorkers facing up to the need for expensive sewage and drainage systems; the 1960s finds them in a similar position with respect to air pollution.

The War on Rats, Flies, and Mosquitoes

The major attempts to eradicate rodents and insects have been dealt with briefly in the earlier administrative chapters. Insofar as rats are concerned, the Health Department maintained a low-key antirrat program at all times, and periodically conducted intensive drives. In 1913-14 the threat of bubonic plague led to a campaign to prevent the landing of rats from incoming vessels. From 1920 to 1924 the danger from two diseases, typhus and bubonic plague,

brought a renewed drive to exterminate local rats and to prevent the landing of rats infected with disease. For the first two years the antirat work was concentrated on the waterfront area. In 1921, for example, a special squad of 20 inspectors spent their time checking vessels from infected or suspect ports, inspecting docks and piers, and distributing poisons along the docks and in the city dumps. By 1922 Dr. Copeland had expanded these efforts into a citywide campaign to exterminate the city's estimated 6,000,000 rats and to destroy their breeding places. Under his successor, Dr. Monaghan, the rat program took on all aspects of a patronage operation, with the rat inspectors and the rats adopting a mutual policy of live and let live.³⁴

Rat control in the following years was largely delegated to other city departments, with the Health Department taking only a minor interest in it. The outbreak of World War II once again raised the problem of the importation of infected rats. La Guardia Airport was quickly rat-proofed, and antirat measures were strictly enforced in the dock areas. The Health Department also began an educational program to instruct building superintendents in the best means for controlling rats. This educational program was expanded in 1948 with the appointment of the Mayor's Committee on Rodent Control. The district health officers played an important role in the antirat work at this time by cooperating with representatives of other city departments and by following up complaints. They also organized community groups to fight rats and encouraged door-to-door campaigns. Rats, however, are wily fighters, and in 1950 the Health Department reported that despite efforts by several city departments, the situation was still bad. As mentioned in Chapter 15, to coordinate the work of municipal and private agencies involved in rat control, Mayor O'Dwyer appointed Colonel William A. Hardenbergh as consulting sanitary engineer in the Department of Health. A successful pilot project led to the start of a five-year rat program beginning in 1953 which temporarily reduced the rat population.

Despite all these measures, the rats, aided and abetted by human ignorance and apathy, made a valiant stand. Although they were compelled to make occasional strategic retreats, they quickly reoccupied lost territory at the slightest relaxation of the rat-control work, and in the 1960s they still constituted a health haz-

ard. In 1964 the Board of Estimate appropriated funds for a \$1,000,000 rat extermination program under the auspices of the Health Department. Once again the work was to include an educational program for tenants and building superintendents and a drive to exterminate rats.³⁵ Like its predecessors, this program, too, achieved only limited and temporary results. Although the poor may not always be with us, rats certainly will.

Flies and mosquitoes had traditionally been considered mere nuisances until the discovery of insect vectors. Even then there was considerable skepticism about the role of flies in spreading disease. The New York Academy of Medicine devoted its meeting on January 11, 1910, to a discussion of the role of the fly, and concluded that the fly was both a nuisance and a threat to public health. It further recommended that the Health Department take active measures to prevent the breeding of flies, to keep them away from infectious disease cases, and to prevent them from coming in contact with food. The Health Department, which felt it had more pressing uses for its limited resources, was not convinced of any need for immediate action, and nothing was done until 1913. In that year the Bureau of Public Health and Hygiene of the AICP conceded that flies had been a factor in typhoid outbreaks "amidst the privy conditions of the South," but it questioned whether this situation would apply "to northern conditions. . . ." Since the fly was of little importance with respect to typhoid in northern cities, the AICP was reluctant to embark upon an expensive campaign to eliminate it.³⁶

While not unduly worried about typhoid, the AICP did feel that the fly might play a role in a more serious disorder, "the fatal diarrhea disturbance of infants." For this reason it decided to conduct a study covering two blocks in a poor Italian section of Brooklyn. In one block, all doors and windows were screened, and the various city departments were recruited to join in a campaign to enforce all sanitary ordinances. The residents in this one block were instructed on how to keep flies out of their homes and in particular how to keep them away from their babies' food. Systematic records were kept of all illnesses in both blocks for an eight-week period. At the end of this time, the number of cases of infant diarrhea in the screened block was found to be only one-

third as great as in the one left in its customary unsanitary condition.³⁷

In part as a result of the AICP study, in the spring of 1914 the Health Department began a full-scale antily campaign in connection with its annual spring clean-up week. Circulars were handed out to school children and to residents emphasizing the slogan, "Better to raise babies than flies." In this drive, motion pictures, civic organizations, and clubs were all utilized in appealing to the public to eliminate fly breeding grounds. Former Health Officer of the Port Alvah H. Doty wrote to the *Times* that it was pointless to pay children to kill flies; the best solution was to teach them to destroy fly breeding grounds. In 1916 the Health Department began an attack upon the flies in the city-owned markets. Low-key antily campaigns characterized the next few years until a report that flies were responsible for spreading poliomyelitis in 1922 brought a new enthusiasm.³⁸ By this date automobiles were gradually eliminating horses, stables, and manure piles, thus removing a major source of flies. Moreover, screens were becoming more common and this, combined with the rising standards of personal hygiene, contributed to reducing the number of flies. In consequence, flies ceased to be of major concern to the Health Department.

While the role of mosquitoes in malaria and yellow fever had been discovered at the turn of the century, it was not until the years from 1910 to 1920 that the Health Department began a major effort to eliminate mosquitoes. During this period the major attack was concentrated in the marshes surrounding the city. Hundreds of workers were employed every summer digging drainage ditches and building tide gates. At the same time an educational campaign sought to eliminate mosquitoes from Manhattan and other built-up areas by teaching the public to get rid of cans, bottles, and any other vessels which might provide a home for mosquito larvae. As part of this campaign, Dr. Charles F. Bolduan, director of the Bureau of Health Education, gave certain proof in 1916 that literature was not his forte by composing the following jingle:

Knock all the bottles on the head,
Pierce through the cans' tin bottoms,

And soon all "skeeters" will be dead,
And you'll not have to swat them.

If nothing else, this doggerel may have shocked the literate public into action. The educational program was greatly helped by the AICP which maintained a special mosquito and fly suppression unit. The association kept steady pressure upon the Park and Health departments by making its own inspection of potential breeding grounds. It was especially concerned with Central Park and furnished the city with oil to fight mosquito larvae. The AICP also conducted its own educational campaign through the press and through advertisements in streetcars and on public billboards.³⁹

During the early 1920s the antimosquito campaign slowed down, but the drive picked up steam beginning around 1925. In the summer of that year the department assigned a staff of 15 inspectors plus a large number of laborers to ditching and draining. In 1928 Commissioner Harris complained that he had only \$83,000 for mosquito work and estimated that he needed at least another \$100,000. The advent of the Depression forced a drastic cutback in all of the department's activities, and it was not until 1934 that a large-scale effort was made to control mosquitoes. During 1934-35 some 3,000 laborers, engineers, and technicians were employed with WPA funds. This support continued until 1940 when the prospects of war shifted the federal government's emphasis to international matters. In June 1938, at a time when the WPA was still heavily involved, the mosquito program was transferred to the Department of Sanitation with the Health Department serving as technical adviser. During this year almost 1,000,000 feet of new ditches were dug and another 4,500,000 were recut and cleaned.⁴⁰

In 1941 the sanitation commissioner requested an additional \$212,280 from the city for mosquito work to compensate for the withdrawal of WPA funds. Both money and personnel were in short supply during the war years, however, and mosquito control was kept to a minimum. In 1947 a new approach was tried. The Health Department's Sanitary Engineering Bureau organized a mosquito control unit to work with civic and municipal groups in an advisory capacity. By this date airplanes and power sprayers were available. In 1956 two hurricanes upset the mosquito balance,

and once again forced the Health Department into a mosquito control program of its own. Due to a large-scale infestation in the summer of that year, the Health Department spent \$100,000 fighting these pests. The department's staff worked closely with other city departments and sought to coordinate all mosquito control activities. In addition, the Health Department awarded contracts for the biweekly airplane spraying of some 15,000 acres of salt marshes. The program was expanded the following year when mosquitoes once again presented a serious problem.⁴¹ The use of airplanes, power sprayers, and new chemical weapons soon drastically reduced the mosquito population and relegated the control of mosquitoes to a routine task.

Noise Pollution

Like many potential hazards to health, for many years noise was considered more of a nuisance than a threat. In New York City the first serious attempt to reduce noise was the work of the Society for the Prevention of Unnecessary Noise which was organized in January 1907. The society may have come into existence as a result of the elevated railway. This system was introduced in the 1870s and was both noisy and dirty. In the 1890s the use of electric cars for steam locomotives reduced the dirt, but it did nothing about the roar of the speeding trains. There were repeated complaints about the "El" in the early 1900s, but the "El" was only one of the accumulating sources of noise in these years. The first president and leading spirit of the society was Mrs. Isaac L. Rice, an energetic and able woman. During her first year in office she sponsored a successful federal bill to eliminate unnecessary whistling by steamboats in the harbors of American cities, and she was largely responsible for securing a New York City ordinance establishing quiet zones around hospitals. In 1910 the *New York Herald* editorialized on the noise problem, and it claimed credit in August of that year when the Fifth Avenue Coach Company introduced 20 new buses which were much quieter than the ones then in use.⁴²

As mentioned in a previous chapter, Dr. Copeland took some limited measures to alleviate the noise problem in the early 1920s, and Commissioner Shirley Wynne took the important step of ap-

pointing a Noise Abatement Commission in 1929. Although the commission performed a yeoman job, its accomplishments were only minimal. One possible result of its report was the introduction of what the newspapers called a "noise-proof" subway car. It was tried out in August 1933 and brought forth some glowing testimonials. It would be interesting to know what happened to it.

In the succeeding years the Health Department made occasional stabs at reducing some of the worst noises, but the task was hopeless. Larger and larger trucks and buses, the constant wailing of sirens by emergency vehicles, the never-ending sound of pneumatic hammers, pile drivers, compressers, and other construction equipment, and the myriad of city noises continued to mount as the twentieth century wore on. A few voices of protest were heard over the din and the Health Department won one or two minor victories, but the city continued to grow noisier and noisier. In 1970 a Mayor's Task Force on Noise Control bleakly reported that "noise has reached a level intense, continuous, and persistent enough to threaten basic community life." "The attitude of many New Yorkers on the noise question," the report continued, "and on other important environmental matters is often mis-called 'apathy.' It is not apathy at all but rather silent desperation."⁴³

Notes to Chapter 18

1. N.Y.A.M., "Min. . . . Section on Pub. Health," April 4, 1907, pp. 130-31, 186-87; *Thirty Years in Community Service, 1911-1941, A Brief Outline of the Work of the Committee on Public Health Relations of the New York Academy of Medicine*, prepared by E. H. L. Corwin and Elizabeth V. Cunningham (New York [1942]), p. 10; *Tribune*, November 11, 1914; *Times*, December 29, 1916.
2. N.Y.A.M., "Report of the Public Health Committee," 1921, p. 19; 1928, p. 21; *Times*, March 7, 1927; Corwin and Cunningham, *Thirty Years in Community Service, 1911-1941*, pp. 79-80.
3. *Herald Tribune* and *Times*, February 19, July 31, November 7, December 1, 1929.
4. *Ann. Rep., Bd. of Health, 1898*, pp. 46-47, 86; 1920, pp. 27-28; 1930-31, p. 214; *Ordinances, Resolutions, Etc., Passed by the Common Council, 1903*, VI, pp. 203-05; *Times*, September 17, October 28, 1914; *Herald Tribune*, January 3, 1941.
5. *Sanitarian*, XLIV (1901), 441; *Times*, March 17, 1904; October 29, 1914; January 14, 1917; February 19, 1920.
6. *Herald* and *Times*, December 13, 1914; August 14, 1915.

7. *Times*, July 7, December 12, 1914; February 21, March 10, 16, November 5, 1915; December 17, 21, 1916; July 8, 1923; N.Y.A.M., "Report of the Public Health Committee," 1916, p. 6.
8. *Herald*, December 2, 1919; *Times*, October 30, December 2, 1919; March 16, 1927.
9. *Ann. Rep., Bd. of Health, 1941*, pp. 183-90.
10. N.Y.A.M., Minutes, May 18, 1899, p. 587; *Charities*, III (1899), 14-15; A.I.C.P., *Communication on a System of Municipal Baths for the Borough of Manhattan, City of New York* (New York, 1902), p. 5; *N.Y. Med. Jnl.*, LXXII (1900), 509; *Sanitarian*, XLV (1900), 339-40.
11. *Medical Record*, LXI (1902), 1043; Robert W. DeForest and Lawrence Veiller, eds., *The Tenement House Problem Including the Report of the New York State Tenement House Commission of 1900* (New York, 1903) vol. II, p. 55; *Ordinances, Resolutions, Etc., Passed by the Common Council, 1902*, V, pp. 198-99, 413-14; 1903, VI, pp. 272-73, 461; 1906, IX, p. 122; 1907, X, pp. 158, 486; A.I.C.P., *Sixty-Ninth Annual Report, 1912*, p. 15.
12. A.I.C.P., *Seventieth Annual Report, 1913*, pp. 40-43; *Times*, March 26, 28, April 22, May 2, 1914; March 17, 1915; "History of the Bureau of Sanitary Engineering," November 1962, N. Y. C. Health Department Ms., p. 12.
13. Anne S. Loop, *History and Development of Sewage Treatment in New York City* (New York, 1964), pp. 16-18; N.Y. State Laws, 126th sess., Chap. 539, II, p. 1209; 129th sess., chap. 639, II, pp. 1646-49. Because Loop has done a fine job of tracing the history of sewage in New York City, I give it only a brief survey here.
14. Loop, *Development of Sewage Treatment*, pp. 18-33.
15. *Herald*, March 26, 28, April 22, June 24, 1914; *Times*, April 22, June 24, 1914.
16. Loop, *Development of Sewage Treatment*, pp. 41-43, 45; N.Y.A.M., "Report of the Public Health Committee," 1917, pp. 5, 9; Corwin and Cunningham, *Thirty Years in Community Service, 1911-1941*, pp. 82-83; N.Y.A.M., *Report of the Committee on Public Health Relations, 1926*, pp. 23-24; *Herald and Tribune*, July 11, 1925.
17. Loop, *Development of Sewage Treatment*, pp. 47-49, 55-69; *Times*, April 5, 1929; June 4, 1931; April 4, 1952; N.Y.A.M., *Report of the Committee on Public Health Relations, 1926*, p. 11; *Herald Tribune*, February 3, 1952; "History of the Bureau of Sanitary Engineering," pp. 12-14.
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24. *Herald*, August 2, 23, 1910; June 25, 27, 1911; *Times*, February 4, November 19, 1910; *World*, February 4, 1910.
25. *Times*, July 10, 1925; N.Y.A.M., "Report of the Public Health Committee," 1921, p. 19; 1922, pp. 8-9; 1923, pp. 8-9; 1924, pp. 12-13, 15; Corwin and Cunningham, *Thirty Years in Community Service, 1911-1941*, pp. 80-81.
26. Jerome Meyers, "Cancer Death-Rates, Smoke, Topography and Population," *New York State Journal of Medicine*, XXVIII (1928), 365-72.
27. See Health Department Reports, 1921-23.
28. *Ann. Rep., Bd. of Health, 1918-23*; 1925, pp. 86-87; 1926, pp. 9, 124; N.Y.A.M., *Report of the Committee on Public Health Relations, 1926*, pp. 6-7; *Times*, January 27, 29, March 12, 1926; February 3, 1927; *Sun*, February 1, July 11-18, 1927.
29. *Times*, December 17, 20, 1927; August 14, October 1, December 5, 1930; October 25, 1931; *Ann. Rep., Bd. of Health, 1929*, p. 139; 1930-31, pp. 168-69; 1933, p. 4; N.Y.A.M., *Report of the Committee on Public Health Relations, 1931*, p. 206; *Sun*, October 30, 1929; December 18, 1933; *Department of Air Pollution Control, Annual Report, 1954* (New York, 1955), pp. 21-22.
30. *Ann. Rep., Bd. of Health, 1937*, pp. 253-57.
31. *Ibid.*, 1941-48, p. 46; "History of the Bureau of Sanitary Engineering," p. 7; *Times*, January 10-11, 1947; January 17, 19, March 1, 1949; *Herald Tribune*, January 11, 1947; January 17, 1949; July 3, November 16, 1952.
32. *Times*, October 8, 14-15, 1953; January 26, 1955; *Ann. Rep., Bd. of Health, 1961-62*, p. 23; *Herald Tribune*, October 14, 1953; January 26, 1955.
33. New York City Council, Special Committee to Investigate Air Pollution, reprint of *Minutes*, June 22, 1965, pp. 1189-90; "Summary Report of the Mayor's Task Force on Air Pollution," May 10, 1966, N. Y. C. Health Department ms., p. 3.
34. *Times*, December 13, 1914; November 4, December 17, 1920; March 27, 1921; April 30, May 19, 1922; May 30, 1924; *Ann. Rep., Bd. of Health, 1921*, p. 28.
35. *Ann. Rep., Bd. of Health, 1941-48*, pp. 45, 72; *Herald Tribune*, June 28, 1950; *Times*, January 11, 1964.
36. N.Y.A.M., "Min. . . . Section on Pub. Health," pp. 164-65; A.I.C.P., *Seventieth Annual Report, 1913*, pp. 36-40.
37. A.I.C.P., *Seventieth Annual Report, 1913*, pp. 37-40.

38. *Times*, May 11, 17, 27, 1914; July 25, 1916; June 7, 1922.
39. "History of the Bureau of Sanitary Engineering," p. 20; *Times*, August 20, 25, 1915; May 3, 1916; A.I.C.P., *Seventy-Second Annual Report, 1915*, pp. 73-74.
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19

The Final Assault on the Great Killer Diseases

It is a matter of regret that the Board of Estimate cannot actually behold 30,000 gaunt, emaciated figures, with death gleaming in the eyes of many. These are the tuberculous who are always with the city. Not more than 17,000 have a chance of reaching one of the 5,184 beds provided. . . ." [New York *Times*, March 3, 1937.]

Consumption has an interesting history in modern times. In the nineteenth century it was both a fearful and familiar disorder, yet it was not without its romantic connotation. Mimi dying in *La Bohème* illustrates the concept of the delicate female wasting away with consumption and dying a tragic and romantic death. Until late in the century physicians could do relatively little for its victims, other than to recommend a change of climate. This was undoubtedly the soundest advice, since patients frequently benefited from a change in environment.

At the turn of the century, tuberculosis was still without doubt the great killer disease in urban areas. The early efforts by Dr. Biggs and his cohorts to deal with this problem have been related in previous chapters. As early as 1894 a separate building was set apart from Metropolitan Hospital on Blackwell's Island for consumptive cases, the first municipal sanitarium for tubercular patients in the United States. As further noted, the decision of the Board of Health to make tuberculosis a reportable disease brought outraged cries from organized medicine and led to the Brush Bill, an abortive attempt to force the Board of Health to rescind its action. In the succeeding years the Health Department gradually pressed its fight against the so-called "great white plague." In April 1901, for example, it sent out plain-clothes policemen to arrest individuals found spitting in public places. In the summer of this same year Dr. Biggs stated publicly that although 9,000 cases of tuberculosis had been reported in 1900, he doubted whether they represented two-thirds of the actual figure, and he attributed over one-quarter of all deaths between the ages of 15

and 65 to this disease. Nonetheless, when the surgeon-general of the U. S. Public Health and Marine Hospital Service classified pulmonary tuberculosis as a "dangerously contagious disease" late in 1901, the New York Academy of Medicine denounced the decision as one "not based either on clinical experience or on scientific experiments."¹

However reluctant the medical profession may have been to report consumption, there was no question about the increasing public concern. This concern was reflected in the many articles appearing in newspapers, magazines, and medical journals. Writing in the *Medical Record* about the "Consumptive Poor," Dr. S. A. Knopf called for sanitariums, dispensaries, model tenements, education, and statewide tuberculosis insurance to protect families. The Committee on Tuberculosis of the Charity Organization Society, a group dedicated to awakening the public to the danger of the disorder, in the fall of 1902 arranged an extensive series of lectures on the subject, using the facilities of the YMCA and YWCA, settlement houses, churches, and schools. The committee also distributed thousands of leaflets and pamphlets. Early in 1902 the commissioner of public charities requested the New York Academy of Medicine to determine if certain old buildings on Blackwell's Island were suitable for tubercular patients. The following spring the Board of Aldermen resolved to establish a hospital for the tubercular poor and called upon the departments of Health and Charities to join in making a thorough survey of the tuberculosis situation. The leading spirit in the movement to involve the municipality in caring for the tubercular poor was Dr. Biggs. At this time he was urging the use of tents as a temporary expedient. In March 1903 he declared that less than one-half the new cases were being reported, and he estimated the total cases within the city at about 30,000. All of these efforts culminated on May 8 when a special hospital for tubercular patients was opened on North Brother Island.²

In an equally important move, three public health nurses were employed to visit the homes of those cases where the patients were incapacitated from work. This step marks recognition by the department that curing tuberculosis was more than a matter of fighting pathogenic organisms—it literally involved changing the home life of the patient. In the ensuing years more and more emphasis

was to be placed upon educating the patient and his family. A third approach to the tuberculosis problem was made in 1904 when Dr. Biggs, with the help of Drs. John S. Billings, Jr. and S. A. Knopf, secured the establishment of the first municipal clinic in the United States. Meanwhile, the AICP, which was always in the forefront of every health and welfare movement, had sent John Seely Ward, Jr., a member of its board, to France in 1903 to investigate French methods for dealing with tuberculosis. He reported that for children, most of whom acquired a non-pulmonary form of the disease, the French provided seashore hospitals. Impressed with his report, on June 6, 1904, the AICP opened a seaside tent camp for children with tuberculosis of the bones and glands.³

By this date tuberculosis was becoming a major issue, the subject of articles and feature stories in the daily newspapers. One series of articles claimed that from one-third to one-fifth of the city's street cleaners had consumption. A report issued subsequently by the street commissioner, however, stated that only 283 of the 1,872 men on the force suffered from respiratory complaints, and of these only 60 were definitely diagnosed as tubercular. Whatever the exact figures, these news stories helped to bring about a public awareness of the disease. In November Health Commissioner Lederle urged a study of tuberculosis in New York as compared to other major cities, but his proposal was lost when it became enmeshed in red tape.⁴

In addition to those institutions designed for tubercular patients, a number of city hospitals began providing special facilities for the treatment of tuberculosis. Gouverneur, which opened a private tuberculosis clinic in October, was the first private hospital to take such action. Bellevue Hospital followed suit in December and Harlem Hospital early in 1904. An important aspect of these clinics was the home supervision provided by the visiting nurses. Responding to the public demand for more and better facilities, late in 1905 the Health Department took over 1,200 acres of land in the Adirondacks in Orange County to build a free municipal camp for consumptives. Temporary housing was provided almost immediately, and the following year the city voted \$225,000 to build what later became known as the Otisville Sanitarium.⁵

In 1906 the Committee on the Prevention of Tuberculosis

sought to coordinate the work of all municipal and voluntary organizations by dividing the city into districts centering around the tuberculosis clinics. Procedures for handling patients were standardized to prevent patients from seeking help from several different sources. The next step was to form a permanent body, the Association of Tuberculosis Clinics of New York. In addition to helping establish this latter association, the committee was also responsible for inaugurating day camps for consumptive children in 1907. The first of these consisted of an old ferryboat, the *Southfield*, which was refitted for this purpose. Meanwhile, in conjunction with the Health Department and other city agencies, the committee was conducting an extensive educational campaign. Tuberculosis exhibits toured the various settlement houses, pamphlets and leaflets were distributed weekly, and all other possible means were used to inform the public about the disease. One of the more effective methods was to place information about tuberculosis on the back of streetcar transfers. The success of the committee's educational campaign led the Board of Health in 1908 to obtain authorization to spend \$13,000 on tuberculosis exhibits for educational purposes.⁶

The New York campaign was aided by a nationwide interest in tuberculosis. On the national scene short stories and articles were appearing in popular magazines, and books dealing with the disorder were widely read. For example, Samuel Hopkins Adams wrote an article for *McClure's Magazine* in January 1905 entitled, "Tuberculosis: The Real Race Suicide," in which he stressed the need for fresh air. Subsequently *McClure's* published a short story based on the concept of open-air treatment for consumption. In 1908 the *New York Herald* carried an extensive report on a naval surgeon who had purportedly cured 11 out of 12 pulmonary tuberculosis cases by the use of deep muscle injections of a mercury solution.⁷

By 1908 the Health Department was able to report a slight improvement in the tuberculosis situation. Although the number of new cases reported had jumped from 20,085 in 1906 to 23,325 in 1908, the death rate per 1,000 population had fallen from 2.45 to 2.29. Furthermore, between August 1908 and January 1, 1909, the number of cases receiving treatment in New York City institutions had increased from 2,816 to 3,401. The city also had an

institution for treating incipient cases, but the waiting list was so long that a reexamination late in 1908 showed that most of these were no longer acceptable for admission—presumably they had all developed full-blown cases. During this same period the Health Department analyzed the statistics for 4,000 private cases of tuberculosis and cheerfully reported that the percentage of full recoveries had increased from between 3 and 4 percent in 1906 and 1907 to 5 percent in 1908.⁸

During the next three or four years individual philanthropists, organizations, and companies began providing facilities for tuberculosis patients. In the fall of 1908 the Vanderbilt Clinic opened a roof camp for the day care of tuberculosis patients. This facility was financed by the National Red Cross and was operated in cooperation with the Health Department. The following year Mrs. W. K. Vanderbilt, Sr., donated \$1,000,000 to build four tenement houses especially for families where one or more members had tuberculosis. The Brooklyn Central Labor Union and the Metropolitan Life Insurance Company also began construction of sanitariums. In addition to providing an institution to care for its employees, in 1909 the Metropolitan distributed 3,500,000 copies of a pamphlet entitled "A War upon Consumption." An interesting approach to the problem was the Tuberculosis Preventorium for Children. This institution, which began operating early in 1910, was designed to care for children of tubercular patients until their homes had been disinfected and their parents had been taught to take care of themselves.⁹

As might be expected, the AICP continued to make significant contributions to the fight against tuberculosis. As early as 1907 it had offered to build a hospital if the city would provide the land. The city immediately accepted the offer but made no provision for obtaining a site until 1911, when one was selected on Rockaway Beach. It was not until March 1, 1915, that the AICP finally turned over to the city the Neponsit Beach Hospital for Children. The following year the AICP leased part of the East River Homes (the Vanderbilt Tenements) to provide intensive home care for a group of consumptive families over a three-year period. This project, known as the home hospital, included provision for a school for consumptive children. The home hospital project attracted considerable notice both in the United States

and abroad, since it was obvious that only a few of the thousands of tubercular patients could be treated in institutions. In reporting this activity the AICP quoted both Drs. William Osler and Edward L. Trudeau to the effect that the battle against tuberculosis had to be fought out in the home. As the AICP expressed it in its 1912 report: "Consumption is not merely a human disease, it is a social disorder and must be combated as such."¹⁰

Beginning in 1910 several city agencies began collaborating in an intensive tuberculosis campaign. The departments of Health and Education and the Bellevue and Allied Hospitals requested a total of \$432,000 late in 1909 to start the program. This money was earmarked for 118 additional health inspectors, new clinics, expansion of hospital and child-health facilities, and provisions for educating children excluded from school because of tuberculosis. By this date the Health Department was engaged in what Dr. Leona Baumgartner has termed the attack upon the means of transmission. It included inspection of milk, air, food, and clothing, and involved disinfection, fumigation, case finding, and health education. Improved case-finding methods and better diagnosis had resulted in the registration of 30,000 cases and about 10,000 deaths during 1910.¹¹

Despite this intensive effort, the problem was so immense that headway was slow. As part of the campaign, the Education Department was called upon to create an awareness of tuberculosis among children and adults. Late in 1914, for example, the Board of Education arranged for a week of adult education dealing with the care and prevention of tuberculosis. The following year the Board of Health amended the Sanitary Code to forbid individuals with the disease from teaching in the public schools unless given specific permission by the health authorities. In December the Health Department set one week aside for a campaign to urge people to have their lungs examined. In proclaiming this Tuberculosis Week, the department estimated that there were 50,000 cases of the disease in the city.¹²

Because tuberculosis was considered virtually incurable, the first sanitariums were restricted to incipient or early cases, on the assumption that little could be done for advanced ones. In 1918 Dr. Charles B. Slade, the attending physician to the city's Otis-

ville Tuberculosis Sanitarium, pointed out that discharging arrested cases and returning them to the impoverished tenement environment which had contributed to the original infection was of dubious value. He felt that many of these former patients suffered a recurrence of their disorder, but the lack of adequate follow-up made it impossible to determine the exact percentage. The sanitarium had admitted a number of advanced cases, he wrote, and he had been surprised at how many of these showed remarkable improvement. In view of this fact, he urged that more emphasis be placed on the admission of active and advanced cases. By so doing, these patients would be given a chance at recovery, and their removal from circulation would prevent the spread of the disease.¹³

While Dr. Slade's advice was excellent and his ideas eventually found acceptance, the sheer number of tuberculosis patients in the city at this time precluded institutional care for all of them. In January 1919 the Bureau of Preventable Diseases reported it had 32,048 cases of pulmonary tuberculosis on its register and that 14,570 cases had been reported during the previous year. Deaths during this period amounted to 7,395, for a mortality rate of 123 per 100,000. This latter figure, the bureau noted, was a marked improvement over the tuberculosis rate of 237 per 100,000 in 1898. At the end of 1919 some 3,697 cases were under the care of private physicians and 4,556 were institutionalized in hospitals or sanitariums. Another 10,817 cases were either being treated at one of the Health Department's tuberculosis clinics or else were under observation by the department's nurses. The bureau was also making progress in its effort to improve supervision over tuberculosis cases. Whereas on December 31, 1918, the bureau had on record the names of 9,479 individuals with reported tuberculosis who had disappeared from observation and could not be traced, a year later this figure had been reduced to 6,934. The enormity of the tuberculosis problem at this time is clearly shown by the fact that 1,647 individuals died in 1919 from pulmonary tuberculosis, yet the Health Department had no prior record of their disease.¹⁴

In addition to supervising those cases directly under its control, i.e., through its clinics, hospitals, dispensaries, and nursing staff, the Health Department was also responsible for patients under

the care of private physicians or in private hospitals and other institutions. Aside from their failure to report cases, many private physicians made little effort to instruct their patients in the necessary precautions to avoid spreading their infection. At the same time they bitterly resented any effort by the Health Department to exercise supervision over their patients. Since local medical associations wielded considerable political power, the department had to move with great caution, and its annual reports and publications constantly appealed for cooperation. The private hospitals and clinics lent themselves more easily to management by the department but even here health officials had to watch their step. Furthermore, procedures for handling contagious disease cases and reporting them varied widely among private institutions, thus complicating the Health Department's work.¹⁵

In dealing with its own cases, the department often encountered open opposition. Many individuals refused to accept the necessary precautions to help their own recovery and to avoid spreading the disease to their families. Such patients were classified as "sanitary supervision cases" and were given rigorous and intensive attention. At the end of 1919 some 654 patients were in this category. When a patient died or was removed to an institution, the department examined the premises and decided whether or not they needed cleaning and renovating. During 1919 this action was considered essential in 3,811 cases. In the vast majority of instances, the work was done voluntarily, but in 75 of them the department had to take legal action to enforce compliance with its regulations.¹⁶

The emphasis placed upon pulmonary tuberculosis should not obscure the relatively high incidence of nonpulmonary forms of the disease. During 1919 a total of 1,103 deaths were attributed to this cause, of which 581 resulted from tuberculosis meningitis. These deaths from nonpulmonary forms represented 13 percent of the total mortality from tuberculosis. A high percentage of the cases involved young children. Fortunately the child health movement, which was in full swing, contributed materially to reducing this cause of death. Moreover, all forms of tuberculosis were gradually receding before the rising economic and educational standards.¹⁷

Stalemate in the Twenties

The end of World War I and the beginning of the era of the 1920s marked a general regression in nearly all health and welfare movements. The tide of progressivism was ebbing, the reduction in immigration had eased some of the social pressure, and the medical profession, which steadily had been improving its economic status, had acquired a vested interest in the status quo. Under the circumstances, it is not surprising that the drive against tuberculosis lost its momentum. The New York Tuberculosis Association continued to issue statements and publicity releases stressing the role of poverty and deplorable housing conditions, but it conceded that prohibition and a higher standard of living had brought a marked reduction in the tuberculosis incidence. Nonetheless, in 1922 the association warned that the disease still constituted a grave threat, and it claimed that 60 to 80 percent of the cases on the lower west side were not under medical care. Dr. Haven Emerson this same year credited part of the improvement in the tuberculosis picture to the pasteurization of milk, and also suggested that New Yorkers were acquiring some measure of immunity to the disorder.¹⁸

Readers of the earlier chapters will recall that the Health Department during these years was notoriously lax and ineffective, and that it was not until a series of scandals shook the city administration in 1925-26 that a new reform wave revitalized the Health Department. In the meantime nearly all health programs marked time or else lost ground. By the late 1920s the department was still treating the tubercular poor in clinics, some of which had been temporary or makeshift to begin with and all of which had badly deteriorated. Little heed had been paid to advances in diagnostic techniques and aids, with the result that neither X-rays nor fluoroscopes were available in the tuberculosis clinics. Dr. Louis Harris had taken over as commissioner in January 1926, but he was too busy cleaning out deadwood and overhauling the department to attend to the tuberculosis program. Dr. Shirley Wynne who succeeded him in August 1928 first drew attention to the deplorable state of the tuberculosis clinics, and he proposed to replace them with diagnostic chest clinics complete with modern

equipment. Three of these clinics were opened in 1929 and six were in operation by 1931.¹⁹

Although every study during these years had shown how inadequate were the institutional facilities for treating tuberculosis, the new commissioner of hospitals, Dr. J. William Greef, announced in January 1930 that there was no waiting list for tubercular patients at the municipal hospitals. This statement contrasted sharply with one issued a little over two months later by the New York Tuberculosis and Health Association which urged the city to provide additional beds for the 15,000 patients who needed institutional care. It was also contradicted by the Academy of Medicine's Public Health Committee which asserted this same year that there was an acute shortage of tuberculosis facilities and that in early October almost 500 patients were waiting for admission.²⁰

The New Tuberculosis Program

In establishing diagnostic chest clinics in 1929, the department was instituting a new policy. Whereas the former tuberculosis clinics had been designed to treat the poor, the new clinics were intended to provide a general diagnostic service. Private physicians were encouraged to use this service for doubtful cases or for those patients who could not afford laboratory fees. As part of its new emphasis upon diagnosis, the department in 1929 offered two formal courses to improve the diagnostic techniques and skills of the clinic physicians. This program was gradually broadened, and in 1931 several of the department's clinicians were sent to the Trudeau School of Tuberculosis at Saranac, New York.²¹

In May 1930 Dr. Wynne announced the opening of an anti-tuberculosis campaign to start in the fall aimed at reducing the tuberculosis mortality rate by one-half within a three-year period. Early in October the department provided a Tuberculosis Information and Advisory Service in its building at 505 Pearl Street. Its chief purpose was to facilitate the early recognition of the disease and to insure prompt examination of all contacts. Although the growing economic crisis prevented a full implementation of Dr. Wynne's drive against tuberculosis, the department continued to register gains. The city mortality rate from the disorder was reduced by almost 20 percent between 1928 and 1932. A special

effort was started in the latter year to concentrate upon the Puerto Rican newcomers whose tuberculosis rate was over six times that for the city at large. With the reform administration of Mayor La Guardia and the appointment of Dr. John Rice as health commissioner in 1934, control of tuberculosis was removed from the Bureau of Preventable Diseases and established as a separate bureau. New high-speed X-ray equipment was bought and a large-scale X-ray program was started. Included in this program was a routine X-ray examination for all Health Department employees and uniformed firemen. The expansion of the X-ray program, as mentioned in a previous chapter, received a strong impetus from the WPA and other New Deal agencies.²²

As the department improved its diagnostic techniques and case-finding methods, it became aware of how well entrenched tuberculosis was among the city's residents. For example, in 1937 the department still had 19,000 cases under its supervision, and the Bureau of Tuberculosis estimated that another 20,000 were undiagnosed or unreported. On the credit side, it reported a tuberculosis mortality rate for 1937 at 57.4 per 100,000, the lowest rate in the city's history. Yet the disease was still the fourth leading cause of death and the leading cause in the age group between 15 and 34 years. As of that date the city had approximately one bed available for each tuberculosis death, a figure, according to the Health Department, well below the accepted standard of two beds for each death.²³

Traditionally the disease had tended to strike most severely in crowded tenement districts and this pattern still held true in 1937. The worst areas in this latter year were central Harlem, which was predominantly Negro and Puerto Rican, east Harlem, which was largely Puerto Rican, and the lower west side, which included Chinatown and the Bowery, with its 20,000 transient and homeless males. One section of the lower west side had consistently shown a death rate of 350 per 100,000 for 50 years.²⁴ This concentration of tuberculosis and other diseases in impoverished and crowded areas had led the early pioneers in the fight against tuberculosis to attack its means of transmission. By 1930, however, the food supply was relatively safe, and it was clear that the disease was limited to specific groups, i.e., neighborhood and family. Hence the emphasis shifted to detection rather than edu-

cation, a procedure greatly facilitated by better X-ray and fluoroscopic devices and other diagnostic methods.

As of 1937 the Bureau of Tuberculosis had a staff of 243. Of the 93 physicians employed, only the director and supervisor were on a full-time basis. The staff included 27 X-ray and laboratory technicians; the rest were largely clerical workers. During this year, Drs. S. S. Goldwater and Haven Emerson, both members of the Board of Health, expressed alarm over the rise in the tuberculosis rate, and they sharply criticized the city administration for not making a real effort to eliminate the disease. Of the 30,000 tuberculosis cases in the city, Dr. Goldwater asserted, not more than 17,000 had a chance of reaching one of the 5,184 available beds. Tuberculosis, however, was an insidious disorder rather than a dramatic one, and little heed was paid to their pleas.²⁵

Fortunately a substantial increase in WPA funds gave some impetus to the drive against tuberculosis in 1938. Part of the money was used to X-ray families on relief and other select groups and to provide for a follow-up on discovered cases. The total of 5,200 individuals X-rayed during this year was only a mere handful and scarcely made a dent in the vast number of potential tuberculosis cases. WPA funds also subsidized a research study into the relationship between silicosis and tuberculosis. The following year the Health Department collaborated with the Department of Hospitals in making a joint attack upon central Harlem, long recognized as a major "white plague" spot. The area was divided into three districts for tuberculosis control, with the Health Department taking responsibility for two clinic districts and the Department of Hospitals the other. In what was undoubtedly an optimistic assertion, the Health Department stated: "For the first time this district may be considered to have a clinic and district nursing service reasonably commensurate with the extent of the problem." Despite these efforts, in 1941 the tuberculosis death rate for the city's Negro population was still five times as great as that for the whites.

From 1939 to 1941 the WPA supplied an average of 50 percent of the personnel working in the Bureau of Tuberculosis, although a sharp reduction in the number of WPA workers was made in the latter year. With the help of these additional staff members the bureau began X-raying the 60,000 students in the

city's vocational high schools. An incidental result of this project was the finding that tuberculosis was largely localized. While this was no startling discovery, it gave additional proof for the need to review tuberculosis-finding procedures. In the nine years prior to 1941 the department had X-rayed approximately 400,000 people, and it was clear that with the onset of World War II there was no chance of increasing the staff and facilities for this work. In consequence, in the fall of that year the bureau began a testing program in schools where the tuberculosis problem was most acute. To save X-ray film, a patch test was used as a screening device. At the same time the bureau undertook a study of the possible use of fluoroscopes instead of X-rays and sought to determine possible ways for reducing its supervision of susceptible individuals. Despite the gradual reduction in the incidence of tuberculosis, 8,459 new cases were uncovered during 1941.²⁶

The war necessarily limited the Health Department's budget and cut down on its staff, but the tuberculosis picture continued to improve. The death rate dropped from 49.4 per 100,000 in 1941 to 39.2 by 1947, a reduction brought about primarily through the decrease in deaths due to the pulmonary form. During this period a definite shift was noted in the incidence of the disorder among the different age groups. Whereas the new cases reported among persons over 45 years had been less than 35 percent in 1943, by 1947 they constituted over 40 percent of the newly reported cases.²⁷ As time went on, the disease increasingly became a complaint of the aged.

The Postwar Drive against TB

By 1948 the Health Department was recovering from the impact of the war, and the drive against tuberculosis was renewed. Massive X-ray surveys were made in all sections of the city, and the mandatory X-ray examination for school personnel was extended to include parochial schools. A special effort was made once again to integrate the antituberculosis activities of the departments of Health, Hospitals, and Education. Improved X-ray equipment was placed in operation during 1949, and the Health Department took a total of 474,055 films, an increase of almost 25 percent over the previous year. The year 1949 also saw the opening of the first

bacille Calmette-Guérin (BCG) vaccine clinic. These measures, aided by better forms of treatment, led to a marked improvement in both morbidity and mortality rates, but nothing comparable to the change brought about in 1952 by a major breakthrough in tuberculosis therapy. The discovery of isoniazid was announced in February, and the immediate use of this antimicrobial agent helped to prolong life and to make successful surgery possible for many advanced cases. The Bureau of Tuberculosis promptly began a study to determine if this new drug could be used in the public health control of the disease.²⁸

The following year a new drive against tuberculosis was planned by the departments of Health, Hospitals, and Welfare based upon treating noninstitutionalized patients with the new antituberculosis drugs. Large-scale use of these drugs began during the summer of 1953. Improvements in therapy had already been reducing the number of patients needing hospitalization, but the antimicrobials sharply accelerated this trend. In May 1954 the first indication of a decisive turn in the tuberculosis situation was made with the announcement that the city's Tuberculosis Sanitarium would close the following year. Under Dr. Baumgartner's administration another major effort was made to reduce further the incidence of tuberculosis. As told in Chapter 16, this drive involved communitywide X-ray screening, routine tuberculin testing of school children, and close attention to the respiratory ills of the older age group. By 1962 tuberculosis seemed to be gradually coming under control, when a sudden resurgence created some apprehensions. This rise, which may have been in part due to the emergence of a drug-resistant strain, was only temporary, and the incidence of the disease continued its slow decline.²⁹

Poliomyelitis

The two major epidemics of poliomyelitis in 1916 and 1931 and the pioneer testing of the Salk vaccine during the 1950s have already been recounted in earlier chapters. Polio, however, was a dramatic and fearful disorder which emerged and was virtually conquered within the lifetime of many individuals living today, and for this reason it deserves a brief summary. The first outbreak of the disease in New York City occurred in 1907. It was such an

unusual disorder and the Health Department was so unprepared for it that the city was unaware of the existence of the epidemic until it was over. Only after a number of individuals crippled with paralysis began seeking welfare were any efforts made to learn the cause. About 800 of these cases were traced back to 1907 and, on the basis of the known cases, the total number during the outbreak was estimated to have been about 2,000. In 1910 the *Times* reported that Dr. Simon Flexner of the Rockefeller Institute had successfully transmitted the virus of poliomyelitis to monkeys and had discovered that it was communicated through the mouth and nose. In an unwarranted burst of enthusiasm the *Times* editorialized: "With the discovery of the cause of infantile paralysis, of its peculiar processes, and of the method of treating it, the disease is all but conquered."³⁰

A few cases occurring in the fall of 1910 led the Board of Health in November to make polio a reportable disease. The next attack, and the first major epidemic to strike the city, began in June 1916. It involved 9,000 cases and brought death to almost 2,500 New Yorkers. The details of this outbreak have been given in Chapter 11, but some mention should be made of the aftercare. The Health Department appropriated some funds for this purpose, but the care of those patients with paralysis was left largely to charity. The Henry Street Settlement raised \$1,000,000 and assigned a good part of its staff to the task. Nonetheless, in analyzing the subsequent effects of the outbreak, the Public Health Committee of the Academy of Medicine declared that the facilities for the aftercare of poliomyelitis victims were quite inadequate. After the savage attack in 1916, there was some apprehension that the disease would recur the following year, but fortunately the fears proved groundless.³¹

The disease returned to the city in 1920 when 269 cases of acute anterior poliomyelitis were reported, and it continued to strike sporadically for the next three years. The most prominent victim during this period was Franklin Delano Roosevelt who fell sick in August 1921. During the first eight months of 1923 some 440 cases were recorded, after which the disease subsided. The statistics for these early polio attacks are all suspect; Health Commissioner Copeland and other medical leaders all agreed that many cases went unreported. In contrast to the optimistic statements ex-

pressed following previous outbreaks, Dr. Louis Harris, head of the Bureau of Preventable Diseases, pointed out that virtually nothing was known about the cause or type of infection. The next epidemics, minor ones involving less than 600 cases, developed in 1927 and 1928 and were a prelude to the second major attack in the summer of 1931. While not as bad as its predecessor in 1916, this one was responsible for 4,138 cases and 504 deaths.³² The disease flared up again in 1933 and 1935, when 831 and 2,054 cases were recorded, and then ceased to be a problem until 1944. In this year the disease again reached an epidemic level, with 1,890 cases and 102 deaths. Two years later it flared up once more, bringing death to 37 of the 716 cases. A sharp rise in the number of reported cases early in July 1949 led the Health Department to create a special Division of Poliomyelitis, a well-advised step since the disease quickly assumed epidemic proportions. Before it subsided in the fall there had been 2,446 cases and 189 deaths.³³

By this date the cumulative experience with polio and its sequela had made the Health Department far better prepared to deal with the paralytic cases. As soon as the epidemic started, the department began distributing information and instructions to private physicians, hospitals, and all individuals or agencies involved with polio patients. Procedures for interagency referral were clarified and careful supervision was maintained of all patients for many months after the onset of their disease. Of the 2,446 cases on record, 1,501 or 61 percent showed paralytic symptoms. The case fatality rate amounted to 7.3 percent, the highest on record except for the 1916 outbreak, when many milder cases went unrecorded. The high death rate during this epidemic was no fault of the Health Department. With the onset of the epidemic, a scientific advisory group was appointed to coordinate all relief efforts. This committee provided hospital beds for the seriously ill, arranged for a daily report to the health commissioner and other interested personnel, established criteria for diagnosis, and decided to give the outbreak full publicity. With respect to the latter, the department was fortunate in having a first-rate public relations officer in the person of Karl Pretshold, who managed to provide full information without causing any undue alarm.³⁴

The following year, 1950, saw polio reappearing but on a

much reduced scale. Altogether there were 1,064 cases and 71 deaths. This proved the last time that the number of cases exceeded 1,000 in a single year. For the next five years, 1951 to 1955, the annual cases ranged from 555 to 844 and the deaths from 21 to 50. As stated in Chapter 16, under Dr. Baumgartner's administration the testing of Salk vaccine began in 1954 and the vaccine was administered on a large scale beginning in 1955. The results were both immediate and dramatic. The total cases in 1956 fell to 149 and for the next four years averaged slightly over 100. In 1960 some 92 cases were recorded, the last year to see an appreciable number. In the four years from 1961 to 1964 only 12 cases were reported, and this figure dropped to zero for 1965 and 1966.³⁵ Thus in the 60 years from 1907 to 1966, poliomyelitis had started out as a practically unknown disease, had gradually become one of major concern, and then had been virtually eliminated within a decade through advances in virology.

Influenzas and Pneumonias

Prior to the great influenza pandemic of 1918, neither the various forms of pneumonia nor those of influenza aroused much public attention. They were familiar disorders, feared and respected but looked upon as part of the normal course of events. Pneumonia to many laymen was "the old man's friend," a disease which brought an easy death, rapid and relatively painless. Despite this casual acceptance of pneumonia, it was always a leading cause of death. In the Health Department's list of deaths from "Zymotic and Certain Other Preventable Diseases" during 1896, pneumonia outranked all others, even exceeding phthisis (pulmonary tuberculosis). Yet neither pneumonia nor influenza were classified as reportable diseases in New York City until late in 1918, and one must turn to the mortality statistics for evidence about them. Even in these figures some confusion exists since the Third Decennial Revision of the International List of Causes of Deaths changed the method for reporting deaths from influenza and lobar pneumonia. Prior to 1921, deaths certified as influenza and lobar pneumonia were classified under pneumonia. With the events of 1918-19 still fresh in mind, the commission decided to place these deaths under the heading of influenza.³⁶

A study by the Metropolitan Life Insurance Company from 1911 to 1935 showed that among its policyholders the joint listing of influenza and pneumonia ranked as the third leading cause of death. In 1911 it was outranked only by tuberculosis and heart disease and in 1935 only by heart disease and cancer. The two associated respiratory infections were a leading cause of death among all age groups, ranking first or second in childhood ages and never falling below fifth place in any period of life. In addition to those fatalities directly attributed to them, influenza and pneumonia separately were listed as contributory factors in many other deaths. The Metropolitan study also showed that the death rate among Negroes was exactly twice as high as that for whites, a fact which may be explained in part by differences in economic circumstances.³⁷

During this 25-year period, the mortality curve for influenza and pneumonia showed three distinct phases. The first, covering the years 1911 to 1917, exhibited no particular trend; the second, 1918-21, saw an abrupt rise in 1918 with a gradual tapering off until 1921; the final phase resembled the first, with no definite trend but with a slightly lower annual rate as the period wore on. While the discoveries of Koch had brought tuberculosis sharply into focus and led to a series of campaigns to wipe out the "white plague," the pneumococci were looked upon more as the sequelae than as direct communicable disorders, and the influenza viruses, while recognized as communicable, defied all attempts to bring them under control during the first half of the twentieth century. For these reasons, health departments generally took only a limited interest in the two diseases. Under Dr. Biggs the New York City Health Department's bacteriological laboratory began trying to develop serums against pneumonia as early as 1896, but progress was slow. In 1907 the Board of Health secured \$10,000 to appoint a Commission for Investigating Acute Respiratory Diseases. In discussing the work of this commission, whose membership included men such as Drs. William H. Welch, William Osler, and Frank Billings, Dr. Biggs stated that although the general death rate had decreased by 25 percent during the previous 25 years, deaths from acute respiratory diseases had increased by 10 to 15 percent.³⁸ Despite these tentative steps, the Health Department was too preoccupied with tuberculosis, typhoid, and

other more manageable disorders to pay more than cursory attention to influenza and pneumonia until the great epidemic of 1918-19.

The impact of the influenza pandemic at the end of World War I upon New York City has already been covered in Chapter 12 and little more needs to be said. The disease was recognized as epidemic around the middle of September 1918, and almost immediately influenza and pneumonia were declared reportable disorders. Shortly thereafter the Health Department issued a statement claiming that the "disease called by the popular name 'Spanish Flu' is a peculiar form of pneumonia of the epidemic type." As the cases mounted, however, it became obvious that the disorder was influenza but a form which involved frequent pneumonic complications. As soon as the nature of the epidemic was recognized, the department's laboratory under Dr. Park began working on a vaccine, and in the middle of October announced the discovery of one which held promise as both a cure and a preventive. These hopes proved unfounded, and the laboratory continued its work. The following August Dr. Park conceded that the microorganism causing the epidemic had still not been identified. During the following winter, when flu and pneumonia had again reached epidemic stage, Health Commissioner Copeland officially admitted that the vaccines were useless against the flu, but he reported that Dr. Park had developed a pneumonia vaccine which appeared to be a fairly effective preventive.³⁹

In 1922 the Public Health Committee of the New York Academy of Medicine made a study of the pneumonia vaccines and concluded that they were of some value against three types of lobar pneumonia. While the vaccines provided protection for only a limited period, the committee felt that their use was indicated for those persons exposed to pneumonia. It warned, however, that these vaccines were still experimental and declared that many of the preparations on the market were of doubtful value.

It is well to bear in mind that the treatment for pneumonia in the 1920s was a far cry from that offered today. This was still the day when keeping a patient's bowels open with calomel or a comparable drug was basic to any treatment, and a digitalis preparation was thought necessary to strengthen the heart muscle. Chloral, bromides, whiskey or brandy, and oxygen were among

the other therapeutics in common use. In March 1923 the Board of Purchase for New York requested bids on 100 gallons of rye whiskey for use at Bellevue and Allied Hospitals as a stimulant for influenza and pneumonia patients. In the later 1920s chlorine gas was highly touted as a preventive and cure for respiratory ailments. When a flu epidemic was predicted in the winter of 1926, the *Times* urged this treatment in an editorial headed: "Turn On Chlorine at Once."⁴⁰

During these years the department's laboratory was gradually making headway in identifying various forms of pneumococci. Largely through the work of Georgia Cooper, one of the department's bacteriologists, many specific types of Group IV pneumococci, the so-called wastepaper basket category, were identified, thus making it possible to make an accurate diagnosis and to prescribe a specific serum. In 1930 Dr. Wynne reported that 20 strains of pneumococci had been discovered and that serums were available for nearly all of them.⁴¹

These developments marked the beginning of a new era for pneumonia. Up to 1933-34, except for the influenza years 1918-21, there had been little change in the annual number of cases and deaths from pneumonia. By the 1930s improved diagnostic techniques and new and improved serums began making inroads into the pneumonia problem. During 1931 some 21,116 cases of pneumonia and 9,245 deaths were reported. By 1937 these figures were reduced to 16,393 cases and 6,504 deaths. A more significant breakthrough came in April 1939 with the introduction of sulfa-pyridine and the other sulfonamide compounds. The result of these new chemotherapeutics was dramatic. Whereas the city's death rate for pneumonia had been 57.1 per 100,000 in 1939, by 1940 it was reduced to 45.7, almost a 20 percent decline. The gains in the fight against pneumonia are revealed even more sharply by comparing the city's death rate of 131.4 in 1931 with the figure of 45.7 for 1940.⁴² The sulfonamides dropped the number of reported cases from around 17,000 per year in 1939 to 7,663 in 1943. This latter year witnessed the second major breakthrough, the introduction of penicillin, an event which marked the opening of the antibiotic era. Within five years the annual number of cases fell to 2,563, and by 1954 to 1,294.⁴³

The advent of sulfa drugs and antibiotics drastically reduced

both the incidence and the fatality rate of pneumonia, but this disorder, in conjunction with the periodic outbreaks of influenza, still remains a significant cause of death. Influenza never again appeared in the United States on so vast a scale as it had from 1918 to 1921, but recurrent milder outbreaks have periodically exacted their toll. The precise toll is difficult to ascertain since so frequently influenza victims sicken or die from supervening infections. Despite the success of antibiotics with pneumonia and the introduction of relatively effective vaccines for certain strains of influenza, during the periodic influenza epidemics the joint classification of influenza and pneumonia continues to appear among the leading causes of death. In 1960 and again in 1966 this category was in fourth rank in New York City and accounted for 4.2 and 4.1 percent of the total deaths respectively.⁴⁴

Diphtheria, Scarlet Fever, Whooping Cough and Measles

Although the first laboratory success in the battle against disease was the production of an antitoxin against diphtheria, this disorder continued to prey upon New York children well into the twentieth century. From 1900 to 1921 the annual number of cases ranged from about 13,000 to 17,000. In 1922 this figure dropped to 10,427 and then averaged about 9,500 until 1930. Although the first 20 years of the century saw little reduction in the incidence of diphtheria, there was a decided improvement in therapy and a corresponding lowering of the case fatality rate. In 1913 the Health Department announced it was discontinuing the free administration of diphtheria antitoxin on the grounds that it was no longer necessary. In explanation it noted that the death rate in Manhattan had fallen from 15.9 per 10,000 in 1894 to 2.2 in 1912. In the same period the case fatality rate had fallen from 29 percent to less than 9.⁴⁵

Despite the remarkable gains in therapy, it was not until the advent in 1920 of the Schick test, a relatively simple way to measure immunity, that the Health Department was able to make effective use of the existing vaccine for preventing the disease. In March 1920 Dr. William Park announced that the Schick test would be given to children in 100 of the city schools. This Schick program was gradually expanded within the next three years and

led to a sharp diminution in the number of cases. From over 15,000 in 1921, the total fell below 10,000 by 1923. The success of the combined Schick test and vaccination program led Dr. Park to proclaim in 1924 that diphtheria and scarlet fever had been conquered and would soon be eliminated.⁴⁶

In 1926 the number of cases fell to 7,531, an all-time low, but hopes that the disease would soon be conquered proved illusory. Diphtheria flared up again during 1927 and 1928, striking particularly in the Bellevue-Yorkville area. Some 13,507 cases were recorded in 1927 and another 10,776 in 1928. The Health Department, in conjunction with the Metropolitan Life Insurance Company, had been concentrating upon the Bellevue-Yorkville area since 1925, but apparently with only limited success. The upsurge in diphtheria cases throughout the city in 1927-28 led to the appointment of a special Diphtheria Prevention Commission early in 1929. This commission represented a broad range of lay and professional groups. It included 50 leading citizens, 9 distinguished pediatricians and representatives of the medical societies, 32 newspaper editors, 21 representatives of social and welfare organizations, and 179 prominent foreign-born citizens. For purely medical questions, the commission relied on the advice of its technical consultation board which was headed by Dr. Bela Schick and included all medical members of the commission. With money donated by the Metropolitan Life Insurance Company and the Milbank Memorial Fund, the commission, working closely with the Health Department, began a massive drive to vaccinate every child in New York City. All possible means of communication were used to educate parents and vaccination was made available to all who needed it. By the end of the year 292,000 children had been immunized, and the city's diphtheria death rate reduced from 9.54 to 6.75 per 100,000 population.⁴⁷

The large-scale campaign by the Diphtheria Commission proved the turning point in the fight to eliminate the disease. Whereas 1928 had seen 10,776 cases and 642 deaths, by 1936 there were only 1,124 cases and 35 deaths. Four years later the figures were reduced to 386 cases and only 10 deaths. The two decisive factors in the conquest of diphtheria in New York City had been the introduction of the Schick test and the work of the Diphtheria

Commission of 1929. Their impact can best be seen by glancing at the city's diphtheria death rates. From 1910 to 1919 the rate averaged 86.4 per 100,000 population under 15 years. With the advent of the Schick test in the early 1920s, the rate for 1920-29 fell to 42.2. At the end of this period the Diphtheria Prevention Commission swung into action, and its efforts, combined with those of the Health Department, reduced the rate to 6.1 for the years 1930-39. The next ten years saw the rate fall to 0.6 and in 1950 there were only two deaths for a mortality rate of 0.1.⁴⁸ The succeeding years saw only a handful of cases, for by the second half of the twentieth century diphtheria had virtually ceased to exist.

Scarlet fever was not nearly as serious a childhood disease as diphtheria, but until well into the twentieth century it could not be taken lightly. During the first decade almost 13,000 cases a year were reported, and the average annual deaths from it amounted to 803. During the next ten years, 1910-19, the number of cases fell to about 10,000, and the deaths were virtually cut in half, falling to an annual rate of 409. For the next 20 years, 1920-39, the number of cases remained relatively unchanged, continuing at an annual rate of about 10,000. Greatly improved therapy, however, cut the death rate to 140 for 1920-29 and to 59 from 1930 to 1939. As the nature of the disease and its means of transmission were better understood, the Health Department was able to deal with it at a much reduced cost. Fumigation of the premises for scarlet fever and other communicable disorders was stopped in 1914, thus relieving the Health Department of a fairly expensive procedure. Twenty years later, in 1934, the quarantine period for scarlet fever was reduced from 30 to 21 days, freeing a great many hospital beds and simplifying the department's supervision of home cases.⁴⁹

The same advances in immunology, chemotherapy, and antibiotics which had contributed to the elimination of so many communicable disorders during the 1930s and 1940s were equally successful with scarlet fever. Although its incidence remained fairly high through to World War II, the case fatality rate was drastically reduced. For example, with 7,206 reported cases in 1941, the case fatality rate was only 0.1. Ten years later the de-

partment recorded 2,145 cases without a single fatality.⁵⁰ Thus scarlet fever, like diphtheria, was virtually eliminated as the city moved into the second half of the nineteenth century.

Of the four diseases discussed in this section, whooping cough was the least dangerous. Unlike the others which showed a relatively high incidence during the first two decades and then declined, the incidence of whooping cough rose steadily from 1900 and reached a peak in the 1930s. In the first decade the annual number of cases averaged 1,335, rose sharply to over 4,000 in the following ten-year period, and continued to rise more slowly until 1930-39 when the average yearly figure amounted to 7,095. It is likely, however, that a good part of this increase can be credited to better diagnoses and reporting. From this peak period, the annual number of cases fell to 4,538 during the 1940s and then dropped below 2,000 beginning with 1950. Although the incidence kept rising, the number of deaths from whooping cough remained relatively stable for the first 20 years of the century, and then during the 1920s fell by about 16 percent.⁵¹

Two interesting developments in connection with whooping cough are recorded in the 1920s. The *Times* reported in 1923 that X-rays had been found to be efficacious in relieving the symptoms of the disorder. Although this novel idea quickly disappeared from the medical and public view, the following year chlorine gas was suggested as a possible therapeutic. The Health Department responded in August by announcing that the Willard Parker Hospital (the city's communicable disease institution) would begin treating its patients with the gas. Shortly thereafter Health Commissioner Monaghan reported that the use of chlorine gas had proved of no benefit to whooping cough patients and that he doubted whether it was of value in any respiratory disease.⁵²

In the decade of the 1930s, when the number of cases reached its peak, the annual number of deaths from whooping cough fell by almost two-thirds, from 313 to 111. An even greater relative decrease occurred during the 1940s when the yearly death toll averaged only 31. In 1950, the year which marked the conquest of several childhood disorders, only one death was attributed to whooping cough.

The most prevalent of the four disorders under discussion was measles, a disease looked upon by most laymen as a mild and

innocuous childhood complaint. Despite this public attitude, measles was well ahead of both scarlet fever and whooping cough as a cause of childhood deaths during the first 30 years of the twentieth century. From 1900 to 1944 the yearly cases averaged close to 25,000. During this period the case fatality rate and the actual number of deaths slowly declined until 1930 when it dropped off sharply. For the first ten years of the century the annual number of deaths averaged 774, fell to 599 from 1910-19, and then averaged 388 for the next ten. The biggest decrease came in the 1930s when the annual figure fell to 84, and from there it tumbled to 13 per year during the 1940s.

While the death rate was steadily declining due to better medical care, the number of cases continued to show wide annual variations. For example, 21,990 cases were reported in 1950, 9,647 in 1951, and during the first ten months of 1952, which was classified as a measles year, a new high was set with 34,412 cases. Significantly only 18 deaths resulted from this major outbreak. In reporting these figures for 1952, the Health Department added that for the first time in its history there had been no deaths from whooping cough, and that this was the third consecutive year in which there had been no fatalities ascribed to scarlet fever.⁵³

While the deaths from measles had been reduced to a negligible figure by the 1950s, it was not until the following decade that new vaccines opened the way to eliminating the disease through mass immunization. At the end of 1966 Health Commissioner Brown declared that the success of the measles immunization program up to that time indicated that another five years would see the disease eradicated from New York.⁵⁴

Smallpox

Smallpox had been a dramatic and feared killer disease during the eighteenth century, but the discovery of vaccination had made it possible to relegate it to a minor role. In the early nineteenth century, as a generation arose which had forgotten the horrors of earlier smallpox epidemics, its incidence slowly began rising throughout the Western world. In New York City large-scale vaccination programs aimed primarily at school children managed to halt the ravages of smallpox by the end of the century,

but the constant influx of immigrants and other newcomers from rural areas provided a perennial pool of nonimmunes. Hence the introduction of one or two cases always created the danger of an epidemic. In November 1900 a band of strolling actors brought the disorder into the city, an event which led to the last serious epidemic. Approximately 100 cases were reported in November and December, and in the ensuing months the cases and fatalities rose steadily. In August 1901 Dr. A. N. Bell of *The Sanitarian* criticized the Health Department for allowing the outbreak to make such "disgraceful headway." He asserted that over 900 cases had been reported in Manhattan alone and that there had been 1,521 cases and 220 deaths in Brooklyn since the beginning of the epidemic. The Health Department slowly mobilized its forces and began vaccinating on a large scale. Nonetheless, by the time the year ended there had been 398 smallpox deaths, and the disease was still widespread in the city.⁵⁵

By March 1902 the Health Department had 155 vaccinators at work immunizing about 10,000 individuals a day and had opened five additional vaccinating centers. Bellevue and other municipal hospitals were requiring all entering patients to undergo vaccination unless their condition did not permit it. In the course of the year the department vaccinated 810,000 persons, more than twice the number for any previous year. This major effort brought the outbreak under control, but not before another 309 smallpox victims had died. Although frequent smallpox scares continued to worry both the public and the Health Department, the disease never again reached an epidemic stage in the city. It is worth noting that 40 percent of the smallpox patients treated in the city hospitals during this last epidemic came from incoming vessels or had arrived in the city by other means of transportation.⁵⁶

The most effective weapon against smallpox in the following years was a consistent policy of vaccinating all school children. The success of this practice was demonstrated in March 1914 when a visitor from Florida introduced the disease into the city. In the flurry of activity which followed, Health Commissioner Goldwater assured the public that almost the entire school population had already been immunized; the potential danger areas lay among the adults and preschool groups. Minor smallpox scares occurred in 1916 and in 1920, and a more serious one in

1925. In late April and early May of this latter year six cases were discovered in the city. The Health Department promptly began a vaccination drive, aided by a special appropriation of \$80,000 from the Board of Estimate, and the disease was kept under control. Several cases in a Negro section of Brooklyn in 1927 were also held in check by a quick vaccination of all those exposed to the disease. The outbreak of World War II led to a renewed vaccination drive in 1942 as a safety measure.⁵⁷ The last smallpox scare to result in a mass vaccination program came in 1947 and has been discussed in Chapter 15.

Although public apathy was the greatest hindrance to the Health Department's attempts to eliminate smallpox, like other American cities, New York had a fairly strong antivaccination movement. The *New York Medical Journal*, an offbeat publication, waged a constant battle against vaccination in general and compulsory vaccination in particular. It reported in September 1901 that a Wisconsin physician was founding a school to teach that smallpox contagion did not exist, that quarantine was wrong, and that vaccination was a crime. A few months later the editor declared of compulsory vaccination: "No English-speaking people—indeed, no people not ground under the heel of a despot—will long submit to the operation of a law which, however beneficent the results at which it aims, restricts individual liberty. . . ." In 1914 the antivaccinationists accused the city hospitals of giving dangerous diseases to children through vaccination, and the treasurer of the Anti-Vaccination League of America publicly warned parents against vaccination through compulsion "or through any false panic created by medical individuals or societies professionally interested in vaccination."⁵⁸

As if these troubles were not enough, earlier the Health Department had discovered an extensive traffic in worthless vaccination certificates. Many immigrants and newcomers from rural areas were afraid of vaccination, and unscrupulous physicians were selling certificates to enable children to meet the school and Health Department requirements.⁵⁹ Fortunately, the department's troubles with antivaccinationists and the false vaccination certificates were all on a minor scale; they created a few problems but they did not prevent the department from keeping smallpox well under control after 1902.

Typhoid Fever

The problem of correct diagnosis is always present in dealing historically with specific diseases, and it holds particularly true for typhoid. At the turn of the nineteenth century the term "typho-malaria" was still in common use, and deaths reported as such were usually classified under malaria. Even without these possible cases, typhoid was a major threat to New York at least until the World War I period. During the first ten years of the consolidated city administration, 1898 to 1907, some 635 New Yorkers died annually from this cause. Although there was only a slight diminution in the number of cases during the next ten years, the annual death toll fell to 417, in all probability the result of improved antitoxins. In 1916 the number of cases dropped below 2,000 for the first time in the twentieth century, falling from 2,455 in 1915 to 1,617 in 1916. During World War I typhoid vaccination was applied on a wide scale in the American army, and its success encouraged the more general use of this typhoid preventive. By 1919 the number of cases in New York City was below 1,000, and the deaths fell to a low of 121.⁶⁰

From 1920 to 1929 the annual cases fell to an average of 958 and the deaths to 126, a considerable improvement over the immediate pre-World War I years when the deaths alone were averaging about 417 per year. During this decade the disease flared up in 1924-25 when over 3,100 cases were reported. The two major sources of infection were Palisades Interstate Park, where a polluted water supply was discovered, and oysters from the polluted New York waters. By 1926 the cases were reduced to a little over 900 and from here the total fell to an average of around 600 for the next seven years. In 1934 some 378 cases were reported, and in the following years the figure dwindled to a negligible level. For example, there were only 36 cases in 1954, most of which originated out of town.⁶¹

In looking back over the annual figures for typhoid, one can see a fairly sharp rise from 1900 to 1907, a period when the reported cases rose from 2,658 to 4,426. Without doubt a major factor in this increase was better reporting by private physicians who were under pressure from the Health Department. Improved methods of diagnosis may also have contributed to the rise in the number of reported cases.⁶²

In 1902 the department made a study of former typhoid patients and discovered that 1 or 2 percent of them were passing typhoid bacilli. By 1907 it became clear that healthy individuals could carry the disease. The first typhoid carrier identified by the Health Department was Mary Mallon, better known as "Typhoid Mary." A brief account of her relations with the Health Department has been given in Chapter 14. Suffice it to say that she proved extremely uncooperative and thereby confronted the department with an important moral question: Did the city have the right to deprive her of her freedom for her entire life? To say she was uncooperative is a masterpiece of understatement; when Dr. Josephine Baker was asked to secure a specimen from Mary Mallon, it took five policemen to get her under control. She consistently refused all medical treatment, and every time she was released she returned to her former work as a cook.⁶³

Recognizing that typhoid carriers represented a special case, in 1908 Dr. Park argued that the best hope to eliminate typhoid was through safeguarding the food and water supply. Dr. Park was essentially correct since most of the outbreaks up to World War I were traced to either the water or the milk supply. These periodic epidemics had a silver lining in that they provided an impetus to the Health Department's drive for improved milk inspection and a water filtration system. As these sources of infection were eliminated, the department became aware that many cases resulted from careless contacts with typhoid patients. The Central Council of Public Health for the City of New York in 1914 blamed this situation upon the many physicians who failed to report the disease and upon those physicians and patients who refused to treat it as a contagious disorder. As indicated earlier, in 1919 a combined attack upon all possible sources of typhoid plus the wider use of vaccination brought a sharp reduction in both morbidity and mortality.⁶⁴

Following World War I the Health Department had the water and milk situation fairly well under control, and the outbreaks were often traced to individuals who had contracted the disorder outside the city. In addition, typhoid carriers remained a continuing source of infection. In 1923 Health Commissioner Copeland had fly sheets circulated bearing the picture of one Tony Labella, a known typhoid fever carrier who had escaped from

supervision. The New York Academy of Medicine's Committee on Public Health investigated the carrier situation after an epidemic in one of the hospitals was traced to a kitchen employee. The committee found that many hospitals were making no effort to give physical examinations to their food handlers or other personnel. It also took up the question of the supervision of food handlers generally. The Health Department originally had been responsible for giving physical examinations, but the work had gradually been taken over by private physicians. The committee discovered that the majority of these physicians issued certificates after only the most perfunctory check.⁶⁵ As a result of the committee's recommendations, there was a general tightening of the provision in the Sanitary Code requiring physical examination certificates for all food handlers. By this date, too, the Health Department was more successful in securing the cooperation of typhoid carriers. In part this represented a better public awareness of the germ theory, but it also resulted from more effective measures for supervising typhoid cases and for following up all contacts. As of 1938 the department was keeping close supervision over 374 typhoid carriers. The steady decline in cases during these years also saw a corresponding reduction in deaths. In 1940 only 12 deaths were attributed to typhoid and paratyphoid fevers, and in 1947 only 2 deaths were recorded.⁶⁶ By 1950 typhoid, like many other malignant fevers of earlier days, was becoming a rarity in New York City.

Asiatic Cholera, Bubonic Plague, and Typhus Fever

Three disorders, none of which caused any real damage to the health of New Yorkers, received considerable attention from the press and the Health Department. Cholera had been a serious threat during much of the nineteenth century and still commanded considerable respect as late as World War I. For example, an outbreak in Russia during 1908 led to a strict enforcement of the New York quarantine regulations. Two years later, however, when three suspected cases were held in quarantine during 1910, the *Times* cheerfully commented upon the lack of panic, upon the way in which no effort was made to hide the possible existence of the disorder, and expressed confidence in the ability of Health

Officer Alvah H. Doty to keep the disease out of the city.⁶⁷ A new generation had appeared by this date, one which recognized that cholera was a disease of the past in the Western world, and so the disorder soon disappeared from public view.

Bubonic plague was even less of a problem than cholera. Some mention of it as a potential danger occurs around 1900, and these fears were revived again in 1920 when widespread outbreaks of typhus and other plagues threatened to spread to western Europe and America. Dr. Victor G. Heiser of the Rockefeller Foundation assured New Yorkers that there was no real danger of bubonic plague, but he coupled his assurance with an appeal for a systematic campaign to exterminate rats.⁶⁸

Of the three, typhus fever was probably the most serious threat, although no outbreak ever materialized. At the turn of the century and through World War I typhus was fairly widespread in eastern Europe, the area which was supplying the major share of immigrants to the United States. Moreover, in the crowded and dirty tenement sections of New York City head and body lice were quite common and rats were a major problem. Fortunately the quarantine procedures were relatively effective, and although cases were frequently reported by the health officer of the port, the disease was restricted to the Quarantine Hospital on Swinburne Island. Some 19 cases were reported in the spring of 1914, all of which, according to the health officer, had "developed among the soldiers returning from the Balkan wars." Expressing the general confidence in the quarantine system, the *Herald* carried an editorial headed "The Passing of a Plague," in which it was noted that although typhus was rife in Mexico, not a single case had occurred in the United States.⁶⁹

The *Herald* was essentially correct in dismissing typhus, but this did not prevent a major typhus scare immediately after World War I when the disease was scourging eastern Europe. Beginning in 1920 the newspapers, the City Health Department, and the surgeon general of the United States all began warning of a possible typhus epidemic. As cases were discovered on incoming vessels and the public became more apprehensive, the federal immigration officials were accused of incompetence and negligence. The *Times* warned that unless President Wilson placed an embargo upon infected ports it would be necessary to place all immigrants in

concentration camps. Responding to the rising fear, the State Legislature appropriated \$40,000 to build a delousing plant on Hoffman Island during the summer of 1921 which was capable of processing 75 to 100 immigrants an hour. At the end of 1921 the Public Health Committee of the NYAM reported that despite all alarms, warnings, and newspaper publicity about typhus, no imminent danger of an outbreak existed. As a precaution, it recommended that all immigrants from typhus-ridden countries be disinfected and that this procedure be done at ports of embarkation as well as at ports of arrival. The committee also stressed the need to eliminate pediculosis, a condition affecting "a considerable portion of the city population. . . ." It noted, too, that every year the school inspectors "find over 200,000 New York children infested with lice."⁷⁰

The Public Health Committee's assurance did not immediately allay the public's fears for they carried over for another year. In March 1922 the health commissioner and postmaster announced they were taking precautions to insure that typhus was not introduced into the city through foreign mail. This step was taken after Berlin postal employees claimed that the disease had been acquired through handling mail from infected areas.⁷¹ As with cholera and bubonic plague, typhus remained a threat rather than a public health problem, and as the 1920s advanced, even the threat faded away.

Meningitis

Among the many possible sequelae of the great influenza epidemic of 1918-19 may have been the outbreaks of encephalitis lethargica, or sleeping sickness, which apparently began in the fall of 1918. Although it is a reasonable assumption that the disease had existed earlier, the Health Department stated that the first reports of sleeping sickness began to filter in during October 1918, and that the disorder seemed to occur "as an aftermath to the successive visitations of influenza and pneumonia." During 1919 a total of 167 cases and 43 deaths were recorded. Since encephalitis lethargica was not a reportable disease, the department felt that the 167 cases represented only a fraction of the actual number. The following winter of 1919-20 the disease again reached a minor epidemic stage, leading the NYAM's Public Health Committee to

look into it. The committee contacted 30 leading hospitals in March 1920 and discovered that they had admitted 213 cases during the two previous months. The committee subsequently recommended that reporting the disease be mandatory, but it was not until January 1921, after a total of 654 cases had been reported the previous year, that the Board of Health acted on this recommendation.⁷²

The disease flared up again in February and March 1921 and continued to strike every year during the late winter months. The peak year was 1923 when a total of 923 cases were recorded. By 1926 the number of cases began to show an appreciable decline, as the following figures indicate: for 1926, 297 cases; 1927, 232 cases; 1928, 193 cases. Although the incidence of the disease lessened, the case fatality rate continued high, explaining why the disease caused such grave apprehensions. For 1926–27 the case fatality rate averaged close to 65 percent. Fortunately, since the disease was so deadly, the annual number of cases fell to 100 in 1930 and then remained well below this figure for almost 20 years. The incidence began rising in 1950, reached a peak of 311 cases in 1953, and then tapered off.⁷³ The advent of serum therapy, sulfonamides, and antibiotics in the 1940s greatly reduced the case fatality rate, and this development, combined with improved diagnostic techniques, brought sleeping sickness under reasonable control.

The history of cerebrospinal meningitis or meningococcus meningitis in the twentieth century bears a close resemblance to that of sleeping sickness, with the exception that the latter was not recognized until the end of World War I. Cerebrospinal meningitis had been listed as a consistent cause of death since the founding of the Health Department, and periodically it had flared up into epidemic form. For example, in 1896 it caused a total of 178 deaths in Manhattan alone. At the turn of the century the disease seemed of little consequence. Only 7 cases were recorded in 1900, and the annual total did not climb above 20 until 1904, when a minor outbreak resulted in 482 cases. A full-scale epidemic in 1905 led to 2,755 cases, and the disease continued to take a fairly heavy toll for the next two years, striking down 1,032 individuals in 1906 and 828 in 1907. Following these three years, the annual incidence dropped below 400, and averaged about 200 per year

for the next 20 years. A brief outburst in 1918 led to 477 cases, but the number dropped fairly steadily for the next few years. From 1923 to 1927 only about 150 cases were reported annually. The years 1928-29 witnessed the second major outbreak of meningitis. Some 1,102 cases were recorded in 1928 and another 1,000 in 1929. As with other meningitis years, the number of cases slowly tapered off over a period of two years, with 503 cases in 1930 and 392 in 1932. After falling for three more years, the annual cases jumped to over 500 in 1935 and 1936, dropped off to a low of 48 in 1940, and then reached epidemic stage in 1943 and 1944. These two years saw 1,406 and 1,104 cases respectively. The number declined for two years, and then held at a figure well below 200 a year.⁷⁴

During most of these years the case fatality rate for meningococcus meningitis remained quite high, ranging from around 40 to 70 percent. Although serum therapy had been introduced by 1920, the Health Department reported that the availability of a specific serum had brought no substantial reduction in the case fatality rate. In 1925 the NYAM's Public Health Committee commented upon the "baffling nature" of some of the communicable diseases of the central nervous system and reported that it had offered to collaborate with the Health Department in studying them. For the three years before the epidemic outburst in 1928-29, the case fatality rate ran in excess of 70 percent. The Bureau of Laboratories in its report for 1928 predicted that the disease would continue at a high rate in 1929 and added that a conservative method of treatment had produced the best results.⁷⁵

Apparently this conservative treatment had some success since the case fatality rate through the 1930s averaged around 50 percent, and in the two epidemic years of 1935-36 it was only 44 percent. In 1939 the Bureau of Preventable Diseases reported only 71 cases, the lowest number since 1870, but there was no reduction in the case fatality rate, which remained slightly over 50 percent. The 1940s, however, brought a major change through the introduction of sulfonamides and antibiotics. In 1942 some 76 patients suffering from H. influenza meningitis were treated with streptomycin and sulfadiazine with the result that only 3 of them died.⁷⁶ In addition to the new forms of therapy which sharply reduced the number of deaths, advances in bacteriology and

virology made it possible to differentiate more accurately among the many forms of acute central nervous system (CNS) infections. The improvement in diagnoses and better reporting makes it likely that the reduction in incidence of what was generally classified as cerebrospinal or meningococcus meningitis was probably greater than the Health Department's figures would indicate. In any event, the revolution in therapy during the past 30-odd years has relegated these disorders to an insignificant cause of morbidity or mortality.

Notes to Chapter 19

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3. Winslow, *Life of Hermann M. Biggs*, p. 187; Charles-Edward Amory Winslow, *Contributions of Hermann Biggs to Public Health* (New York, 1928), pp., 17-19; A.I.C.P., *Sixty-First Annual Report, 1904*, pp. 20-21.
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6. *Medical Record*, LXIX (1906), 107, 226; LXXIV (1908), 701-02; *N.Y. Med. Jnl.*, LXXXV (1907), 176; *Ordinances, Resolutions, Etc., Passed by the Board of Aldermen, 1908*, XI, pp. 504, 524; *Times*, April 12, 1908.
7. *McClure's Magazine*, XXIV (1904-05), 234-49; XXVII (1906-07), 104-12; *Herald*, September 27, 1908.
8. *Ann. Rep., Bd. of Health, 1908*, pp. 514, 517, 520, 523.
9. *Herald*, September 28, 1908; *Times*, February 25, September 23, 1909; April 20, 1910; April 1, 1912.
10. *Times*, July 28, 1911; March 21, 1912; A.I.C.P., *Sixty-Ninth Annual Report, 1912*, pp. 10-11, 89; *Seventy-Second Annual Report, 1915*, pp. 21-22.
11. Leona Baumgartner, "Urban Reservoirs of Tuberculosis," *The American Review of Tuberculosis and Pulmonary Diseases*, LXXIX (1959), 687-88; *Medical Record*, LXXVI (1909), 653.
12. *Times*, November 27, 1914; September 11, December 7, 1915.

13. *J.A.M.A.*, LXX (1918), 188-90.
14. *Ann. Rep., Bd. of Health, 1919*, pp. 58-60.
15. *Ibid.*, pp. 59-60, 62.
16. *Ibid.*, p. 63.
17. *Ibid.*, pp. 65-66.
18. *Times*, April 11, 1921; February 8, July 10, October 8, 1922; *Herald*, February 8, 1922.
19. *Ann. Rep., Bd. of Health, 1929*, p. 64.
20. *Times*, January 8, March 26, 1930; N.Y.A.M., *Report of Committee on Public Health Relations, 1930*, pp. 9-10.
21. *Ann. Rep., Bd. of Health, 1930-31*, p. 71.
22. *Ibid.*, 1929, pp. 69-70; "Summary of the Ann. Rep., Bd. of Health, 1932," p. 2; "1933," p. 2; "1934-36," p. 21; *Times*, May 28, October 3, 1930; *Sun*, April 18, 1934.
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24. *Ibid.*, p. 154.
25. *Ibid.*, p. 169; 1939, p. 171; *Times*, March 3, 9, 1937.
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43. *Ann. Rep., Bd. of Health*, 1954, pp. x-xi (appendix); "History of the Bureau of Laboratories," p. 12.
44. *Ann. Rep., Bd. of Health*, 1960, p. 31; 1966, p. 19.
45. *Ibid.*, 1954, pp. x-xi; *Times*, February 1, 1913.
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56. *Sanitarian*, XLVIII (1902), 245; *Ann. Rep., Bd. of Health*, 1902, pp. 8-9; 1903, p. 9.
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68. *Times*, August 10, 1920; *Sanitarian* XLV (1900), 68, 153-54.
69. *Times*, April 28, 1914; *Herald*, November 12, 1916.
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71. *Herald*, March 19, 1922; *Times*, March 19, 1922.
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73. *Herald*, February 8-17, 1921; *Times*, February 11-13, 16-25, March 10, 1921; February 6-7, March 7, 13-18, 1923; *Sun*, March 9, 1923; *Ann. Rep., Bd. of Health*, 1927, p. 35; 1928, p. 54; 1954, p. x.
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The Social Diseases

Drug abuse is not in itself a disease, but rather a manifestation of underlying psychologic or physiologic disorders about which we have little knowledge and no "cure" at present. ["Progress Report of an Ad Hoc Panel on Drug Abuse," The White House, Washington, D.C., September 27-28, 1962, New York City Health Department ms.]

Although the term "social diseases" during the twentieth century has acquired a sexual connotation, in this chapter it will include alcoholism and drug abuse. Precisely why this term came to be applied solely to venereal diseases is difficult to ascertain, particularly since few communicable diseases are devoid of social implications, but it may simply have been a nice euphemism for what was socially unmentionable. And the social taboo upon the subject was so great that for at least the first third of the century only liberal physicians and a few uninhibited spirits dared openly discuss it. Health departments, dependent upon the public for their budgets, did not venture into this subterranean area, for any public health official foolish enough to make the attempt would have brought down the entire moral wrath of the community upon his department. The word "moral" in the foregoing sentence is well chosen, since whatever the meaning of morality, then as now, immorality largely connoted unacceptable sexual activity. Venereal diseases were associated with loose immoral lives, and as such were assumed to be the wages of sin.

The fact that innocent wives, husbands, and children could acquire the diseases was overlooked almost completely. Under these circumstances, the New York City Health Department stayed discreetly out of the picture for the first few years of the century. Meanwhile the medical societies cautiously investigated and hesitantly suggested sex education, and the moralists concentrated their attack upon the social evil of prostitution.

The first individual to attempt to mobilize the medical profession against venereal disease was Dr. Prince A. Morrow, a well-

known dermatologist. In 1899 he attended at his own expense a meeting in Brussels on the public health aspects of venereal disease. Meanwhile, that same year, the New York Academy of Medicine discussed syphilis in a series of papers, largely from a medical standpoint. Two years later Morrow delivered a powerful address before the New York County Medical Society calling for sex education and medical treatment for venereal disease patients. Consequently the society appointed him chairman of a committee of seven, a group which included representatives from several civic organizations, to "investigate the evils of prostitution in the tenement houses from a physician's point of view." This committee sent letters to 750 of the city's physicians, who reported over 162,000 individuals suffering from venereal diseases. No immediate action was taken on the committee's report, but two years later the society's Committee on Hygiene recommended that instruction in sexual hygiene be given in the city's schools.¹

For several years nothing further was done, although a Committee of Fourteen was organized in 1905 "to suppress commercial prostitution." In 1907 a Dr. William T. Jenkins warned that at least 100,000 sailors with venereal disease visited New York annually, and he called for a public hospital to treat venereal disease cases. In commenting upon Jenkins' proposal, the editor of the *Medical Record* referred to "our deep-rooted Anglo-Saxon prejudice against . . . recognizing the existence of the results of sexual immorality. . . ." The editor's assumption that venereal disease was the result of sexual immorality is revealing in itself.²

To its credit, the New York Academy of Medicine in 1909 joined in the drive to bring venereal disease out into the open. Its Section on Public Health held a series of meetings in November and December and appointed a subcommittee "to consider the feasibility of doing something more active for the prevention of venereal disease." The subcommittee recommended that the Health Department compile statistics on the incidence of the diseases, that it provide laboratory facilities for diagnosing gonorrhoea, and that it furnish cards to physicians for the voluntary reporting of venereal disease cases. With respect to the latter recommendation, the subcommittee specified that the cards should not give the identity of the patient. The subcommittee's recom-

mendations were passed on to the Public Health Section and in March 1910 were accepted by the entire academy.³

This same year the State Legislature passed the Page Law which contained a paragraph requiring the medical inspection of convicted prostitutes. Dr. Maude Glasgow bitterly denounced the law in the *New York Medical Journal*. It was, she said, "discrimination against the woman of loose morals in favor of the man who has less." As an alternative, she suggested fingerprinting and examining the male customers of brothels, a practice which she felt would soon force them to close. A Dr. Frederic Bierhoff, who favored the law, noted in passing that only 400 of the city's 10,536 hospital beds were open to venereal disease cases, adding: "And this in a city of about five million inhabitants!" The Page Law remained in operation only briefly, for the courts soon ruled it unconstitutional.⁴

This agitation encouraged the Health Department to move into the area, but it took three years of discussion and the unanimous approval of its medical advisory board before any action resulted. As indicated in Chapter 11, on February 12, 1912, the Board of Health required full notification of all venereal disease cases from public institutions and ordered physicians to report the number of their private cases. Almost immediately cries of outrage were heard. Some of the hospital superintendents refused to comply, and a committee representing three of the city's largest hospitals complained to the mayor. Nonetheless, the department pushed ahead. A temporary venereal disease diagnostic clinic was established in the research laboratory at the foot of 16th Street in July, and on January 1, 1913, it was transferred to the main office of the Health Department. The department had sought to establish a clinic to treat patients with Salvarsan, but this was not feasible because of pressure from the medical societies. The Academy of Medicine based its opposition to the establishment of a clinic for treatment purposes on the grounds that the existing dispensaries were, or could be, made suitable.⁵

In 1913 a private organization, the Bureau of Social Research, gave \$10,000 to the Health Department to promote a venereal disease program. With this money, a Division of Venereal and Veterinary Diseases was established, and laboratory workers, med-

ical inspectors, clerks, and a medical advisor were employed. A circular was issued, and a notice in the newspapers announced that free advice could be obtained at the Health Department. The following year the division was reorganized, veterinary functions were removed, and a regular budgetary appropriation allocated to it. By this time the AICP had also begun investigating the situation through its Bureau of Public Health and Hygiene. The bureau examined 26 of the city's clinics and found they kept virtually no records on venereal disease patients. In four clinics which did maintain records, the bureau discovered that only 8 percent of patients treated for gonorrhea were discharged cured.

As a result of the AICP study, the NYAM's Public Health Committee moved into the picture and recommended the standardization of the city's venereal disease clinics. In consequence, in December 1917 the Sanitary Code was amended to give the Health Department authority to force these clinics to meet certain minimum standards. Having the authority and being able to exercise it are two different things, a fact well known to all public health workers. Medical institutions, like medical associations, have always bitterly resented any interference by health departments, and in 1919 Dr. Louis I. Harris reported that less than a dozen of the city's 80 clinics had complied with the new regulations.⁶

Meanwhile, in April 1918 the Whitney Law was passed which provided that convicted prostitutes must submit to physical examinations and those with infectious venereal diseases were to be forcibly detained for treatment. To provide for these patients, a venereal disease service was established in the Riverside Hospital. The opening of this center was attended by considerable confusion; the war had led to shortages of medical personnel, and the patients were anything but refined, delicate, and docile creatures. It became necessary to maintain police officers at all times, but within a short period the service was operating reasonably well. The basic weakness of the whole program was that the patients could only be detained for the length of their prison sentence, which was rarely long enough to give them adequate treatment. In addition, those discharged from the hospital as cured were usually without funds, so that they had no alternative but to return to their former profession. Recognizing this, the Health Department suggested that some effort be made to provide these

women with vocational training.⁷ Since so little was being done for the moral poor, however, it was asking too much of society to expect it to provide for the immoral poor.

Early in 1919 Dr. Louis Harris in commenting upon the venereal disease problem declared it was time that the department insisted that private physicians report their cases. He also drew attention to the lack of hospital beds and pointed out that the department had no facilities for treatment except for those convicted of prostitution. At the end of this year the department noted that a total of 24,891 venereal disease cases had been reported, the highest ever recorded, but added that this figure was well below the actual number. Nonetheless, the New York Academy of Medicine continued its firm resistance to all attempts to make venereal disease reportable. In March 1919 its members voted down a resolution requiring reporting these disorders even "under such regulations as will insure privacy."⁸

A good part of the public interest in venereal disease during these years arose from the war measures to protect the health of the troops. As a result of this interest, the Health Department was able to make a limited venereal disease program a part of its regular work. In 1920 the Board of Estimate approved the sum of \$37,216 for the department's Venereal Disease Division. As more information became available, it became possible to put the venereal disease problem in its proper perspective. The Bureau of Laboratories in 1921 surveyed the results of its Wassermann testing program for the previous nine years and found that the percentage of positive reactions had declined from 40.6 percent in 1913 to 10.0 percent in 1921. This decrease had come about, the bureau noted, despite more effective laboratory procedures and a steady increase in the number of tests. The bureau's report concluded that syphilis was on the decline, a fact which it attributed to better treatment and to the reduced activity of prostitutes. This same year in response to a request from the Committee of Fourteen, the group fighting prostitution and venereal disease, the NYAM studied the immigration records and discovered that contrary to popular belief only a negligible number of immigrants were afflicted with syphilis.⁹

For the next few years the only organization to worry about venereal disease was the NYAM's Public Health Committee. In

1923 it investigated the maternity hospitals and discovered that from 2.9 to 10 percent of women admitted to obstetrical services were syphilitic. These findings led to a recommendation that a Wassermann test be routine procedure in every obstetrical case. The following year it considered a recommendation that male patrons be subject to arrest and to the same punishment meted out to the prostitute. After protesting that it did not favor sex discrimination, the committee felt that it would be an injustice to place the occasional male offender on a par with the professional prostitute. Syphilis and gonorrhoea could best be controlled, the committee reported, by enforcing the existing sanitary laws and through public education.¹⁰

Despite the academy's assumption that no further legislation was needed, it is clear that a high percentage of venereal disease cases were not being reported by private physicians. As indicated in Chapter 13, surveys in 1926-27 revealed that the reported case rate for syphilis in New York City was less than half that for Detroit and the gonorrhoeal rate was less than one-eighth. In 1927 a joint meeting of city, state, and federal health officials was held in New York City, headed by former New York State health commissioner Thomas Parran, who was then serving as assistant surgeon general of the United States. Up to this time, health departments, in deference to the medical profession, had avoided treating patients, but at this meeting there was unanimity that health departments must begin to offer treatment for social diseases. The following year a local committee was organized to coordinate the activities of those municipal and voluntary organizations concerned with the venereal disease problem.¹¹ The onset of the Depression, however, prevented any significant developments.

As told in Chapter 14, the leadership supplied by United States Surgeon General Thomas Parran and by Mayor La Guardia brought venereal disease into the open and led to the creation in 1935 of a Bureau of Social Hygiene. Dr. Parran's job was not an easy one, for even at this date the topic was still a delicate one. When he gave his first radio talk on syphilis and gonorrhoea, Dr. Parran had to agree beforehand to allow himself to be cut off the air in the event of a single phone call of protest. The Bureau of Social Hygiene itself only came into existence as a result of the

combined recommendations of the Health Department, the United States Public Health Service, the New York Academy of Medicine, and the American Social Hygiene Association.¹²

Prior to this time the Health Department had provided certain facilities for diagnosis, but virtually nothing in the way of treatment. The only ones receiving medical care were those prostitutes who came under the jurisdiction of the Health Department as a result of the previously mentioned Whitney Law. This measure provided that the department's physicians examine all convicted prostitutes before sentencing so that treatment could be given while the women were in prison. As noted earlier, the women seldom were given jail terms, and the short sentences imposed upon those who did receive them were too brief for adequate medical care. Beginning on January 1, 1935, all arrested prostitutes were examined and those with a venereal disease were sent to Kingston Hospital under the police power of the Board of Health. While sound in theory, the system broke down because of inadequate facilities. In a short time Kingston Hospital overflowed with patients. New cases were then sent to the House of Detention, which also was soon jammed. Under these conditions, it became virtually impossible to provide proper treatment.¹³

In addition to giving bureau status to venereal diseases, the Health Department began allocating a larger share of its budget to venereal disease control. In 1933 it had spent \$118,110 and maintained a staff of 22 doctors and 15 nurses. By 1935 the budget was increased to \$180,000 and the staff to 46 doctors and 36 nurses. During 1935 the department began offering free treatment to indigent syphilitics in all boroughs except the Bronx, although gonorrheal patients were forced to visit the Central Clinic or the Meinhard Memorial Health Center. Despite the availability of medical care, only about 35 percent of the indigent syphilitic patients were receiving it, and for gonorrheal cases the percentage was much lower.

With the help of the department's advisory committee on venereal diseases, the NYAM, and other agencies, the Bureau of Social Hygiene, under the able direction of Dr. Theodore Rosenthal, moved into action in 1936. In February it sponsored a series of feature stories, first published in the *Daily News* and later picked up by the other metropolitan papers. As public interest

rose, a lecture bureau was organized, pamphlets were printed, and the bureau encouraged the development of college courses on the subject. Beginning in August the bureau began distributing Salvarsan, at that time the chief specific for syphilis, free of charge to all physicians and hospitals reporting cases. In November a drive was started with the aid of epidemiologists and WPA social workers to trace venereal disease contacts. The following summer a postgraduate course on venereal disease attracted over 80 physicians. While concentrating on education and case finding, the bureau at the same time was expanding its clinical facilities. By the end of 1937 all these programs were in full swing, and the bureau was operating 19 centers offering diagnostic and consultation services to private physicians and clinics.¹⁴

The net effect of this campaign was to increase greatly the number of reported cases and to bring a much higher percentage under medical care. Aside from patients who were motivated to see private physicians, the number of individuals treated in the department's clinics increased from 10,939 in 1934 to 21,998 in 1937. More significantly, the total number of syphilis cases reported to the Health Department increased by two and a half times in the six years from 1931 to 1937. It is noteworthy that the federal government supplied a good part of the budget for the venereal disease work. Of the bureau's 323 employees at the end of 1937, 247 were funded by the WPA, the ERB, and the Social Security Administration.¹⁵

While an excellent start had been made, the problem of venereal disease was complicated by the lack of a relatively easy method of cure. An article published in the August 1939 issue of *The Archives of Dermatology and Syphilology* stated that arsphenamine "is to this day the most effective arsenical in the treatment of early syphilis," but that its side effects and difficulties of administration made it impractical for use by general practitioners. To appreciate this statement, one needs to bear in mind that prior to 1943 the standard treatment consisted of a minimum of 30 intravenous arsenical injections and 40 intramuscular injections of a heavy metal, either bismuth or mercury but preferably the former. The injections were painful and extended over a period of from 12 to 18 months. All the drugs involved were toxic, since

the arsenicals could affect the liver and the heavy metals could damage the kidneys. The authors of this particular article recommended a new preparation, mapharsen, but the real breakthrough did not come until the introduction of penicillin in 1943. In the meantime, the staff of the Bureau of Social Hygiene was conscientiously following all reasonable suggestions for controlling venereal disease. In 1938 a state law was passed requiring pregnant women and applicants for marriage licenses to undergo serological tests. The enactment of this law made it possible for the director of the bureau to report that all the New York Academy of Medicine's recommendations with respect to venereal diseases had been put into effect.¹⁶

Despite the remarkable progress in the 1930s, the Health Department in 1939 affirmed a statement by Mayor La Guardia that it had not yet "broken through the lines of hypocrisy and ignorance" and added that public education was still a major need. It noted, too, that medical treatment was available only for the indigent, a situation which left the great majority of lower-income groups in a limbo. To add to the problems, the federal government was beginning to cut back on the WPA and other federal relief agencies. As a direct result, the Bureau of Social Hygiene suffered a cut in personnel from 488 in 1938 to 424 in 1939. Even with this reduction, federal funds were still of major importance in venereal disease control. For example, of the 424 employees of the bureau in 1939, 277 were assigned by the WPA and another 17 by the National Youth Administration.¹⁷

The introduction of the draft and other wartime preparations greatly increased the work of the Bureau of Social Hygiene. All men called up were checked for venereal disease, and the bureau attempted to see that all New Yorkers found to be infected received treatment. The role of the bureau in dealing with venereal disease among servicemen and their contacts in New York City has already been discussed in Chapter 15. The introduction of the sulfonamides had provided a relatively simple cure for gonorrheal infections, and, as noted, the discovery of the effectiveness of penicillin in 1943 opened the way for a full-scale assault upon syphilis. New York City received its share of the rapid treatment centers which were established throughout the nation beginning

in 1943. Moreover, by this date blood testing of the first 3,000,000 selective service candidates had provided a great deal of knowledge about the venereal disease problem.¹⁸

One incidental result of the war was a sharp rise in the incidence of venereal disease among the 15- to 19-year age group. To meet this problem, the Health Department intensified its educational efforts and involved churches, schools, and newspapers in its campaign. The department also redoubled its case-finding activities, increasing its staff by 1947 to 5 full-time medical consultants, 10 social investigators, and 18 male orderlies. Fortunately, the department was able to concentrate more of its time and effort upon education and case finding because the cost of providing medical care was rapidly falling. In 1947 a total of 927 individuals were hospitalized with venereal diseases; in 1949, thanks to the new therapy which allowed more cases to be handled on an outpatient basis, the figure was reduced to 284. The return of servicemen in 1946-47 intensified the work of the Bureau of Social Hygiene, and, as might be expected, this period marked the peak case load for the rapid treatment centers, in New York City as elsewhere.¹⁹

The next few years saw a remarkable drop in the incidence of both syphilis and gonorrhea. During 1951 the Health Department announced the closing of 7 of its 20 social hygiene clinics and a curtailment of service in two others. The gains in the fight against syphilis were shown in a dramatic fashion by the State Department of Mental Hygiene. It announced that whereas in 1933 some 9.3 percent of all individuals admitted to the state's mental hospitals were victims of paresis due to syphilis, in 1950 the comparable figure was only 2.6 percent. Under these circumstances, the Bureau of Social Hygiene declared confidently in 1950: "The stage has been reached where, barring national or international emergency, the control of venereal diseases continued intensively along the lines now being followed should bring the incidence of these diseases to an irreducible minimum."²⁰

In the period from 1954 to 1957 the prevalence of venereal disease reached its lowest level, and the public and many health workers felt confident that this social problem was close to solution. On the assumption that it could easily be managed at the state and local level, federal appropriations for venereal disease control were reduced by two-thirds in the years from 1953 to 1955.

By 1958–59 health departments generally were surprised to find both syphilis and gonorrhea taking a sharp upturn, particularly in the under-21 age group. For 1959–60 the Health Department reported a 100 percent increase in syphilis among young people.²¹ In part because the New York City Health Department had played a significant role in the fight against venereal disease and in part because of Health Commissioner Baumgartner's leadership in the fight for federal help with venereal disease control, she was selected by the surgeon general in 1961 to head a national task force to fight syphilis. Her efforts in connection with this group and the intensified venereal disease control program in New York during the early 1960s have been touched upon in Chapter 16. It became obvious during these years that the venereal disease problem was far from solved. Although changes in public attitude and advances in therapy had greatly reduced the danger from paresis, sterility, and the other sequelae which had horrified earlier generations, as the New York City Health Department ended its first century, venereal diseases were still threatening the health and welfare of New Yorkers.

Alcoholism

Precisely because alcoholism is a social disease, like venereal infections it has a moral aura which prevents both the public and the medical profession from viewing it objectively. The moral aspect is implicit in the old phrase, "The Demon Rum," and even today alcoholism is still looked upon as a form of moral weakness by most Americans. Physicians traditionally have been reluctant to deal with the problem, in part because medicine has still not provided an answer and in part because the profession reflects society's attitude toward it. Although the twentieth century has seen some change in this attitude, the problem's complexity has defied solution, and neither the social, psychiatric, nor physical medicine approach has proved successful. And despite innumerable studies and reports and a growing recognition that its victims need treatment, most alcoholics who create a public disturbance end up in the drunk tank or jail. In most of America today, police officers still bear the chief responsibility for handling drunks.

New York City illustrates both the best and the worst features

of society's refusal to face up to the problem of alcoholism. In a small town, the local alcoholics are known, and they are usually dealt with in a manner commensurate with their own or their families' social standing. In large urban agglomerates, many alcoholics tend to drift downward toward the local skid rows where they stand out as a symbol of the wickedness of the big city—in fact even to the extent in recent years of becoming a tourist attraction. Their visibility earlier, however, had led a number of social-conscious individuals to attempt a more rational approach. In the spring of 1901 an act was introduced into the New York State Legislature proposing to establish a home for poor inebriates. Under its terms, judges could commit alcoholics to the proposed home for a period of six months or one year instead of sending them to prison. The measure became law in April 1902 and provided that the home could receive both alcoholics and drug addicts. It is not clear whether the home was established, but the city was providing a limited medical program at Bellevue Hospital, where a ward for alcoholics was maintained. According to one of the newspapers, in 1903 Mrs. Carrie Nation went through this ward and obtained some 60 pledges—pledges which must have been far easier to give than to maintain.²²

Little more was done about alcoholism from a medical standpoint until 1910, although these years saw the prohibition movement making steady gains. In May of that year the New York Academy of Medicine held a full meeting under the auspices of its Section on Public Health on the topic, "The Control and Prevention of Alcoholism." Four papers were read, dealing respectively with the medical, economic, social, and moral aspects. The moral aspect, as might be expected, was presented by a minister. Subsequently the academy voted to establish a 50-man committee to study the problem and directed the members to report back sometime during the following winter. In the meantime, the Legislature in June 1910 authorized New York City to appoint a Board of Inebriety with the power to purchase a site and construct a hospital and industrial colony. After due consideration, the Board of Inebriety asked for \$75,000 to acquire 800 acres in Orange County as a site for its hospital, and the request was granted in September 1912. The previous summer the Legislature had defined an inebriate as one incapable of caring for himself "through con-

stant drunkenness, induced either by alcohol or by opium, morphine or other narcotic." The law also stated that any person arrested for drunkenness more than once in any 12-month period could be committed to the hospital operated under the Board of Inebriety.²³

The law was a little premature, since the Board of Inebriety was still in the process of acquiring a site. Nonetheless, shortly after acquiring land in 1912, the board quickly established temporary quarters for patients. In 1914 it was granted an additional appropriation of \$7,000 to erect a temporary building to care for narcotic addicts, an appropriation which was subsequently increased to \$8,000. To supplement the various government activities, the AICP opened Briar Brae Lodge, a sort of halfway house used to rehabilitate alcoholics and narcotic addicts. In this institution patients released from the Inebriate or other municipal hospitals were given help in returning to normal life.²⁴ Under the leadership of Commissioners Goldwater and Emerson, both strong advocates of prohibition, the Health Department began a concentrated campaign to educate the public on the danger from excessive drinking. A story in the feature section of the *Herald* on August 1, 1915, began with a statement from Dr. Goldwater on the problem of alcoholism, and then described the Health Department's educational campaign aimed at the drinking mother. The following February the Health Department began a three-day crusade against alcoholism, during which 21 sanitary inspectors were assigned to visit every place where alcoholic beverages were sold and to leave pamphlets explaining the evils of drink. These pamphlets, which used the expression "booze," brought a strong reaction and led the department to modify its program a few days later. The term "booze" was eliminated, new pamphlets were distributed in churches, lodging houses, and other public places, and the emphasis was now placed upon urging total abstinence only upon those liable to become drinkers. In a strongly worded article in the fall of 1916 Dr. Emerson spoke of the duty of the Health Department to fight against the evils of alcoholism. An epidemic causing 2,000 deaths, he wrote, would arouse a great deal of public attention, and yet at least this many deaths were attributed to alcoholism each year with scarcely a murmur from the public. In addition to mobilizing the resources of the Health Department

and addressing his colleagues in professional journals, Dr. Emerson wrote personal letters to the *Times* and other newspapers on behalf of the prohibition movement. One of the beneficiaries of Dr. Emerson's campaign was the Inebriate Hospital at Warwick in Orange County. In 1916 the Board of Aldermen voted another \$100,000 for new buildings and construction.²⁵

The outbreak of World War I gave added impetus to the prohibition movement and led to the Volstead Act in 1919, an event which marked a significant change in the Health Department's approach to alcoholism. In the first place, Dr. Emerson was no longer health commissioner and the department was entering into a period of political interference and stagnation. In the second, it was assumed that prohibition would automatically solve the problem of excessive drinking. On February 29, 1920, Bird S. Coler, commissioner of public charities, announced that prohibition had virtually cleared the alcoholic wards at Bellevue and Allied Hospitals. Reflecting this widespread viewpoint, the State Legislature the following April abolished the Board of Inebriety and transferred its powers and duties to the New York City Department of Corrections. In July Health Commissioner Copeland reported that Health Department studies on the effects of prohibition upon heat prostration had shown that there would be marked reduction in heat prostration cases.²⁶

By 1921 the optimistic feeling that prohibition would end the liquor problem was beginning to evaporate. Dr. Menas S. Gregory, director of the psychopathic and alcoholic wards at Bellevue, reported that the number of alcoholic cases had doubled since the advent of prohibition, a fact which he attributed to the type of whiskey being consumed. Three months later he reported a reduction in hospital cases, but stated that there was a sharp increase in the number of deaths from homemade alcoholic beverages reported to the medical examiner's office. The Health Department during the early 1920s, under the apathetic regimes of Copeland and Monaghan, restricted its activities to warning against the danger from bootleg liquor. Late in the decade, when the opponents of prohibition seized upon the many deaths from poisonous liquor as an added argument for its repeal, one of Dr. Harris' first acts as health commissioner was to order a survey of hospitals to determine the number of patients ill from alcoholic poisoning. It was

quickly discovered that the majority of patients were suffering from excessive drinking rather than alcoholic poisoning. By this date the prohibition argument was waxing hot and heavy and the Health Department had too many other problems to worry about; hence alcoholism received short shrift from health officials. The repeal of prohibition following Roosevelt's election once again raised the question of the purity of whiskey. Health Commissioner Wynne in December 1933 declared he was prepared to ban any whiskey considered dangerous to health. Subsequently, some 25 liquor samples were tested, of which 13 were found to be good, and another ten were merely alcohol doctored up to taste like whiskey.²⁷

The bacteriological revolution and other developments in medicine and surgery in the late nineteenth and early twentieth century had engendered a spirit of optimism about all medical problems, and it was this attitude which had led to the early attempts to deal with alcoholics. As the century advanced, it became clear that there was no easy solution and that a major breakthrough in treatment of alcoholics was highly unlikely. For this reason, like their medical colleagues in research and private practice, health officials simply avoided a frontal assault upon the problem, hoping that advances in medicine would eventually provide the answer. In 1959 Health Commissioner Baumgartner listed alcoholism and narcotic addiction among what she called the hard-core problems. She noted that in 1957 almost 8,000 patients were discharged from municipal hospitals with a diagnosis of alcoholism and that the emergency care provided for alcoholics at Bellevue and King's County hospitals for one 12-month period alone had cost the city approximately \$900,000. Moreover, this sum was exclusive of the care provided for patients in two other smaller city psychiatric units and in the general municipal hospitals. As with other social disorders, the problem was complicated by the unwillingness of private hospitals to admit these patients. In her analysis of the situation, Dr. Baumgartner bluntly stated that the majority of voluntary hospitals simply refused to admit alcoholics.

In making recommendations Dr. Baumgartner cited the need for outpatient facilities for alcoholic patients, but she also stressed the necessity for changing the attitude of the voluntary hospitals toward these patients since a certain number of beds would al-

ways be needed for short-term care. Reiterating a theme which had been stressed many years earlier, she called for a program to inform the public that alcoholism was a disease which could be treated medically. The basic problem, she said, was "to reach the family in which so many health and social problems rest." Recognizing the need for additional research, in April 1962 the Sunset Park Alcoholic Clinic was established under the sponsorship of the Downstate Medical School, the Health Research Council of Greater New York, and the City Health Department. Its major purpose was to determine the best form of treatment and rehabilitation for victims of alcoholism.²⁸

By this date the steady rise of narcotic addiction among young people had aroused a great public outcry which tended to push the alcoholism problem into the background. Social drinking was as widespread then as now, and since the dividing line between social drinking and alcoholism is a fine one at best, the older generation was quick to vent its moral spleen upon a social problem in which it was only indirectly involved. The Health Department, always dependent upon public support, was forced to shift its limited resources to deal with the narcotic addicts. In consequence, as the New York City Health Department entered its second century, alcoholism remained an unresolved hard-core problem.

Narcotic Addiction

Although on a worldwide basis narcotic addiction is a much older problem than alcoholism, it came to the Western world in relatively recent times. Morphine, the active principle in opium, was discovered shortly after the beginning of the nineteenth century, and heroin, a derivative, was not developed until 1898. Curiously enough, the medical use of these derivatives was largely responsible for narcotic addiction in the West. In the eighteenth and nineteenth centuries, when many disorders were poorly understood, opium in one form or another was widely prescribed by physicians to ease pain and relieve symptoms. For example, its use was almost standard for the perennial diarrheas and bowel complaints. This tendency to misuse opiates was aggravated in America during the latter half of the nineteenth century when the wider use of morphine coupled with the development of the hypodermic syringe

led to many overdoses by doctors who were unaware of the increased potency of subcutaneous injections over oral administration. Physicians were not the only ones at fault for the abuse of narcotics. Patent medicine manufacturers quickly seized upon them, and their pain killers, which consisted largely of mixtures of opiates and alcohol, came into ever-increasing use during the nineteenth century. Cough medicines, tonics, and remedies for female complaints, if adequately laced with opiates, guaranteed immediate relief and insured their manufacturers of continuing sales. A final source of drug abuse in the United States was the introduction of Chinese laborers in the 1860s, many of whom were already addicted to opium smoking.²⁹

Despite a high incidence of narcotic addiction induced either by medical treatment or the continued use of certain proprietary medicines, addiction was scarcely recognized as a problem until the twentieth century. The so-called opium dens of the heathen Chinese were occasionally the subject of sensational articles and stories, but these dens posed little threat to decent, God-fearing white Americans. Nonetheless by 1900 there was a growing public awareness that narcotic addiction was becoming a serious problem. With an estimated 250,000 addicts, it could scarcely have been otherwise. The medical profession was coming to a better understanding of disease and disease processes, and enlightened physicians were more conscious of their own role in creating addicts. Moreover, the medical and pharmaceutical professions were still seeking respectability, and they both began pressing for legal controls over narcotics. The Progressive Movement, with its emphasis upon pure food and drugs, was another factor in creating a public awareness of the dangers from patent and proprietary medicines.³⁰

This rising professional and public interest in the drug problem led to a series of state and municipal laws around the turn of the century, but it soon became clear that the problem was national in scope. In the early years of the twentieth century, federal import taxes and the slowly accumulating local restrictions on sales gradually reduced the use of narcotics. Even so, the relative percentage of drug addiction from what are currently termed "hard drugs" was far higher in this period than at present. For example, during World War I rejections for drug addiction averaged 1 in

every 1,500 selective service registrants, compared to only 1 in 10,000 during World War II.³¹

As part of the general tightening of the narcotic laws, in June 1911 a New York State law made it a misdemeanor to give or sell a hypodermic syringe and needle to anyone other than a licensed physician, dentist, or veterinarian. Two years later the Walker Bill was enacted which regulated the purchase of cocaine, eucaine, and their salts. Physicians were required to keep a record of all they purchased and dispensed and to give the user a dated certificate. The Walker Bill, which indicated the growing public concern with narcotic addiction, was clearly inadequate, but it did serve to mobilize public opinion on behalf of a better measure. In January 1914 a conference on addiction was held in the city in which a wide range of civic leaders participated. The meeting was characterized by mutual recriminations. The County Medical Society blamed the cocaine habit upon patent medicines, and the wholesale druggists blamed the doctors. The commissioner of correction, Dr. Katherine B. Davis, criticized the Health Department for failing to submit the reports necessary to convict cocaine and opium sellers. In response to this accusation, a chemist from the Board of Health explained that his laboratory was so tied up with milk tests that the staff did not have time to test the samples of cocaine found on alleged cocaine sellers. The best suggestion was made by a surgeon, Dr. Jackson Campbell, who urged strict state and federal regulation of all "pernicious habit-forming drugs." Complete records, he argued, should be maintained all the way from the processor or importer to the patient. Despite the various charges and recriminations, the conference united behind Dr. Campbell's suggestions, and authorized Judge Edward Swann of the General Sessions to name a committee of five to draft a new bill covering the sale of all kinds of narcotic drugs.³²

The main principles of the bill drawn up by this committee were subsequently embodied in the Boylan Bill, which passed the State Legislature in April 1914. This was a comprehensive measure applying to all narcotics, and, conforming to Dr. Campbell's recommendation, it required strict accounting by both druggists and physicians. The New York Academy of Medicine and physicians generally favored the law, although the editor of the *New York Medical Journal* opposed it on the grounds that the handling of

narcotics should be left solely to the discretion of physicians. He also listed a more legitimate criticism: the bill exempted proprietary drugs containing no more than one-quarter grain of morphine per ounce. On the national scene, this same year Congress passed the Harrison Narcotic Act which provided for federal control of the importation, manufacture, and distribution of opium and its derivatives. Although everyone involved in handling these drugs was required to register, the exact interpretation of the law was open to question, and it was not until two crucial court decisions in 1919 that the Harrison Act became effective. Whatever the merit of these laws, authorities at all levels of government soon discovered that their enforcement was an exceedingly difficult proposition.³³

As indicated a few pages earlier, the city had taken a tentative step toward providing medical care for narcotic addicts in 1902 and had included them in the 1912 bill to provide hospitalization for alcoholics. The first funds, \$7,000, for a temporary narcotic addict hospital were provided in 1914. The Public Health Committee of the Academy of Medicine in 1915 sensibly pointed out that state laws requiring medical treatment for addicts were meaningless unless facilities were available. To meet this need, it urged expansion of the Inebriate Farm (Hospital) at Warwick and the establishment of a comparable place for female addicts. It also recommended a social service program to follow up released patients and help them adjust to society.³⁴

In 1915 the state drug law was strengthened slightly at the suggestion of the Academy of Medicine and other interested groups. Two years later the Whitney Narcotic Law allowed addicts to voluntarily submit themselves for institutionalized medical care. In New York City responsibility for registering and placing these patients was turned over to the Division of Drug Inspection of the Bureau of Food and Drugs. The law became effective on August 1, and the Health Department reported that during the first five months 115 male and 22 female patients applied for medical help, an insignificant number in terms of the estimated addicts.³⁵

In 1918 the Public Health Committee of the academy issued a report on the drug situation in which it asserted that the previous 15 years had seen major changes in both the drug problem and the conditions under which it prevailed. Previously addiction had been

“a by-product of physical and mental suffering,” but it was now becoming a social evil. The committee deplored the sensational way in which the drug question had been exploited and asserted that its seriousness had been exaggerated. It also expressed opposition to the establishment of a state commission to control drug addiction, arguing that the problem could only be handled at the national level. Despite the views of the Public Health Committee, in May 1918 the Legislature enacted a measure setting up a State Department of Narcotic Drug Control headed by a commissioner. The commissioner was instructed to divide the state into four districts and to establish a branch office in each. The department’s main functions were to gather data and information relative to the drug problem, to inspect and certify institutions treating drug addicts, and to report annually to the State Legislature.³⁶

Responding to the increasing public concern and to the various state laws requiring medical treatment for addicts, the Health Department opened a drug treatment section in the Riverside Hospital. Shortly afterward, in December 1918, the City Board of Estimate cut the appropriation for this station, whereupon Health Commissioner Copeland immediately threatened to resign unless the Board of Estimate rescinded its action. Three days later, December 9, the board acceded to his demands and voted money for the drug program. The following March Dr. Copeland warned that the fear of prohibition had led to the stockpiling of drugs and that drug sales were increasing sharply. He advocated registering all addicts and providing them with inexpensive narcotics, a policy which was soon to be put into effect.³⁷

This same month two Supreme Court decisions (*U. S. v. Doremus* and *Webb et al. v. U. S.*) confirmed the constitutionality of the Harrison Act and ruled that the legitimate practice of medicine did not include the right to maintain addicts. Acting upon this decision, federal authorities first began moving against private physicians and later against state and municipal maintenance clinics. Treasury agents claimed that 30 physicians in New York City were making a business of giving drug prescriptions to addicts. One of the doctors was reported to have a card file of 200 addicts to whom he was giving daily prescriptions. On April 8 six physicians and four druggists were arrested on charges of violating the narcotic laws. This action created an immediate

crisis, since the six physicians had been supplying approximately 800 addicts. A conference of state and municipal agencies involved in drug control was immediately called and resulted in Health Commissioner Copeland appointing a Committee on Narcotic Relief. This committee opened a drug clinic at 139 Centre Street on April 10 where addicts could buy a maximum daily dose of 15 grains at cost. Within a few days 795 patients registered with the clinic. In addition to providing temporary relief, the clinic sought to reduce the addicts' daily dosages and to encourage them to take medical treatment. Although the clinic had been established as an emergency measure, the State Department of Narcotic Drug Control decided to extend the principle to all regular narcotic users. Effective July 7, 1919, all drug addicts were required to register with the department and obtain a "dosage" or identification card. These cards had to be presented in order to obtain a prescription for narcotics, and they were designed to prevent addicts from visiting more than one physician.³⁸

The registration clinic proved quite popular, and by the end of 1919 over 7,000 addicts had signed up with it. A statistical breakdown of the first 3,262 individuals to do so reveals some interesting information: there were 2,647 males and 615 females, 2,802 whites and 460 blacks, 1,982 belonging to a trade or profession and 1,280 unskilled workers. As is true today, young people constituted the majority of addicts, most of whom were under 25 years of age, with teenagers making up a third of the total group. These figures were published by Commissioner Copeland in January 1920. A year previously Judge Cornelius F. Collins had reported that heroin was the chief narcotic in use and that the average age of its victims was 22 years.³⁹

As public opinion hardened against narcotic addicts, federal narcotic agents began clamping down upon state and municipal maintenance clinics. While recognizing that addicts needed time to adjust, the agents insisted that all clinics follow a regimen of decreasing dosages. The effect was to close all the clinics within a few months. Meanwhile a debate was raging both within and without the medical profession over the best way to deal with addiction. Many physicians were willing to permit state or city agencies to assume charge of so-called criminal drug users, estimated at about 15 percent of the total, but they believed that the

rest should be left to private practitioners. Precisely how these physicians defined the difference between the two is not clear, although it appears that criminal addicts were those who did not wish to be cured. Another school of thought argued that only custodial treatment was of any real benefit and that all addicts should be forcibly detained. Dr. Copeland maintained that the drug problem had been intensified as a result of prohibition, and he claimed that the creation of a State Narcotic Department had superseded his authority and made him powerless to act.⁴⁰

Although addicts were required to register with the State Department of Narcotic Drug Control, the city continued to bear responsibility for treating those requiring emergency care or the ones seeking voluntary commitment. To handle the growing number of these patients, Dr. Copeland approached the Rockefeller Foundation for help and was offered some hospital buildings worth \$300,000. Unfortunately, according to the city charter Copeland had no authority to operate a drug addiction hospital, since the health commissioner's authority extended only over the contagious disease hospitals. In addition, Mayor Hylan, a Tammany politician, declared that the city would not accept any gift from the Rockefellers. Unable to accept the Rockefeller offer but undeterred by legal technicalities, Dr. Copeland then proposed to establish a drug addict hospital in the Naval Training Station at Pelham Bay and requested \$90,000 from the Board of Estimate. Immediately a group of Bronx residents in the Pelham Bay area began circulating a petition against the proposed institution. A few days later Mayor Hylan calmed down the Pelham Bay voters by declaring that the Sea View Hospital on Staten Island would be used instead. Since this institution provided the best municipal facilities for tuberculosis patients, an immediate outcry was heard from prominent workers in the tuberculosis field. Dr. S. Adolphus Knopf, a leader in the antituberculosis movement for 25 years, strongly criticized the decision and urged the city to accept the Rockefeller offer. At the same time residents on Staten Island also began circulating petitions against the proposal. Both Copeland and Hylan were highly sensitive to the expressed wishes of the voters, and these petitions probably carried far more weight than the objections of the tuberculosis fighters. In any event, toward the end of August Dr. Copeland announced he was giving up

the Sea View project and would treat narcotic addicts in the Riverside Hospital on North Brother Island.⁴¹

About five weeks after devoting the Riverside Hospital exclusively to drug addicts, Dr. Copeland cheerfully announced that 300 patients (50 of them women) had been treated and released as cured. By the following January some 1,600 patients had been admitted. These individuals, Dr. Copeland wrote, were being "returned to the community sound in body, if not regenerated in mind and soul." He conceded that a large number of them would return to their drug habit.⁴² Copeland's revealing statement lay at the crux of the drug problem; patients could be isolated and temporarily broken of their habit, but there was little assurance that the cure would be permanent. The failure of all efforts to cure narcotic addicts merely added fuel to the prevailing argument over whether narcotic users were criminals to be dealt with by the police or sick individuals in need of medical assistance.

The Public Health Committee of the New York Academy of Medicine summed up the situation in a rather discouraging report at the end of 1920. "A great deal has been made in recent years of drug addiction as a problem in public health," the committee stated, and many "ill-considered experiments" had been tried and various legislative proposals suggested. Speaking of these proposed laws, the one to prohibit ambulatory treatment had merit, the committee said, since this form of treatment was "admittedly ineffective, as shown by the City Health Department's experiment," but the law would theoretically "force addicts into institutions without providing such institutions." While having little sympathy for ambulatory treatment, the committee doubted that institutional treatment would be much more effective, "unless it were carried out with great care and under conditions which would afford an opportunity for follow-up and the control of the patient's environment for prolonged periods of time." The committee also favored another measure to abolish the State Narcotic Drug Department "with its cumbersome regulations. . . ." It concluded by stating that the whole question "needed a dispassionate thorough-going consideration . . . on the part of the medical profession."⁴³

Faced with what seemed a hopeless task of dealing with narcotic addicts, there was a general tendency to simply forget the whole

matter. Although many public health officials kept fighting to maintain clinics for drug addicts, the American Medical Association was highly critical of them, and in 1920 and 1921 passed resolutions demanding that they be closed. With the health experts in disagreement, city and state elected officials were understandably reluctant to vote funds to keep drug addiction programs in operation. In New York City the Board of Estimate began cutting down the budget for Riverside Hospital early in 1920 and by late spring the hospital was gradually forced to discontinue its work on behalf of narcotic addicts. Criticism of the state narcotics program led Governor Miller to urge the elimination of the Narcotic Drug Department early in 1921, and with the support of the New York Academy of Medicine and other groups, as well as Health Commissioner Copeland who argued that drug control should rest with the local authorities, a law was passed this year sweeping away all state legislation relating to control of drug addiction. To fill in the gap, New York City amended its Sanitary Code to declare drug addiction a "pestilential disease" and thereby give the Health Department jurisdiction over it.⁴⁴

As indicated in Chapter 12, by the end of 1920 the City Health Department was already conceding that little could be done for drug addicts, and although Dr. Copeland continued his fight to maintain a drug addiction program, the tendency was to turn drug addicts over to the jurisdiction of the police. In what was a tragicomic footnote to the whole affair, on July 8, 1922, Dr. Carleton Simon, special deputy police commissioner, and Dr. Bird S. Coler, commissioner of welfare, reported they had devised a new method for dealing with dope addicts. Dr. Simon was going to examine all addicts who volunteered for treatment and separate the innocent from the criminal drug users. In this instance, the innocent addicts were those who had become addicted accidentally.⁴⁵ Presumably the innocent ones would be given treatment and the criminal users punished.

For the next two or three years narcotic addiction continued to make news, although it was no longer an important issue. The *Times* reported in January 1923 that marijuana, which it labeled a habit-forming drug, had been introduced into New York's "white light district." Dr. Copeland, now a United States senator, continued to charge that prohibition was contributing to the drug

problem. He also concurred with Police Commissioner Enright's view that the drug habit was responsible for many crimes. A trustee of Bellevue Hospital blamed the increasing number of automobile accidents upon drug addicts, and an association dedicated to fighting drug addiction claimed that 17,000 New York City school children were addicted—an accusation which the police chief indignantly denied. During this period efforts were made to write a new state narcotics law, but the public was apathetic. Even the Public Health Committee of the Academy of Medicine advocated only the simplest of state laws, one designed merely to strengthen the enforcement of the Harrison Act. In its report for 1924, the committee played down the significance of the drug problem, quoting an article in the *United States Public Health Reports* to the effect that the number of addicts had been steadily decreasing since 1900 and that the total number as of 1924 was "far below the alarmist statements which are frequently circulated."⁴⁶

By the late 1920s drug addiction had virtually dropped from the news except for an occasional sensational story in the Sunday feature sections of the newspapers. As had been the case prior to World War I, prison hospitals supplied about the only form of medical treatment, and this detoxification was done with little hope of removing the patient's craving for drugs. Private hospitals generally continued their refusal to accept drug addicts, and medical science continued to have little success in its search for an answer. In 1930 New York City appointed a special committee to investigate the drug problem. Significantly, the report was addressed to the commissioner of correction. After pointing out that so far no specific cure had been found and that gradual withdrawal seemed to be the best program, the report stated: "There is unfortunately no practical method known which, applied to those addicts coming under the supervision of the Department of Corrections, would accomplish the desired result." Treating patients en masse had proved impossible, even under prison conditions. The committee found that addicts had a strong esprit de corps and that it was virtually impossible to keep drugs out of the wards. To make matters worse, a reversion to the drug habit by even one patient in a ward tended to affect all the others.⁴⁷

Since it appeared that little could be done for drug addicts,

very little was done. During the early 1930s the use of narcotics was considered a minor aberration, practiced largely among musicians and other esoteric types. Popular songs such as "That Funny, Funny Reefer Man" and "They Call Me Cokey Joe" clearly reflected a measure of amused tolerance. These years also witnessed a change in the method of utilizing drugs. The sniffing of heroin and cocaine and the subcutaneous injections of morphine or heroin were replaced by the intravenous injection of crudely prepared drug solutions, consisting largely of heroin diluted with other substances. This method led to a widespread epidemic of estivoautumnal malaria among addicts beginning in the fall of 1933. The first case was uncovered in New York in October of that year and this type of malaria remained a problem until 1943. The outbreak may have been a factor in the introduction of quinine as a diluent. Aside from other dangers, intravenous injections greatly increased the possibility for overdoses, although this did not become a serious problem until after World War II. Prior to this time there were relatively few deaths from overdoses, although occasional deaths resulted from sepsis of large subcutaneous abscesses or by bacterial endocarditis, tetanus, and so forth.⁴⁸

During these years social workers and health professionals recognized the dangers presented by drugs, but neither the public nor their officials felt much concern. In 1938 Mayor La Guardia asked the academy's Public Health Committee to look into the medical implications of marijuana. The committee, after a preliminary investigation, reported that there was need for a sociological study of its use and for a clinical study of the drug's physiological effects. The following year the committee noted that 2,000 male drug addicts had been admitted to Hart's and Riker's Island prisons and another 800 female addicts to the House of Detention for Women. The joint problem of drug and alcohol addiction, the committee wrote, had constantly occupied its attention but there appeared to be no solution. Since neither the state nor the city had provided institutional care, the committee repeated its appeal for the establishment of a private institution, but its efforts in this direction were equally unsuccessful.⁴⁹

The onrushing of events leading to World War II pushed the narcotic problem completely into the background for a few years.

During the war heroin became practically unobtainable, and this factor, plus the psychological impact of the war itself, reduced narcotic addiction to negligible proportions. Following the war heroin and other narcotics became more available, and drug addiction began rising slowly. It was not until March 1951, when it became apparent that the use of narcotics was spreading among school children, that the drug issue once again began to make headlines. In that month the Police Department estimated that there were at least 5,000 drug addicts under 20 years of age. The Board of Education conceded that it had been caught unaware by the problem of narcotic addiction among children, but declared that it was taking immediate steps to deal with the situation. Health Commissioner Mahoney spoke of the difficulty of detecting the symptoms of addiction and added that his department would sponsor a research project on the use of narcotics among juveniles. In June State Attorney General Nathaniel Goldstein began an investigation into the use of heroin and marijuana among teenagers, in the course of which the testimony of some 1,500 addicts was tape recorded; the superintendent of schools reported that there were an estimated 5,000 narcotic addicts in the schools; and a chief witness at Goldstein's hearings, Dr. Kenneth W. Chapman, assistant chief of the USPHS, stated that there was no specific cure for drug addiction through volunteer methods. The only hope, he said, lay in a full course of treatment under rigid institutional controls.⁵⁰

Spurred on by these activities and the general hue and cry, in 1951 Mayor Impellitteri appointed a Mayor's Committee on Drug Addiction headed by Judge Thomas F. Murphy, a former police commissioner, and George P. Monaghan, the current commissioner. In its first report, presented in December, the committee reviewed the history of addiction in New York and pointed out that the recent years had seen a sharp increase in deaths attributed directly to narcotics. This same period had also seen an increasing number of teenagers hospitalized for acute narcotism. In the five years, 1945-49, a total of 85 teenagers had been hospitalized; in 1950 alone the figure amounted to 54.⁵¹

The sudden emergence of the narcotic problem caught the city with virtually no medical facilities for treating addicts. As a temporary measure, psychiatric and social service programs were

established in July 1951 at Bellevue and King's County hospitals. As it had some 30 years earlier, the city once again turned to Riverside Hospital. This institution had a long and varied history, beginning as a pesthouse for smallpox and then serving successively as a contagious disease hospital, an institution for drug addicts after World War I, a tuberculosis hospital from about 1920 to 1944, and an institution for veterans following World War II. In 1951, the Board of Estimate appropriated \$513,000 to rehabilitate the Riverside facilities with the expectation that the institution would open its doors to young addicts the following spring. Meanwhile the Board of Education was cooperating with the health authorities, and school principals were being urged to intensify their narcotic education programs. Working with the Board of Education, the Health Department during 1951 designed a system whereby students suspected of using drugs could be referred to Bellevue or King's County hospitals.⁵²

In July 1952 Riverside Hospital was opened for narcotic addicts. It provided 140 beds and most of the patients were admitted through a voluntary civil commitment procedure. It continued to operate until 1963 when the state took over. During this time it demonstrated that medicine still had not found the answer to drug addiction. Its chief success was in keeping patients off the streets and away from drugs and in exposing them to treatment. This same year, 1952, on the national scene the Boggs Bill became law, providing a mandatory two-year sentence for first offenders and increased penalties for successive offenses. In 1956 even more stringent penalties were provided, demonstrating that in the old argument as to whether narcotic addicts were sick individuals or criminals, the public held to the latter view. Despite the double approach of providing medical care for addicts and assessing strict penalties to discourage the use of narcotics, deaths from acute narcotism in New York City continued to rise during the 1950s, indicating the growing use of drugs. From a total of 57 for 1950, the figure gradually increased to 199 in 1960, and then took a sharp upturn to 311 in 1961.⁵³

To meet the growing need, in 1959 the city established two wards in Metropolitan Hospital which provided an additional 50 beds. Two years later a contract was made with Manhattan Gen-

eral Hospital for an additional 97 beds. In October 1964 all municipal facilities for narcotic patients were transferred to Manhattan General, which by August 1965 was providing a total of 324 beds. Since dealing with drug addiction involved several city departments, in 1960 Mayor Wagner established the Office of Narcotics Coordinator. In December 1961 this office was transferred to the Health Department and given wider responsibilities. One of its major tasks was to develop community education programs, and, in connection with this, information and referral services were established at the Astoria and central Harlem district health centers. Subsequently a day center was opened on the upper west side of Manhattan to provide aftercare services. In the meantime the Health Department laboratories performed thin layer chromatography determinations for the presence of heroin and other selected compounds in the urine. In 1963 when the state took over control of Riverside Hospital as part of a statewide program to reduce narcotic addiction, the Health Department set up a Central Registry of Narcotic Addicts. By November 1965 some 23,000 names were listed on the registry.⁵⁴

While New York City held the main concentration of addicts, by the 1960s the drug problem was widespread through both the state and the country. The New York State Legislature appropriated approximately \$1,000,000 in new mental health funds for the 1965-66 budget period, a good share of which was allocated to the drug problem. During 1965 Mayor Wagner appointed a Temporary Commission on Narcotic Addiction to review the entire problem and make recommendations. This commission's report, like its predecessors, was not too sanguine. It reported in 1963 that 13 percent of committed addicts escaped from the hospitals and that less than 20 percent of those on outpatient treatment remained with the program. It noted, too, that the majority of addicts were not willing to voluntarily elect civil commitment under the Metcalf-Volker Act and that half of those who did so were rejected for various reasons. All that the commission could recommend was a 25 percent increase in the number of beds for narcotic patients and support for halfway houses to help rehabilitate patients released from hospitals. The enormity of the drug problem was accentuated at the very time when the temporary

commission was making its report. A pilot study designed to prevent young people from experimenting with drugs was opened in the Mott-Haven Health Center late in 1965. As with all such programs, the dropout rate was exceedingly high, and it was found that half the patients dropped out after from one to three visits.⁵⁵

As had been the case with the narcotic problem throughout the twentieth century, city and state officials continued going round and round searching for a solution. On March 1, 1966, Mayor Lindsay appointed a new narcotics coordinator for the city and placed the Office of Narcotics Coordinator directly under his control. The only major change was that the coordinator was now concerned with narcotics addiction, alcoholism, and smoking control.⁵⁶ As of 1966 the combined resources of social work, psychiatry, and medical science had made little dent in the narcotics problem. The most hopeful sign was a growing recognition that addiction to drugs or alcoholism represented a medical problem, but the majority of Americans still preferred to treat drug users as criminals. As long as the phrase "drug addict" carries the connotation of weakness and immorality and is equated with viciousness and crime, there is little hope for a rational approach by society.

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Three Centuries of Public Health in New York City

The various organizations of this city, as well as the Board of Health, cannot, by windy resolutions, exorcise the demon of poverty and stay the march of grim Death, as he reaps his richest harvest among the destitute, the dissolute and the degraded; but it may be possible by stern facts to realize our true condition, and to strike those chords in the hearts of the good and philanthropic, which in the progress of time, may eventuate in the amelioration of much suffering and distress." [Dr. Joseph Jones, *Annual Report of the Board of Health of the State of Louisiana . . . 1881*, pp. 242-44.]

One can scarcely compare the great urbanopolis of New York in the twentieth century with the small isolated Dutch settlement of New Amsterdam in the seventeenth, but there is one common trait which characterized the citizens in both of these centuries—a recognition that health and welfare were of mutual concern. New Yorkers in the seventeenth century had a far different concept of health and diseases than those of today, but they were no less concerned with promoting the general welfare. The residual effects of medieval feudalism combined with the paternalism of sixteenth- and seventeenth-century mercantilism had created a strong sense of community responsibility among the European settlers in North America.

In their attitude toward disease and their methods for promoting health, the Dutch settlers in New Amsterdam differed little from the English, and their sanitary regulations, quarantine laws, and other measures were similar to those found in the other American colonies. The Dutch, as a clean and orderly people, were among the first to legislate on these matters and they appear to have been more successful in enforcing their sanitary regulations. As early as the 1650s, the council enacted a series of laws affecting many aspects of community life. Some of them, such as those dealing with the danger from fires, the construction of new

buildings, and the control of hogs and large animals, were obviously designed for the protection of property, but they also contributed to the general health. Hogs occasionally attacked children, and fires could be as destructive of life as of property. The strict controls placed over the baking and sale of bread were intended to protect the consumer, by guaranteeing him good quality bread at a reasonable price. Meat and fish also came under the purview of the authorities, since these items could spoil rapidly in the days before refrigeration. In 1656, for example, the city appointed an official slaughterer and licensed three butchers. During this same decade steps were taken to provide better drainage for the city and some consideration was given to digging public wells. Nuisance laws were passed to prevent individuals from dumping garbage and offal in the streets and in the city canal. More important, a law in 1658 required minimum construction standards for privies and ordered that those creating a nuisance must be torn down.

Insofar as epidemic diseases were concerned, New Amsterdam suffered its normal share, but the town was small and relatively isolated, thus minimizing their effects. When the first outbreaks did occur, the governor and council responded in typical fashion by calling for a day of fasting and humiliation. The matter was not left solely in God's hands, however, since quarantine and isolation measures were always applied in cases involving so-called pestilential diseases.

The transition to British control after 1664 brought little change to New York. The city continued to thrive, and its officials manifested the same interest in human welfare. The British and continental experience had shown that disease bore a close relationship with dirt, that certain disorders could be spread by direct contact, and that tainted food was a factor in causing disease. As indicated, early public health measures arose from mixed motives, including preservation of property, esthetics, disease prevention, and a desire to promote the general welfare. Under the English, these same factors continued to operate, but, as the eighteenth century advanced and the city's population increased, maintaining a clean and sweet-smelling city became a more difficult task. Disposing of the growing quantities of offal, garbage, and human wastes became a major operation, particularly since horses

and carts remained the sole means of transportation. A larger population also intensified the danger from epidemics, and for the first time these outbreaks began to have a direct effect upon public health developments.

A major smallpox epidemic in 1731 revealed serious deficiencies in the quarantine laws. As a result, when smallpox and yellow fever threatened in 1738 the City Council established a quarantine anchorage off Bedlow's Island, appointed a city physician to examine suspected vessels, and designated the Island as an isolation center for crewmen and passengers with contagious diseases. Subsequent smallpox outbreaks led to the construction of a pesthouse on the Island. This institution was designed to provide custodial care, since the protection of the city rather than the welfare of the patient was its primary aim. The recurrent outbreaks of diseases such as smallpox and measles were accepted as the usual trials besetting mankind. They might be escaped by fleeing from the scene or by means of strict quarantine, but there was a certain inevitability about them. Because the disorders struck indiscriminately among the rich and poor alike and were clearly communicated by contact, they were not equated with unsanitary conditions.

The one disease which first made the colonists conscious of environmental factors was yellow fever. This pestilence had first appeared in the American colonies in the years from 1693 to 1706, a period during which it struck at every major port from Boston to Charleston. It aroused fear and consternation, but like smallpox, it was at this time assumed to be an imported disease. The fever first appeared in New York in 1702, threatened in 1731, and then reached epidemic proportions for the second time in 1742. It was this outbreak which led Cadwallader Colden in 1743 to enunciate the doctrine that yellow fever was associated with dirt and filth in damp, low-lying areas. Individuals living in filled-in swampy land lying close to the docks and slips into which "the nastiness of the town is thrown" were most liable to yellow fever. Colden also asserted that these same conditions were responsible for the "epidemical disorders" which every summer struck down infants and children. The cause of these plagues, he wrote, was the deplorable sanitary conditions, and he advocated a drainage and sanitary program to keep the city and its air "clean

and sweet." The combined effect of a series of summer fevers and Colden's agitation for reform led city officials to strengthen the city's sanitary laws. Colden's thesis was revived and expanded when yellow fever returned at the end of the century to wreak havoc in New York and other American ports. While Colden was no great original thinker, since the concept he expressed had a long history dating back at least to Hippocrates, he was the first American to influence sanitary legislation through his clear exposition of this idea.

Implicit in the sanitary and quarantine measures enacted during the colonial period was the concept of community responsibility, that individual behavior in certain respects must be regulated for the mutual welfare. There was an assumption, too, that certain goals could only be achieved by collective action. Because New York City remained relatively small throughout the colonial period, charity was considered a private matter to be left in the hands of the church or private individuals. Yet when this did not suffice, the City Council did not hesitate to provide medical care for the sick poor. As related in the first volume of this study, the records show that city authorities employed physicians to minister to the poor, to sick immigrants, and to those jailed for debts.

In terms of the prevailing state of medical knowledge, colonial New York had a surprisingly effective public health program. It involved quarantine and isolation measures to prevent the spread of contagious diseases, included a wide range of environmental controls, and it also provided a limited amount of medical care. With respect to the environment, efforts were made to provide good food, clean air, and pure water. While the fallacious miasmatic theory lay behind the steps to keep the city clean and reduce the foul odors, the net effect was to make the city cleaner, healthier, and more satisfying esthetically.

The years from the American Revolution to the Civil War profoundly affected New York City's public health problems. The rapid expansion of the city brought about by the influx of rural newcomers, both native and foreign, immensely increased the existing health problems and at the same time created a host of new ones. This period saw the creation of the crowded fetid slums and the emergence of the tenement houses as a major source of ill health. It saw the existing city institutions literally over-

whelmed as the city outgrew its government, and it witnessed the displacement of the middle and upper class as the dominant political group by a new breed of politicians dependent upon masses of illiterate voters. By 1800 New York was no longer a small and relatively clean colonial town; it was on its way to becoming a major urban center. Since the population constantly exceeded available housing, the newcomers were forced to crowd into the older dilapidated sections. The incredible filth resulting from the lack of water and sewage lines has been dealt with at length; these intolerable living conditions caused a steady rise in the city's morbidity and mortality rates for the first 50 or 60 years of the nineteenth century.

Unfortunately, precisely when the spirit of community responsibility was most needed, it was least in evidence. In the growing city the poor were no longer individuals known personally to city officials and benevolent citizens. Rather they became a faceless mass, relegated to slums and ghettos. The economic opportunities and social mobility open to many Americans had convinced the upper classes that a willingness to work hard and to save one's money was a virtual guarantee of success. It followed, then, that the poor had only themselves to blame. Laziness and improvidence were ranked with intemperance and other vices, and poverty itself was considered clear evidence of immorality. Holding these views, the well-to-do felt little responsibility for alleviating conditions. Moreover, as the wealthier citizens moved to the outskirts of the city, they tended to lose sight of the poor. The problems of "the great unwashed" were not pleasant to think about, and removal to the suburbs made it far easier to put them out of sight and out of mind.

In New York City, as elsewhere, the decisive element in jarring the upper classes into an awareness of the horrible condition in which the slum dwellers lived were the periodic outbreaks of disease. The seriousness of these attacks compelled civic action and brought physicians and social-minded citizens face to face with the impoverishment and degradation of slum life. The attacks also coincided with the growth of the sanitary movement, a movement based on the concept that disease was either generated in or promoted by filth. While epidemic diseases took their greatest toll among the crowded poor, their ravages often spread to

the so-called decent respectable citizens. Under these circumstances, providing a healthy environment for the poor was both an act of charity and of human necessity.

The two epidemic disorders providing the chief impetus to public health reform in New York City prior to the Civil War were yellow fever and Asiatic cholera. The former plagued and threatened the city from 1791 to 1821, and the latter, Asiatic cholera, struck in a devastating fashion on two occasions, 1832 and 1848-49, and hovered around the city for several years following each of these outbreaks. The yellow fever onslaughts were responsible for strengthening the health office (quarantine agency), and for establishing the first temporary boards of health and the city inspector's office. The successive attacks of cholera led to demands for a more effective health agency, and the threat of a third cholera outbreak proved the final impetus which led to the establishment of the Metropolitan Board of Health, the forerunner of the present Health Department.

The first temporary boards of health were an outgrowth of a volunteer Health Council which came into existence in the summer of 1793. By 1796 the City Council gave formal recognition to the principle of civic responsibility for health by appointing an official Health Council, and in 1805 this council was transformed into a Board of Health. During the years when yellow fever was prevalent, this agency, with strong backing from the local medical society and the city government, was given virtually unlimited emergency powers. The failure of quarantine measures to keep yellow fever out of New York necessarily gave an impetus to the sanitationist viewpoint—that certain predisposing conditions, of which dirt and filth were the major ones, were a prerequisite for an epidemic. The health officers, as health officials were to do for most of the nineteenth century, sidestepped the question of quarantine versus sanitation by espousing both viewpoints.

At the time of the yellow fever outbreaks, New York was in the transitional stage from a colonial town to an urban center, and there was still a strong sense of communal responsibility. As a result, the early health boards exercised their authority fully and did a surprisingly good job. As soon as the first cases of yellow fever were diagnosed, the board would engage in a massive sanitary campaign, employ rigid isolation and quarantine measures,

construct temporary hospitals, provide food and shelter for the sick poor and their families, and on several occasions ordered a mass evacuation of certain districts. Whenever this last measure was applied, temporary housing along with food and other necessities were provided for those in need. While the evacuation program was based on the assumption that a dangerous miasma was prevalent in the infected areas of the city, the program was effective against yellow fever because of the relatively short flight of the *aedes Egypti* mosquito, the yellow fever vector.

As already indicated, the first health boards were given wide authority, but two serious weaknesses limited their powers. In the first place they were called into operation only during times when a pestilential disease threatened or was prevalent. In the second, they were appointed on a year-to-year basis, which meant that whenever a long interval occurred between epidemics, the boards lapsed into desuetude.

The two most permanent results of the yellow fever attacks were the strengthening of the quarantine system and the establishment, as already mentioned, of the city inspector's office. This office was created in 1804 and almost immediately fell into the hands of John Pintard, an able, energetic, and farsighted individual. The duties of the city inspector included investigating nuisances and preparing corrective ordinances, collecting business and mortality statistics, inspecting buildings, and carrying out the orders of the Board of Health. While the city inspector had little power in his own right, the more able ones constantly prodded city officials into action and through their annual reports drew public attention to some of the worst abuses. Since public health during much of the period was sanitation, the city inspector's office played an important role. By mid-century, the office was enlarged to include control of street cleaning. Unfortunately the effect was to enmesh the city inspector's office in the web of political patronage.

In the interval between the last yellow fever outbreak and the first appearance of cholera, the Board of Health had been relatively inactive, and New York City had grown progressively larger and dirtier. Moreover, the concept of community responsibility was steadily giving way to that of rugged individualism, the American version of *laissez-faire*. The deserving poor, according

to the prevailing mood, could always find charitable help; the rest had only themselves to blame. Since Asiatic cholera was primarily a filth disease, wreaking its greatest havoc among the so-called dirty, dissolute, intemperate, and imprudent slum dwellers, the upper classes felt no sharp sense of responsibility. In fact, the decimation of what they termed the filthy scum gave striking testimonial of God's displeasure with the poor's immoral ways.

Although the spread of Asiatic cholera through the Western world was probably the most heralded pandemic in history, the Board of Health did virtually nothing until the 1832 epidemic was at hand. Even then it refused to admit the presence of the disease until it was so evident that a mass exodus of citizens was well underway. When the situation reached a crisis stage, it belatedly started a campaign to clean the city and opened several temporary hospitals for the poor. Whereas the health agencies during the earlier yellow fever epidemics had assumed responsibility for both the sick poor and their families and had provided food and shelter for all who needed it, the board in 1832 contented itself with soliciting private contributions to provide food and clothing for poor patients in the cholera hospitals.

Following the first cholera outbreak, the Board of Health played a negligible role in the city government until the reappearance of the disease late in 1848. By this date the impact of impoverished immigrants had led to the rise of political machines and a corresponding increase in corruption and inefficiency in the city government. The Board of Health was revived and performed reasonably well within the narrow limits of what it felt was its responsibility, providing minimal medical care for the sick poor and remedying the worst sanitary conditions. Over and above this, it reluctantly gave some help to the destitute immigrants who continued to land during the outbreak.

By mid-century the brutalization and degradation of the majority of the working class was becoming all too evident. The recurrent outbreaks of fevers, the enormous infant mortality, and the susceptibility of the slum dwellers to all diseases were facts well known to the medical profession, and enlightened citizens were beginning to realize that the so-called immorality of the poor was conditioned at least in part by their environment. By this date the sanitary movement was in full swing. Ardent sanita-

tionists were convinced that a clean environment combined with good food, clean air, and pure water would banish epidemic diseases. In New York City, as elsewhere in America, physicians, who were among the first to recognize the relationship between dirt and disease, supplied a good part of the leadership for the sanitary reform movement.

New York City, however, had special problems. The massive influx of impoverished immigrants intensified both its sanitary and its political problems. The movement for reform was essentially a middle-class effort, and the reform leaders had little success in appealing to the public, a large portion of which was illiterate. Despairing of reforming the city government, they directed their efforts toward the state. Thus it was during these years that independent agencies operating under the state took over certain municipal functions, including the Board of Health. The drive to mobilize public opinion on behalf of an effective health board was supported by many individuals and organizations and was carried on over a period of years. The two culminating factors in awakening the well-to-do to the need for reform were first the draft riots in 1863, riots ostensibly against the draft but which soon turned into a general attack upon property. These riots shook the complacency of the upper classes and made them realize the need for concessions. The second major factor was the threat of a third Asiatic cholera outbreak. This danger came at a critical moment, and thereby enabled the reformers to push the bill creating the Metropolitan Board of Health through the State Legislature.

The creation of the Metropolitan Board of Health in 1866 was an event of major importance to New York City, and one which had significance for the cause of public health throughout the United States. The act establishing the board was based largely upon the British health laws, and it gave exceedingly broad authority to the health officers. Asiatic cholera was threatening the United States at this time, and the metropolitan board promptly swung into an energetic and effective campaign to clean the city, educate the public, and provide medical-care facilities for the sick. The outbreak was a mild one, fortunately, although the effective isolation and disinfection measures employed by the health officials undoubtedly assisted in reducing both the morbidity and

mortality. Whatever role the board may have played in limiting the outbreak, New Yorkers, who well remembered the previous onslaughts of cholera, breathed sighs of relief and gave full credit to the new health agency. Moreover, the crash program to eliminate the worst sanitary nuisances had immeasurably improved the city esthetically, another benefit which they rightfully attributed to the Board of Health.

The success of the Metropolitan Board of Health had far-reaching repercussions. When Chicago in 1867 decided a health department was needed, its city officials looked to New York and modeled their health act upon the New York City law.¹ Directly or indirectly, New York City set the pattern for municipal health reform throughout the United States. The Metropolitan Board of Health started auspiciously, gained a reputation for honesty and efficiency, and throughout its history was held in a public esteem far exceeding that of any other city department. The explanation for this success can be found in the generally high caliber of its officials and staff, and in the strong support they received from the New York Academy of Medicine and various civic reform groups. These organizations could always be counted on to join together in protesting whenever politics impinged on the Health Department.

Political considerations obviously could not be excluded from a municipal agency. The substitution of the Department of Health for the metropolitan board in 1870 was itself the result of Tammany's effort to gain complete control over all city agencies. Even the most venal politicians, however, were hesitant about openly interfering with health affairs. Yet if they did not attempt to politicize the Health Department, they could control the health budget and could exercise many subtle pressures upon health officials. The best defense against these tactics was for health administrators to mobilize public opinion on their behalf. But the public was made up of individuals representing a wide range of trades, businesses, and professions, and there were few actions of the Health Department which did not affect some vested interest. Physicians resented having to report contagious diseases, and tenement house owners, slaughterers, and a wide variety of tradesmen and businessmen bitterly fought any health regulation interfering with their sacred property rights. Under these circumstances, health officials

had to maintain a fine balance between what they felt was necessary and what was possible.

The Health Department, aided by a reform wave, made remarkable gains during the first few years, but by the 1870s the public began to lose interest in the health movement. The threats presented by cholera and yellow fever were no longer so immediate, and without these periodic crises to provide an impetus to further reform, the Health Department activities fell into a routine pattern. Outside the department, the extension of the city's sewer system brought a slow improvement in sanitary conditions and a corresponding decrease in morbidity and mortality. Under the leadership of Charles F. Chandler, 1873-83, the department operated reasonably well, but Chandler did not have the personality nor the drive to overcome the general inertia. His successor, Alexander Shaler, subjected the department to direct political influences and allowed a general slackness to pervade it.

By the 1890s a new wave of reform was in the making, and public health was beginning to emerge as a distinct professional field. The medical profession, aided by developments in physiology, microbiology, and a host of other scientific areas, was steadily raising its own professional standards and was beginning to insist upon professional control of public health. During this decade the Health Department experienced a new surge of activity, promoted in part by the threat of another Asiatic cholera outbreak. Taking advantage of the revolutionary discoveries in bacteriology, the department opened the first bacteriological laboratory for the routine diagnosis of disease. Under the able direction of Dr. William Park, the department's laboratory remained preeminent among state- and municipal-operated laboratories for many years and during this time made notable contributions to diagnosis and therapy.

A second area in which the department broke new ground was school health. Tentative steps in this direction had been made in the 1870s and 1880s when the Health Department began inspecting the sanitary condition of the schools. By the 1890s this concern extended to school children, and in 1897 a Division of Medical School Inspection was established. Originally designed to make a cursory check for cases of contagious disorders, the system slowly expanded into a comprehensive health program. The introduction

of school nurses in 1902 was another major contribution to the field. These nurses proved much more effective in dealing with mothers and children, and they released the school physicians from a good deal of routine work.

With the beginning of the twentieth century the Health Department, under the strong leadership of Dr. Hermann Biggs and his cohorts, was steadily expanding its programs. Major frontal assaults were made upon diphtheria, tuberculosis, and other communicable diseases, school health work was broadened, and more attention was centered upon maternal and child health care. The tuberculosis campaign led to the establishment in 1906 of the first municipal tuberculosis sanitarium. In the area of child health the dominant figure was Dr. S. Josephine Baker, who was responsible for creating a Division of Child Health in the department. She headed this division from its inception in 1908 until 1923, and during this period New York City continued to improve maternal and child health care.

The second decade of the century was another productive period for the New York City Health Department. Under the leadership of Commissioners Goldwater and Emerson, the department moved further into the area of health education, involved the medical profession and the public in health work through advisory councils, rewrote the Sanitary Code, and established the first district health centers. The end of World War I brought Tammany Hall back into power and began a period of downward drift for the Health Department. Health Commissioner Copeland used the department to promote his senatorial campaign, and in the process compromised the rigid professional standards maintained by his predecessors. His successor, Dr. Monaghan, allowed the process to accelerate, and his regime ended in the worst scandals in the department's history.

Under Commissioner Harris, the department was revitalized in the late 1920s, and the way was prepared for the remarkable advances of the New Deal era. The Depression drastically altered American thinking and led to large-scale federal appropriations which enabled the Health Department to begin a major construction program and to push into many new areas. The district health program, which had been allowed to lapse, was revived and placed on a permanent basis. A major attack was initiated against

venereal disease, ample federal money made it possible to embark upon a massive antimosquito campaign, and the department launched an effective staff education program. A significant change in sanitary inspection came with the introduction of self-inspection in the milk plants, a form of health education which was later extended to many areas. Recognizing the need for research in the public health area, the Health Research Fund was established in 1936, and five years later the city began subsidizing the Public Health Research Institute to the extent of \$100,000 a year. The remarkable progress during these years should be credited to the favorable administration of Mayor La Guardia and the able direction of Health Commissioner Rice.

The 1940s were dominated by World War II, a period when the department's efforts were diverted into wartime activities and many of its programs suffered. Budgetary and personnel problems slowed recovery in the immediate postwar years, and the Health Department did not embark upon another era of active reform until the forceful administrations of Commissioners Baumgartner and James. In the interim years the nature of public health problems had drastically changed. The previous work of the Health Department combined with advances in medicine and a higher standard of living had eliminated many of the early child health problems and brought a sharp reduction in infant and maternal mortality. Successful campaigns against communicable diseases had either eliminated or reduced them to manageable proportions. Gains in these areas, however, merely accentuated the health needs of handicapped children and the aged. A higher life expectancy had brought the chronic and degenerative diseases into sharper focus and had drawn attention to mental health, a problem affecting all age groups. Possibly as a result of affluence, two problems suddenly took on new significance, alcoholism and drug addiction, and, at the same time, the widespread addiction to smoking was recognized as a health hazard.

In deference to the medical profession, the Health Department had studiously avoided offering medical care except to the destitute, but the new health problems could not be tackled by vaccines, sanitation, and health education. Chronic and degenerative disorders affected large sections of the adult population, many of whom could not afford the expensive and continuing medical

treatment needed. To complicate the problem, the medical profession, fighting to raise its own professional standards, had steadily reduced the annual number of medical graduates during the first third of the century, and the output of medical and paramedical personnel in the World War II and postwar years was not increased commensurate with the rising demand for medical services. The critical shortage of medical personnel made it imperative that effective use be made of those available.

The Health Department had first become involved in medical care programs as a result of the Emergency Maternity and Infant Care Act of 1943. In the process of supervising the program in the city, the Health Department was able to set standards for maternity care which affected all institutions in the New York area. By the late 1950s the department was sponsoring a series of adult health programs, was moving into the area of geriatrics, and was gradually turning the health centers into agencies for comprehensive health care. This movement toward the decentralization of health services, which had been introduced by the health centers, was promoted further by reducing the size of health districts and creating satellite clinics.

In addition to its concern with health delivery, the department emphasized research and program planning, promoted municipal cooperation through the Interdepartmental Health Council, introduced a family planning program, brought fluoridation to the city, and encouraged personnel at all levels to upgrade their skills. As the drug problem increased in scope, the department devoted a larger share of research and educational activities to it. At the same time the department was forced to renew its struggle with venereal disease, which flared up in massive proportions in the 1960s.

By 1966, the one hundredth anniversary of the founding of the City Health Department, the obligations, responsibilities, and work of the department had undergone a drastic change. While sanitation still remained under its supervision, most sanitary activities had been turned over to other city departments or agencies. Street cleaning, water supply, sewerage, and other environmental matters were no longer the direct responsibility of health officials. Even air pollution was now handled by a separate city division. The former pesthouses, contagious disease hospitals, and other

municipal institutions were now under the Department of Hospitals. The great killer diseases of the nineteenth century had been eliminated or brought under control and the work of the Bureau of Infectious Diseases reduced largely to a matter of routine. Improved state and federal standards and better processing techniques had eliminated the need for close inspection of food and milk supplies, and the extension of the self-inspection system had greatly simplified the department's work. Industrial and technological changes had solved many former problems, although often supplanting them with new ones. The elimination of horses and cows from the city had removed the piles of manure and the concomitant flies, but in their place had come the steam and internal combustion engines, bringing both noise and air pollution. At the turn of the century electric-powered locomotives began replacing the noisy and dirty steam engines, but electric power, in its own way may be almost as dangerous an air pollutant. The Health Department is no longer worried about the explosive danger from poor quality illuminating oil or kerosene, thanks first to technological improvements in the oil industry and later to the introduction of electricity, but it is still concerned with the less clearly defined danger from the wider use of a host of hydrocarbon and other chemical products.

Despite all these changes, the Health Department still exercises a measure of supervision over all environmental matters, still bears responsibility for maintaining safe water and food supplies, and is still expected to keep communicable diseases under control. While it is no longer directly responsible for air and water pollution, it must monitor both air and water for those subtle threats posed by trace elements. It has assumed responsibility for supervising within the city the growing use of X-ray machines, radioactive materials, atomic energy installations, and other potentially dangerous materials and devices. In addition, it has widened its sphere to include prevention and health care from birth to old age. In dealing with chronic and degenerative disorders, it has been forced to encroach upon the health care field, particularly in the case of the lower-income group for whom private medical care is prohibitively expensive.

As Drs. Rice, Baumgartner, and James foresaw, the current problems, such as drug addiction, alcoholism, mental health, and

the degenerative disorders, do not lend themselves to simple solutions, and the possibilities of major breakthroughs in these areas are slight. Hence the department has gradually devoted an increasing share of its resources to research and program planning, recognizing that the best hope lies in whittling away at the problems until they are brought down to manageable proportions.

In glancing back over the history of the New York City Health Department, one can have little doubt that its work has had a profound effect upon the lives of several generations of New Yorkers. Aside from its successful efforts to reduce morbidity and mortality, the department deserves considerable credit for making the city a cleaner and more wholesome place in which to live. True, New York today leaves a great deal to be desired. It is still dirty and noisy, and far too many of its inhabitants dwell in substandard housing, but there can be little comparison with the New York described in the 1865 *Report of the Council of Hygiene and Public Health*. The damp, dark, filthy cellars are gone, along with the fetid windowless rear tenements. Overflowing privies and cesspools no longer threaten health and offend the senses, and an ample water supply is assured to even the poorest tenants. The former nuisance industries and trades have either been banished from the city or forced to sanitize their operations. Garbage no longer festers in the streets, and the harbor waters immediately adjacent to Manhattan, while scarcely crystal clear, at least do not receive the raw sewage, garbage, and offal of the entire city. Many of these improvements can be credited to technical and engineering developments, but in every instance the Health Department was the first to educate the public and to pressure industries and municipal officials into applying these developments for the general welfare.

Because it has always had an excellent public image, the department has exercised a far greater influence in city affairs than its size might indicate. The medical profession, or certainly substantial parts of it, had many reservations about the department's activities, but it could generally be counted on to fight for a professional, relatively independent health agency. Every civic reform association had the support of the Health Department and in turn could usually be relied upon to back it up. In consequence, a

strong health commissioner could always mobilize widespread public support whenever the department was under attack or was moving into a new area. The work of the department's staff, particularly as it related to maternal and child health and to the health of school children, directly and favorably affected large numbers of people, a fact which was not lost on politicians. While they did not rule out the Health Department as a source of patronage, they did approach it gingerly.

Once the Health Department had convinced city authorities to take a certain course of action and had solved the technical problems incident to it, the routine administration was often turned over to a separate city department. Street cleaning, water and sewerage, tenements, and air pollution illustrate this tendency. Yet the work of these departments still remain of direct concern to the health of New Yorkers, and the Health Department continues to check upon them. Citizens outraged by lack of garbage collection or fuming over the failure of their landlord to provide adequate facilities frequently call the Health Department. In the case of fluoridation, the Health Department first had to convince the public and the City Council, and then apply pressure to a reluctant Water Department which looked upon fluoridation as a threat to its comfortable routine.

With New York City pioneering in municipal health, the entire state of New York inevitably benefited. City milk inspectors, by insisting on relatively high standards for milk shipped to New York, improved the quality of milk sold throughout the entire milkshed, an area embracing several states. Since the sanitary and sewerage arrangements in the Croton and other watersheds supplying the city played an important role in determining the quality of the city's water supply, New York City, either directly or indirectly, forced many small towns and counties into installing proper sewerage and sanitary facilities. The Health Department standards for food and drugs similarly set the pattern for the state and encouraged statewide action. The department's laboratory benefited the state through its research activities and the production of serums and vaccines. The entire City Health Department was an example for every town and community in the state, and there was a constant interchange of personnel. The city attracted

able and ambitious young health officers, and at the same time staff members trained in New York City went forth to fill responsible health positions elsewhere in the state.

Aside from these contributions to the state health program, officials in the City Health Department were responsible for organizing the State Board of Health, and they continued to provide the leadership which enabled the State Health Department to achieve first rank in the nation. Drs. Elisha Harris and Stephen Smith, two key figures in establishing the City Health Department, played equally important roles in creating the State Health Department. Dr. Smith drafted the bill establishing the New York State Board of Health, and he and Dr. Harris were two of the chief lobbyists in securing its passage in 1880. As chief health officer for the state, Dr. Harris helped make the state health agency an effective force. In the twentieth century Dr. Hermann M. Biggs, whose drive, energy, and innovations gave the City Health Department a preeminent position in the nation for almost 30 years, also began working at the state level. He was largely responsible for rewriting the state health laws in 1913. These new measures provided for a public health council with broad powers and a strong health executive with professional training and experience. As state health commissioner, Dr. Biggs used the health powers so effectively, according to Dr. Charles V. Chapin, the outstanding health officer for Providence, that by the 1920s New York State had the best health department in the nation.

As might be expected, the leadership displayed by the City Health Department in New York State affairs was paralleled by its influence at the national level. New York health leaders were active in national affairs, and the innovative programs and activities of the Health Department set nationwide patterns. For example, Dr. Elisha Harris was a founder and the corresponding secretary for the United States Sanitary Commission, the civilian group which assisted and helped to reform the United States Army Medical Corps. He and Dr. Stephen Smith were two of the originators of the American Public Health Association, and the initial meeting of the association was held in the New York City Health Department's headquarters on Mott Street in 1872. Dr. Smith, who played a key role, was appointed chairman of the committee to create a permanent organization and was subse-

quently chosen as the association's first president. He was twice elected to succeed himself and might have held office longer had he not withdrawn from candidacy. Dr. Harris was appointed secretary of the association at its inception and held that office until his election to the presidency in 1877.

When the great yellow fever epidemic of 1878 swept far up the Mississippi Valley, creating fear and alarm throughout the nation, Congress responded by organizing a National Board of Health. Dr. Stephen Smith worked closely with Dorman B. Eaton, a prominent New York lawyer, in drafting the law setting up the national board, and he was one of the first members appointed to it. Although the National Board of Health survived for only four years, it reflected the growing demand for national health services. Another New York City Health Department figure to play a significant role at the federal level was Dr. S. Josephine Baker. Her pioneering efforts on behalf of maternal and child health in New York City brought her international recognition, and the Division of Child Hygiene which she organized in New York City in 1908 became the prime example for similar agencies in other cities and states. Through her fight on behalf of children everywhere, she helped arouse the public awareness that led to the Sheppard-Towner Act of 1921, the first measure to involve the federal government in the general health care field.

In more recent years leadership in the child health field was assumed by Dr. Leona Baumgartner, whose career ultimately carried her to the post of commissioner of the New York City Health Department and from there to executive positions at national and international levels. Starting as a medical instructor in child and school hygiene in the City Health Department, she rose rapidly and within 12 years was an assistant commissioner. From there she moved up to the position of associate chief, United States Children's Bureau, and then subsequently returned as health commissioner for the city. In 1962 President Kennedy appointed her assistant secretary of state in charge of technical cooperation and research in the Agency for International Development. While holding these various positions, she had served on occasions as advisor and consultant for the French, Indian, Japanese, and Soviet governments and the World Health Organization.

In addition to providing leadership at the national level, New

York has continued to serve as a demonstration area for new public health programs, has conducted extensive research into public health problems, and has set standards for other American health departments. Until historians delve into the public health aspects of municipal history throughout the United States, the precise role played by the New York City Health Department in shaping American city health programs cannot be known for certain. Moreover, public health embraces a wide area of civic activities and no city, however progressive, can claim preeminence in all areas. New York does have the distinction of being the first city to create a strong Board of Health possessing wide authority. It was fortunate, too, in its choice of health leaders, for with a few exceptions, the health commissioners were able, conscientious, and honest.

While other metropolitan centers have made notable contributions to public health, their public health leaders had neither the authority nor the resources of those in New York. Dr. Chapin in Providence, certainly a progressive and effective urban health administrator, was never given the funds nor the power to effect the reforms which he felt were necessary. Boston had an excellent health department, and the Massachusetts State Board of Health became a model for other states, but it is doubtful that the Boston Health Department influenced the course of American municipal health as much as New York. While other cities can claim some precedence in certain areas—Boston, for example, in school inspection—New York led the way in laboratory research and its application, in the general area of school health, in maternal and child care, in food and milk inspection, in its extensive tuberculosis program, and, during the past 30 years, in the entire field of public health research. As the nation's largest city, New York was confronted with unprecedented health problems, but this same factor provided the resources which made it possible for the Health Department to allocate relatively large sums of money into public health research and innovative programs.

For the past few years while writing and researching on the history of New York City, the author has reflected on what might be the theme of his study. He assumed it would emerge in the process of organizing and assimilating the vast quantity of facts and figures encountered and the impressions gained, but no single

theme centering on public health stood out. There are some observations, however, which have a general applicability to urban history. The most striking one is the alternation of action and apathy, of energetic administrations and stagnation, and of reform and neglect. To some extent these periods are correlated with forceful leadership in the Health Department, but in general the department followed the fluctuations within the city government. When slackness and corruption affected the city administration, the Health Department usually marked time. Strong individuals such as Drs. Biggs and Baker were able to guard their own preserves and maintain high professional standards, but even they were dependent upon city hall for budgets and could not be completely immune to political pressures.

Corrupt politicians and political bosses had little use for a strong independent Health Department, and they usually selected mediocrities or "safe" individuals for their health commissioners. Conversely, honest, reform mayors usually attempted to find the most effective individuals to administer the department. A prime example is that of Mayor La Guardia. No mayor was as interested in nor as concerned with public health as La Guardia, and it is safe to say that no mayor ever interfered as much with Health Department affairs. Yet he went outside the city to find the individual best qualified for the commissionership, and he consistently backed Health Commissioner Rice's efforts to improve health conditions. This is not to say that all was complete harmony; La Guardia could be abrasive, and Dr. Rice was no Milquetoast. But both men respected each other's abilities, and they shared a common goal—the health and welfare of the city.

It is still a little early to assign a place in New York history to Mayor Robert Wagner, although he scarcely had the image of a forceful reform mayor. He was interested in public health, however, as indicated by his selection of two outstanding health commissioners. When the Health Department, under Dr. Baumgartner's direction, sought to move in the direction of public health research, Mayor Wagner gave full support and provided relatively large appropriations for this purpose.

On the opposite side of the coin, one has only to look at Mayor Van Wyck, who held office from 1898 through 1901. He chose two successive health commissioners, neither of whom knew nor

cared about public health, with the result that the Health Department reached one of its lowest points. Running a close second to Van Wyck was Mayor Hylan, whose successive choices for health commissioner were Drs. Amster, Copeland, and Monaghan, representing a steady downhill trend starting from mediocrity.

All of this leads to the observation that the public can stand only so much virtue. Efficient, reform governments quickly lose their appeal, and the same constituency which on occasions votes the rascals out, will just as cheerfully on other occasions vote the rascals in. The worst effects of major political shifts have been avoided in the past 40 years by the development of civil service. This has enabled the Health Department to build a bureaucracy of varying degrees of effectiveness, one which can operate with some measure of independence. Bureaucracies, however, have their own problems, and these intensify with size and maturity.

The Health Department bureaucracy has suffered two major handicaps. In an effort to keep all phases of administration under his control, Mayor La Guardia placed rigid budgetary restrictions upon the departments, with the result that department heads since that time have had little discretion in spending their funds. The effect was to eliminate much of the flexibility necessary for effective administration. Department and bureau heads were unable to deal with changing economic conditions or health needs without encountering long delays in seeking permission from city finance officers. The impact was particularly harmful in the post World War II years when rising wages and personnel shortages plagued the Health Department. A second handicap is the civil service system, a citywide program devised to maintain standards and protect the welfare of municipal workers. Whatever its merits for the average city employee, the system is simply not geared to the needs of the large professional staff in the Health Department, many of whom do not fit into the relatively rigid classifications of civil service. In consequence, the department has been hindered in hiring and promoting, and from shifting its personnel to meet special demands.

The size of the Health Department's bureaucracy has become a problem in itself. Once new programs are firmly established and work patterns ingrained, it becomes difficult to change them. As division and bureau heads carve out spheres of interest, they are

exceedingly reluctant to surrender territory or responsibility. The long fight to decentralize the department through the creation of health centers clearly illustrates both of these factors. Moreover, older employees rarely like their routine to be changed, and lower-echelon administrators who have risen through the power of seniority are scarcely receptive to new programs. On the whole, the Health Department probably has a better record on this score than most city departments, since it has emphasized in-service training and upward mobility, but a certain measure of bureaucratic inertia cannot be avoided.

Historically New York City has had a good record on the score of public health. The Dutch influence and the general sense of communal responsibility carried on down to the American Revolution and kept sanitary problems, and their corollary, sickness, to a minimum. This spirit of communal responsibility also survived through the yellow fever attacks from 1795 to 1806. The temporary health committees and boards which operated during these years demonstrated considerable wisdom and humanity, and they received full backing from the well-to-do citizens. No other city fought yellow fever outbreaks by mass evacuations of infected districts, a step which involved using municipal funds to provide food and temporary housing for the hundreds of families who were removed from their homes. New York City officials had an equally good record for remaining at their posts during periods of major epidemics, a course of action which was scarcely typical in the nineteenth century.

In the intervening years between the last yellow fever attacks and the establishment of the Metropolitan Board of Health in 1866, health conditions in New York deteriorated, bringing a rise in morbidity and mortality rates. By more than a coincidence, the worsening state of public health was accompanied by a reduced sense of social responsibility on the part of the upper economic groups. Yet on both these scores New York was little different from other American cities. The broadening of the franchise and the influx of newcomers and poor immigrants into all major urban centers aggravated health problems by making possible the rise of corrupt political machines, which in turn tended to deprive the middle-class reformers of a voice in government. By the 1850s and 1860s conditions in New York City were reaching a crisis stage,

always a prerequisite for major reforms in a democratic society, and significant changes were effected in the city government. Health conditions slowly improved in the following years, but what was more important was the steady evolution of an effective health agency. When bacteriology revolutionized the health field in the latter part of the nineteenth century, New York City had an established health department which was able to take full advantage of the discoveries in medicine and its related fields.

The past 100 years have seen the work of health departments drastically altered, and these changes have inevitably affected the public's (i.e., the taxpayers') attitude toward health programs. Since the devastating results of specific contagious diseases in the late nineteenth and early twentieth centuries were self-evident, and vaccines, health education, isolation, and quarantine were relatively inexpensive methods of prevention, taxpayers raised only minimal objections to such programs. Early health officials did encounter opposition in their fight for expensive sewerage and drainage programs, but civic pride and esthetic considerations bolstered their cause. In fighting contagious diseases health officials were operating within the realm of medicine and its ancillary sciences, but these lines were no longer clear cut once attention was shifted to chronic, degenerative, and social disorders. In dealing with mental health, drug addiction, geriatrics, and similar health problems, health departments soon found themselves involved in the whole area of social problems and social reform. This tendency to broaden the concept of public health was accentuated as the conquest or control of the former killer diseases made it possible for public health to assume a new role, that of promoting health rather than preventing disease.

Redefining the aim of public health, however, had two repercussions. First, whereas disease prevention was largely in the realm of medicine, as health departments began to tackle the major socio-health issues, they found they had no exclusive preserve, for social workers, sociologists, political scientists, politicians, and a host of informed and uninformed citizens all sought a voice in the decision-making process. In the second place, in assuming responsibility for promoting health, public health workers could not avoid active participation, either directly or in a supervisory capacity, in the health care field. These steps quickly brought them

into sharp conflict with the medical profession. Organized medicine had always demonstrated a measure of ambivalence toward disease prevention, and its opposition to public health programs increased in a direct ratio to public health involvement in health care.²

There is a measure of irony in the impact of large-scale federal spending to improve medical care. Pouring tremendous amounts of money into the health professions with but little regard for the limited personnel has had the effect of sharply raising the profession's income and bringing a commensurate increase in the cost of private medicine. The lower-income groups are being priced out of private medical practice, thus adding to the demand for a comprehensive medical care system. In their efforts to preserve the fee system virtually intact, the medical profession is actually hastening the day when it will be supplanted by a state system.

A higher standard of living in an urban area invariably results in lower morbidity and mortality rates. It also results in a cleaner and more sanitary environment, since personal and public hygiene is to a large extent a matter of economics—a luxury that an impoverished population cannot afford. Social advances, however, do not occur along an even front, and a chief function of public health agencies is to see that a reasonable share of the available economic goods is allocated to the promotion of health. In this respect, the New York City Health Department has fought well and achieved considerable success. While it has never received a generous share of the municipal resources, it has managed to expand its services and make good use of its limited budgets.

An effective public health program can never rest on its laurels. It must constantly be looking ahead, setting newer and higher standards, and striving for new goals. Even in terms of traditional health aims, the New York City Health Department still faces many challenges. Gross pollution characterizes the city's streets, air, and water, and thousands of New Yorkers still live in substandard housing. Despite a vast improvement over the late nineteenth century, environmental conditions for most New Yorkers are not commensurate with the general rise in the American standard of living. Fortunately, the knowledge and technology are available for reducing these problems, and the Health Department is already looking ahead to dealing with the more subtle and

long-range threats to community and individual health. The major aims of public health in New York City for the next generation have already been set; it remains for the present and future health administrators to achieve these goals, to set new standards, and to anticipate future problems. With the tradition of a century of effective performance behind them, the task should be an easier one.

Notes to Chapter 21

1. Thomas N. Bonner, *Medicine in Chicago, 1850–1950* (Madison, Wis., 1957), pp. 80–81.
2. For a good discussion of this, see Barbara G. Rosenkrantz, *Public Health and the State: Changing Views in Massachusetts, 1842–1936* (Cambridge, Mass., 1972), pp. 128–76.

Appendix I

Commissioners and Board of Health

1866-67

Jackson S. Schultz, president
James Crane, M.D.
Willard Parker, M.D.
John O. Stone, M.D.
John Swinburne,
health officer of the port
Thomas C. Acton,
John G. Bergen,
Joseph S. Bosworth,
Benjamin Manierre,
police commissioners

1868-69

George B. Lincoln, president
Stephen Smith, M.D.
John O. Stone, M.D.
John Swinburne, M.D.
James Crane, M.D.
Thomas C. Acton, 1868
Henry Smith, 1869
Matthew T. Brennan,
Joseph S. Bosworth,
Benjamin Manierre,
police commissioners

1870-72

Joseph Bosworth, president
Stephen Smith, M.D.
Giovanni Ceccarini, M.D.
Magnus Gross, M.D.
John Mullaly, M.D.
S. O. Vanderpool, M.D.,
health officer of the port
Henry Smith,
Matthew T. Brennan, 1870
Thomas J. Barr, 1871-72
Benjamin Manierre,
police commissioners

1873

Charles F. Chandler, Ph.D., president
Stephen Smith, M.D.
S. O. Vanderpool, M.D.,
health officer of the port
Henry Smith,
president of the Board of Police

1874-75

Charles F. Chandler, Ph.D.,
president
Stephen Smith, M.D., May 1, 1874,
to April 30, 1875
Edward G. Janeway, M.D., May 1,
1875, to December 31, 1875
S. O. Vanderpool, M.D.,
health officer of the port
Hugh Gardner, July 1, 1874, to
July 7, 1874,
George W. Matsell, July 8, 1874,
to December 31, 1875
president of the Board of Police

1876-81

Charles F. Chandler, Ph.D.,
president
Edward G. Janeway, M.D.
S. O. Vanderpool, M.D., 1876-79
Wm. M. Smith, M.D., 1880-81
health officer of the port
George W. Matsell, 1876,
Wm. F. Smith, 1877,
Stephen B. French, 1880-81,
president of the Board of Police

1882-83

Charles F. Chandler, Ph.D.,
president
Woolsey Johnson, M.D.

App. 1 (*cont.*)

Wm. M. Smith, M.D.,
health officer of the port
Stephen B. French,
president of the Board of Police

1884-87

Alexander Shaler, president
Woolsey Johnson, M.D.
Wm. M. Smith, M.D.,
health officer of the port
Stephen B. French,
president of the Board of Police

1888-89

James C. Bayles, president
Woolsey Johnson, M.D., 1888 (died)
Joseph D. Bryant, M.D.
Wm. M. Smith, M.D.,
health officer of the port
Stephen B. French,
president of the Board of Police

1890-91

Charles G. Wilson, president
Joseph D. Bryant, M.D.
Wm. M. Smith, M.D.,
health officer of the port
Charles F. McLean,
president of the Board of Police

1892-94

Charles G. Wilson, president
Joseph D. Bryant, M.D., 1892
Cyrus Edson, M.D., 1893-94
Wm. T. Jenkins, M.D.,
health officer of the port
James J. Martin
president of the Board of Police

1895-97

Charles G. Wilson, president
George B. Fowler, M.D.
Alvah H. Doty, M.D.,
health officer of the port
Theodore Roosevelt, 1895-96,

Frank Moss, 1897,
president of the Board of Police

1898-1900

Nathan Straus, president, 1898
Michael C. Murphy, president,
1899, 1900

Wm. T. Jenkins, M.D.
John B. Cosby, M.D.
Alvah H. Doty, M.D.,
health officer of the port
Bernard J. York,
president of the Board of Police

1901

John B. Sexton, president
John B. Cosby, M.D.
Wm. T. Jenkins, M.D.
Alvah H. Doty, M.D.,
health officer of the port
Michael C. Murphy,
police commissioner

1902-03

Ernest J. Lederle, Ph.D., president
and commissioner
Alvah H. Doty, M.D.,
health officer of the port
Col. John N. Partridge, 1902,
Col. Francis V. Greene, 1903,
police commissioner

1904-09

Thomas Darlington, M.D., president
and commissioner
Alvah H. Doty, M.D.,
health officer of the port
Wm. McAdoo, 1904-05,
Theodore Bingham, 1906 to July 1,
1909,
Wm. F. Baker, July 1 to December
31, 1909,
police commissioner

Appendix 1

App. 1 (*cont.*)

1910-11

Ernest J. Lederle, Ph.D., president
and commissioner
Alvah H. Doty, M.D.,
health officer of the port
Wm. F. Baker, January 1 to
October 20, 1910,
James C. Cropsey, October 20, 1910,
to May 23, 1911,
Rhineland Waldo, May 23 to
December 31, 1911
police commissioner

1912-13

Ernest J. Lederle, Ph.D., president
and commissioner
Alvah H. Doty, M.D., January 1 to
February 29, 1912,
Joseph J. O'Connell, M.D., February
29, 1912 to December 31, 1913
health officer of the port
Rhineland Waldo,
police commissioner

1914-15

S. S. Goldwater, M.D., president
and commissioner, 1914 to Octo-
ber 31, 1915
Haven Emerson, M.D., president and
commissioner, November 1 to
December 31, 1915
Joseph J. O'Connell, M.D.,
health officer of the port
Douglas I. McKay, January 1 to
April 8, 1914,
Arthur R. Woods, April 8, 1914, to
December 31, 1915,
police commissioner

1916-17

Haven Emerson, M.D., president
and commissioner
Leland E. Cofer, M.D.,
health officer of the port
Arthur Woods,
police commissioner

1918-22

J. Lewis Amster, M.D., president
and commissioner, January 16 to
April 28, 1918
Royal S. Copeland, M.D., president
and commissioner, April 29, 1918,
to December 31, 1922
Leland E. Cofer, M.D.,
health officer of the port
Frederick Hamilton Burgher,
January 1 to January 23, 1918,
Richard E. Enright, January 23,
1918, to December 31, 1922,
police commissioner

1923-25

Frank J. Monaghan, M.D., president
and commissioner
Leland E. Cofer, M.D., 1923
Harry P. Swift, M.D., 1924-25
Richard E. Enright,
police commissioner

1926-27

Louis I. Harris, M.D., president
and commissioner
Harry P. Swift, M.D.
George V. McLaughlin, 1926
Joseph A. Warren, 1926,
police commissioner

1928

Louis I. Harris, M.D., president
and commissioner, January 1,
to August 16
Shirley W. Wynne, M.D., president
and commissioner, August 17 to
December 31
Harry P. Swift, M.D.
Joseph A. Warren, January 1 to
December 18,
Grover A. Whalen, December 18 to
31, police commissioner

App. 1 (*cont.*)

1929

Shirley W. Wynne, M.D., president
and commissioner

William Schroeder, Jr., M.D.,
Commissioner of Hospitals

Harry P. Swift, M.D.

George O'Hanlon, M.D.

1930-33

Shirley W. Wynne, M.D., president
and commissioner

J. G. Wm. Greeff, M.D.,
commissioner of hospitals

William Schroeder, Jr., M.D.,
1930-32,

chairman of the Sanitary Com-
mission

George McAneny, 1933,

commissioner of sanitation

Harry P. Swift, M.D.

Rand P. Crandall, M.D.

1934-37

John L. Rice, M.D., president
and commissioner

S. S. Goldwater, M.D.,
commissioner of hospitals

Thomas W. Hammond, 1934-36,

William F. Carey, 1937,

commissioner of sanitation

Haven Emerson, M.D.

Frank L. Babbott, Jr., M.D., 1934

John E. Jennings, M.D., 1935-37

1938-45

John L. Rice, M.D., chairman and
commissioner, 1938 to July 1942

Ernest L. Stebbins, M.D., chairman
and commissioner, July to Decem-
ber 31, 1945

Carl Boettiger, M.D., 1938

David M. Heyman

John E. Jennings, M.D., 1938-44

Haven Emerson, M.D.

Thomas M. Rivers, M.D.

Robert McCurdy Marsh, 1945

1946-48

Ernest L. Stebbins, M.D., chairman
and commissioner, January 1 to
March 1946

Edward M. Bernecker, M.D.,
chairman and commissioner,
March 4 to 13, 1946

Israel Weinstein, M.D., chairman
and commissioner, March 13, 1946
to November 4, 1947

Harry S. Mustard, M.D., chairman
and commissioner, November 4,
1947, to December 31, 1948

Haven Emerson, M.D.

David M. Heyman

Robert McCurdy Marsh

Thomas M. Rivers, M.D.

1949

John F. Mahoney, M.D., chairman
and commissioner

Haven Emerson, M.D.

David M. Heyman

Judge Robert McCurdy Marsh

Thomas M. Rivers, M.D.

1950

John F. Mahoney, M.D., chairman
and commissioner

Haven Emerson, M.D.

Harry S. Mustard, M.D.

Judge Robert McCurdy Marsh

Thomas M. Rivers, M.D.

1951-53

John F. Mahoney, M.D., chairman
and commissioner

Haven Emerson, M.D.

Judge Robert McCurdy Marsh

Harry S. Mustard, M.D.

Thomas M. Rivers, M.D.

Appendix 1

App. 1 (*cont.*)

1954

Leona Baumgartner, M.D., chairman
and commissioner
Haven Emerson, M.D.
Paul R. Hays, LL.D.
Harry S. Mustard, M.D.
Thomas M. Rivers, M.D.

1955-56

Leona Baumgartner, M.D., chairman
and commissioner
Haven Emerson, M.D.
Paul R. Hays, LL.D.
Samuel Z. Levine, M.D.
Thomas M. Rivers, M.D.

1957-58

Leona Baumgartner, M.D., chairman
and commissioner
Chester I. Bernard, LL.D.
Lewis Thomas, M.D.
Paul R. Hays, LL.D.
Samuel Z. Levine, M.D.

1959-60

Leona Baumgartner, M.D., chairman
and commissioner

Chester I. Bernard, LL.D.
Lewis Thomas, M.D.
Louis Loeb, LL.B.
Samuel Z. Levine, M.D.

1961-62

Leona Baumgartner, M.D., chairman
and commissioner
John Heller, M.D.
Lewis Thomas, M.D.
Louis Loeb, LL.B.
Samuel Z. Levine, M.D.

1963-64

George James, M.D., chairman and
commissioner
John Heller, M.D.
Lewis Thomas, M.D.
Louis Loeb, LL.B.
Samuel Z. Levine, M.D.

1965-66

George James, M.D., chairman and
commissioner
Walsh McDermott, M.D.
Lewis Thomas, M.D.
Louis Loeb, LL.B.
Samuel Z. Levine, M.D.

Appendix 2

Population of New York, 1860–1960

<i>Year</i>	<i>Population</i>
1860	805,658
1870	942,292
1880	1,206,299
1890	1,515,301
1900	3,437,202
1910	4,766,883
1920	5,620,048
1930	6,930,446
1940	7,454,995
1950	7,891,957
1960	7,781,984

Appendix 3

Crude Death Rate per 1,000, 1860–1960

<i>Year</i>	<i>Death Rate</i>
1860–69	31.68
1870–79	27.61
1880–89	26.82
1890–99	22.9
1900–09	18.3
1910–19	15.0
1920–29	11.5
1930–39	10.5
1940–49	10.3
1950–59	10.4

Appendix 4

Average Death Rates per 100,000 for Specific Communicable Diseases

<i>Pulmonary Tuberculosis</i>		<i>Scarlet Fever**</i>	
1900-09	211.2	1900-09	67.6
1910-19	165.7	1910-19	27.7
1920-29	78.7	1920-29	8.5
1930-39	55.5	1930-39	3.6
1940-49	38.1	1940-49	0.4
1950-54	19.5	1950	—
<i>Other Forms of Tuberculosis</i>		<i>Diphtheria**</i>	
1900-09	32.0	1900-09	159.3
1910-19	25.9	1910-19	86.4
1920-29	11.9	1920-29	42.1
1930-39	6.3	1930-39	6.1
1940-49	3.2	1940-49	0.6
1950-54	1.6	1950	0.1
<i>Measles*</i>		<i>Typhoid Fever</i>	
1900-09	140.7	1900-09	16.65
1920-29	99.9	1910-19	6.55
1930-39	16.1	1920-29	2.02
1940-49	2.2	1930	0.89
1950	2.1		
<i>Whooping Cough*</i>			
1900-09	68.4		
1910-19	62.1		
1920-29	52.1		
1930-39	21.1		
1940-49	5.2		
1950	0.1		

*Death rate per 100,000 population under 5 years.

**Death rate per 100,000 population under 15 years.

Appendix 5

Leading Causes of Death, 1866, 1916, and 1966

1866

1. Diarrheal diseases	4,880
2. Diarrheal diseases under 5	2,856
3. All diseases of the nervous system	3,876
4. Phthisis (pulmonary tuberculosis)	3,841
5. Pneumonia	1,388
6. Accidents, homicides, suicides	956
7. Scarlet fever	806
8. Heart diseases	680
9. Bronchitis	557
10. Typhoid fever	514

1916

1. Heart disease	10,687
2. Pneumonia	10,568
3. Pulmonary tuberculosis	8,411
4. Bright's disease and nephritis	6,546
5. Violence	5,060
6. Cancer	4,701
7. Diarrheal diseases under 5	3,054
8. Other tuberculosis diseases	1,237
9. Diphtheria and croup	1,031
10. Bronchitis	813

1966

1. Heart disease	37,166
2. Cancer	17,745
3. Vascular lesions of central nervous system	6,261
4. Influenza and pneumonia	3,583
5. Accidents	2,954
6. Cirrhosis of the liver	2,805
7. Certain diseases of early infancy	2,436
8. Diabetes mellitus	1,741
9. General arteriosclerosis	1,243
10. Congenital malformations	861

Bibliography

Public Records: The mass and diversity of sources relating to New York City public health makes it impossible to do more than survey the many available historical collections. An excellent starting point to study the Health Department records is Estelle Brodman, "New York City Department of Health, Periodicals and Serials Published, 1866-1939," *Special Libraries*, XXXI (1940), pp. 23-29, 59-64; Supplementary Note, p. 133. This is a useful short survey. The *Annual Reports of the Metropolitan Board of Health*, 1866-69, followed by the *Annual Report of the Health Department of the City of New York*, from 1870 and thereafter are basic to any study of New York health. The title varies as does the precise date for the end of the official year. There are several gaps in publication (1881-88, 1932-36, 1941-48), and the quality of the published reports varies. During the 1930s a short typescript summary of the department's activities was mimeographed and circulated each year, and in 1937 a pamphlet was printed containing a brief account of the annual reports for the years 1934-36. The outbreak of World War II also brought a cessation of the published reports. A typescript summary of the department's activities was mimeographed in 1941 and for the succeeding years, and the next published report covered the period from 1941 to 1948. The reports for the early 1960s are not complete.

A valuable adjunct to these annual reports are the Minutes of the Metropolitan Board of Health, beginning March 2, 1866, and continuing in 1870 as the Minutes of the Board of Health of the City of New York. These minutes were written in folio volumes and are available in the Health Department up to the year 1905.

In preparation for the centennial history of the Health Depart-

ment, Commissioner George James requested bureau and division heads to have short histories of their sections prepared. A few of these histories list the author, but the majority give only a title and date. Among those found useful are the following: Hanson Blatz, "History of the Office of Radiation Control," n.d.; Nina Bleiburg, "The History of the Child Health Conference in New York City," n.d.; Yetta Bokhaut, "History, Bureau of Public Health Nursing, 1902-1963," August 1963; Abraham Oppenheim, "History of the Bureau of Adult Hygiene," n.d.; I. M. Witlin, Sr., "One Hundred Years Advancement in Food and Drug Sanitation in the City of New York," April 1, 1965; "The Bureau of Tuberculosis," n.d.; "History of the Bureau of Dentistry," n.d.; "History of the Bureau of Sanitary Engineering," November 1962; "History of the Bureau of School Health," November 2, 1962; "History of District Services," October 30, 1962; "History of the Division of Day Care, Day Camps and Institutions, 1943-63," n.d.; "History of the Division of Organization and Methods," n.d.; "History of the Medical Emergency Division," n.d.; "History of the Office of Professional Education of the New York City Department of Health," n.d.; "History of the Office of Program Planning, Research and Development," n.d.; "History of the Office of Social Work," August 1965; "Office of Medical Care Services," September 20, 1962; "A Public Health Nutrition Program, Retrospect, Introspect, Prospect," March 22, 1965; "Services for Handicapped Children, Their Beginnings and Progress, New York City Health Department, 1940-1962," n.d. The quality of these studies varies greatly, and it is clear that the authors are at their best when dealing with the period of their own years of service.

Among the department's records are the typescripts of several studies of the department itself. These surveys by outsiders serve as an excellent corrective to the optimistic tone of many annual reports. The following are listed in chronological order since they were equally valuable: "The Public Health Program in New York City; An Appraisal of the Activities of the Department of Health for 1933," American Public Health Association Study, n.d.; "Proposed Reorganization of the Department of Health, Submitted to the Mayor's Executive Committee on Administration by the Division of Analysis, Bureau of the Budget," June 4, 1948; "Study of the Department of Health, City of New York, for the Mayor's

Committee on Management Survey," prepared by a staff assembled by the American Public Health Association, Inc., January 1952; "Survey of Business Management and Procedures in the Department of Health of the City of New York, for the Mayor's Committee on Management Survey," October 17, 1951, prepared by Barrington Associates, Inc.; "New York City, Mayor's Commission on Health Services [Report], Adopted July 20, 1960," Chairman, David M. Heyman. As part of the APHA study completed in 1952, John Blake wrote a good short history of the department, "Historical Study of the Development of the New York City Department of Health," which was issued in mimeograph form in 1951.

The results of two additional surveys of the Health Department were published by the city in 1916: *New York City's Administrative Progress, 1914-1916*; *A Survey of the Various Departments under the Jurisdiction of the Mayor, Conducted by Henry Bruère, Chamberlain, City of New York, May, 1916* (New York, 1916); and *A Plan for Organizing an Enlarged Department of Health*. Submitted by Henry Bruère, Chamberlain (New York, 1916).

Among the more useful manuscripts in the Health Department records are the Collected Works of Haven Emerson, M.D. This collection consists of 193 manuscripts bound in four volumes, covering the years from 1907 to 1955, with a preface by Dr. Leona Baumgartner dated May 1962. Three manuscripts deal with the drug problem: Mayor's Committee on Drug Addiction, "Interim Report on Drug Addiction among Teenagers," December 1951; "Progress Report of an Ad Hoc Panel on Drug Abuse," The White House, Washington, D. C., September 27-28, 1962; and "Report to the Mayor of the City of New York by the Temporary Commission on Narcotics Addiction," November 1965. Another valuable document is the "Summary Report of the Mayor's Task Force on Air Pollution," May 10, 1966. Other manuscripts used were a typescript copy of Paul M. Densen's speech presented before the Milbank Memorial Fund Technical Board, March 7, 1967, and a Bulletin issued by Health Commissioner George James to Professors of Preventive Medicine, April 1964.

The publications of the Health Department over the past 100

years are legion. Aside from the mountains of leaflets, pamphlets, newsletters, and news releases issued by the Bureau of Health Education, every bureau and division circulated mimeographed or printed material, some for internal consumption and others for general informative purposes. A successful publication issued by the Bureau of Health Education and designed for the general public was "Dr. Knickerbocker Says." The Haven Emerson Public Health Library has two bound volumes covering the years from 1932 to 1945. Typical of the more specialized departmental publications is the "Laboratories Newsletter," a monthly mimeographed news sheet designed largely for the benefit of the Bureau of Laboratories' staff. Volume four for the year 1963 of the Newsletter carried a serialized history of the Bureau of Laboratories. Other reliable publications in this category are the reports, newsletters, and pamphlets of the Health Research Council from 1959-65. Two especially useful ones were the *Health Research Council of the City of New York, Five Year Report, '63* (New York, 1963) and the *Health Research Council of the City of New York, Report, Fiscal Years 1963-64 and 1964-65* (New York, 1965). The Haven Emerson Public Health Library contains a number of early pamphlets and handbills in English and other languages which were designed to inform the public about the nature and care of infectious diseases.

Two extremely useful series of publications by the Health Department were the *Public Health Reprint* series and the *Monograph Series*. The *Reprint* series was published from August 1912 to July 1929 and included 104 items, of which three existed only in typescript. As its name implies, the series consists largely of material originally published in professional journals. It includes articles by a host of prominent departmental figures—Hermann M. Biggs, Haven Emerson, Louis I. Harris, Charles F. Bolduan, and so forth—and covers a wide variety of topics, ranging from pediculosis to venereal disease and from school health to the role of private practitioners in public health. The *Monograph Series* consists of 23 items published from 1912-20. The items tend to relate more directly to the Health Department, but they, too, cover many topics. Among the more useful papers are Alfred Shipley's account of the work performed by Health District No. 1

during the first part of 1915 and an article in 1918 by Cornelius F. Collins on the drug question. A Health Department publication which long antedates the *Monograph Series* but which was useful was Elisha Harris, *The Vital Statistics and Sanitary Condition of the Hospitals and Other Institutions, . . . in the Metropolitan District . . .* (New York, 1868).

The mountains of records scattered throughout New York City defy even a cursory examination, and all the researcher can do is to search through the more likely documents. Among the more useful series were the *Documents of the Board of Aldermen of the City of New York, 1866-68, 1872-79*; *Proceedings of the Board of Aldermen of the City of New York, CLVII-CLX* (January 1, 1880-January 3, 1881); *Ordinances, Resolutions, Etc., Passed by the Common Council of the City of New York, and Approved by the Mayor, XLVIII-LXV* (1880-97); *Ordinances, Resolutions, Etc., Passed by the Municipal Assembly of the City of New York, and Approved by the Mayor, I-XXII* (1898-1920) [In 1902 the title changes from *Municipal Assembly* back to *Board of Aldermen*]; and *The City Record, I* (1873).

A large number of departmental and special reports published by the city were checked and the following ones were cited: *Department of Hospitals of the City of New York, First Annual Report, 1929* (New York, 1930); Haven Emerson, *The Hospital Survey for New York* (New York, 1937); *New York City Board of Estimate and Apportionment, Committee on School Inquiry, Report, 3 vols.* (New York, 1911-13); *The Crippled Child in New York City: Report of the Commission for the Study of Crippled Children* (New York, 1940); *New York City Board of Health, Report to the Mayor on Fluoridation for New York City* (New York, 1955); *City Noise, The Report of the Commission Appointed by Dr. Shirley W. Wynne, Commissioner of Health, to Study Noise in New York City and to Develop Means of Abating It* (New York, 1930); *Toward a Quieter City, A Report of Mayor's Task Force on Noise Control* (New York, 1970); *New York City, Department of Air Pollution Control, Annual Report, 1954* (New York, 1955); *New York City Council, Special Committee to Investigate Air Pollution, Reprint of Minutes, June 25, 1965.*

Since the actions of the city and its agencies are determined to a considerable extent by the state, it was necessary to search through many state publications. The volumes of the New York State Laws were examined from 1866 to 1920. Two other useful volumes were *State of New York. Messages from the Governors . . .*, Charles Z. Lincoln, ed., VII [1877-84] (Albany, N. Y., 1909), and *State of New York, Public Papers of Grover Cleveland, Governor, 1883* (Albany, N. Y., 1883). One of the most valuable series were the *Annual Reports of the Commissioners of Emigration of the State of New York*. The Reports for the years from 1866 to 1898 were used. Two other state records cited were the *Twenty-Fifth Annual Report of the State Department of Health of New York, 1904* (Albany, N. Y., 1906), and *New York State Senate, The Committee on Finance . . . to Investigate the Affairs of the Commissioners of Emigration* (Albany, N. Y., 1883).

Among the United States government publications which were found useful are the following: Theodore Rosenthal and Jules E. Vandow, "Venereal Disease Control in New York City," *Public Health Reports*, LXXI (1956), 381-90; Carl L. Erhardt, "Reporting of Fetal Deaths in New York City," *Public Health Reports*, LXVII (1952), 1161-67; "Municipal Ordinances, Rules and Regulations Pertaining to Public Health, 1915," reprint no. 364 from *Public Health Reports* (Washington, 1917), 81-83; J. H. Berkowitz, "The Eyesight of School Children," *U. S. Bureau of Education, Bulletin, No. 65* (1919); John C. Gebhart, "Malnutrition and School Feeding," *U. S. Bureau of Education, Bulletin No. 37* (1921); [Cornelia Goldsmith], "For the Well-Being of Children in the City Day Camps," *The Child*, October, 1951, Federal Security Agency, Social Security Administration, Children's Bureau; *Report to the President of the Committee on Economic Security* (Washington, D. C., 1935); Leona Baumgartner, "Testimony on H. R. 4998," *Community Health Services and Facilities; Hearings Before the Committee on Interstate and Foreign Commerce, House of Representatives, May 2-5, 1961* (Washington, D. C., 1961); and *The Eradication of Syphilis, A Task Force Report to the Surgeon General of the Public Health Service on Syphilis Control in the United States*, Leona Baumgartner, Chairman, U. S. Department of Health, Education and Welfare, Public Health Service, 1961.

Private Records: An institution which played a major role in shaping public health in New York City during the past 100 years is the New York Academy of Medicine, and the academy's library and records are indispensable to any study of this type. The academy's minutes, which are hand written in folio volumes dating back to December 12, 1846, were examined from 1866 to 1944. The two manuscript volumes of the academy's Annual Reports covering the years from 1862 to 1901 are another useful source. The academy issued a great many publications in these years, and one of them is the *Transactions* of the New York Academy of Medicine, I-III (1847-71), 2d series, I-XIII (1871-1901). The *Transactions* include papers and addresses covering such diversified topics as Hermann M. Biggs's Anniversary Discourse in 1897 on "Sanitary Science, The Medical Profession, and the Public" and Richard H. Darby's paper entitled, "Contagious Ophthalmia in Some of the Orphan Asylums and Residential Schools of New York City," which was printed in 1886. The *Bulletin of the New York Academy of Medicine*, an outstanding American medical publication, was examined starting with volumes 3 and 4 of the first series for the years 1866-71. From 1871 to 1901 it was published as part of the NYAM *Transactions*. After an interim of 23 years, publication of the second series began in 1925 and continues to the present. Two particularly useful articles cited from the *Bulletin* are Leona Baumgartner, "One Hundred Years of Health: New York City, 1866-1966," 2d ser., XLV (1969), and George James, "Background of Research in Health and Medical Care," 2d ser., XLI (1965).

In addition to its regular publications, the academy printed myriad miscellaneous pamphlets, monographs, and books. The academy's library has a group of pamphlets bound in one volume entitled *Presidential Addresses, 1847-1885*. Another collection of pamphlets is listed under the heading *Inaugural and Valedictory Addresses to the New York Academy of Medicine*. These pamphlets are chronological and those for the years 1867, 1875, 1877, 1879, 1881, and 1885 were examined. One of the more interesting items in the library's miscellany is entitled *Clippings Relating to the Croton Watershed Bill, 1893*. As might be expected, there is a good history of the academy, Philip Van Ingen, *The New York*

Academy of Medicine, Its First Hundred Years (New York, 1949).

In addition to the manuscripts and printed materials listed above, the academy's Section or Committee on Public Health kept a separate record of its activities from 1891 to the present. The best source for the early period is the Minutes of the Section of Public Health, 1891-1911. After this date, the committee submitted a yearly report which, beginning in 1925, was published by the academy. In addition to the excellent manuscript and printed reports, there are two fine summaries of the committee's work: *Thirty Years in Community Service, 1911-1941, A Brief Outline of the Work of the Committee on Public Health of the New York Academy of Medicine*, prepared by E. H. L. Corwin and Elizabeth V. Cunningham (New York [1942]), and *Pioneering in Public Health for Fifty Years, Committee on Public Health, the New York Academy of Medicine, Twenty Year Report of its Activities, 1941-1961* (New York, n.d.).

Another organization which has played an important part in the city's health and welfare for over 100 years is the Association for Improving the Condition of the Poor. This association began publishing annual reports in 1845 and continued to do so for almost 100 years. These reports provide detailed accounts of the association's activities during the successive years, and include the findings of its inspectors and the results of its surveys. The association was interested in such diverse areas as infant care, municipal baths, tenement reform, and the quality of milk. The many citations from the AICP reports from 1866 to 1937-38 testify to their value. In addition to these reports, the association published a number of pamphlets and monographs, two of which proved especially useful: *Proceedings of the Special Meeting of the Board of Managers . . . Association for Improving the Condition of the Poor, January 10, 1881* (New York, 1881), and *Communication on a System of Municipal Baths for the Borough of Manhattan, City of New York* (New York, 1902).

Pamphlets: Among the holdings of the New York Public Library, the Haven Emerson Public Health Library, the libraries of the New York Historical Society and the New York Academy of Medicine, and the other institutions visited are many pamphlets.

Since these pamphlets usually relate to a specific incident or topic, one can scarcely evaluate them individually. Hundreds of them were read, and the following ones were cited: *Address by the Chairman, Honorable William F. Havemeyer, at the Meeting of the Committee of Seventy in the Rooms of the Chamber of Commerce, September 19, 1872* (New York, 1872); *Address of the Citizens' Association of New York to the Public* (New York, 1871); *An Examination of the Subject of Street Cleaning in the City of New York* (New York, 1891); *Campaign Book of the Citizens' Union, September–October, 1897* (New York, 1897); *President Chandler and the New York City Health Department, 1866–1883* (New York, 1883); *The Department of Water Supply, Gas and Electricity of the City of New York. A Statement of Facts* (New York, 1903); James Gallatin, *A Protest Against Certain Proposed Expenditures of the Health Department for the Year 1886* (n.p., November 1885); James Gallatin, *Memorandum Concerning "An Act in Regard to the Health Department of the City of New York," as Amended* (n.p., February 23, 1887); *Memorandum Upon Bills to Increase Expenditures of New York City* (New York, 1900); *Memorial of the Citizens' Association of New York, and Petition Passed by the Assembly* (New York, 1870); Charles Nordhoff, *The Misgovernment of New York* (New York, n.d.); *The First Parade of the Department of Street Cleaning, May 26, 1896* (New York, 1896); *Report of the Citizens' Association of New York, Upon the Condition, Etc. of the Institutions Under the Charge of the Commissioners of Public Charities and Correction* (New York, 1868); *Report of the Committee Appointed by the Citizens' Association to Examine into the System of Public Instruction in New York City* (n.p., 1869); *Report of the Committee Appointed by the Citizens' Association to Examine into the Condition and Management of the Institutions Under the Charge of the Commissioners of Public Charities and Correction* (n.p., 1869); *Sanitary Aid Society for the Tenth Ward of the City of New York, Abstract of the Society's Work* (n.p., c. 1885); J. Marion Sims, *An Extract from the Inaugural Address Delivered Before the American Medical Association . . . June 6, 1876* (London, 1876); *Why the Citizens of New York Should Resist and Defeat the Ramapo Water Scheme* (New York, 1899); *A Three Years'*

Struggle with Municipal Misrule, report of Andrew H. Green, Comptroller (New York, 1875); *A Plan for Organizing an Enlarged Department of Health*, submitted by Henry Bruère, Chamberlain (New York, 1916); *Annual Report of the City Club of New York 1895* (New York, 1895); *Bellevue, A Short History of Bellevue Hospital and of the Training Schools* (New York, 1915); *Campaign Book of the Citizens' Union, September, 1903* (New York, 1903); Elisha Harris, *The Vital Statistics and Sanitary Condition of the Hospitals and Other Institutions . . . in the Metropolitan District . . .* (New York, 1868); Abraham Jacobi, *Inaugural Address Delivered Before the New York Academy of Medicine* (New York, 1885); *Memorial of the Citizens' Association of New York, and Petition of Tax-Payers in Favor of the New Charter for That City as Passed by the Assembly* (New York, 1870); *Proposed Act for the Better Preservation of the Health of Children in Institutions Introduced . . . February 4, 1886 . . .* (New York, 1886).

Newspapers: Since the conditions leading to Health Department actions impinge directly upon the public, newspapers are important historical sources for the study of public health. Throughout the 100 years covered by this volume, exposés by reporters and comments by editors serve as a useful counter to official reports. The newspapers also served a valuable function by helping to focus public attention upon the worst abuses and by supporting the more able public health administrators. Since certain public health issues were debatable and health commissioners did not always fall into clear-cut categories of good and bad, it was necessary to scan several newspaper accounts. The *Times* was used as a basic source from 1866 to 1966, and at least two other newspapers were checked for each year. Consistent use was made of the *Tribune*, 1866-1924, and the *Herald*, 1866-1924, and of the combined newspaper, the *Herald Tribune*, 1924-66. Among other papers surveyed were the *Evening Post*, 1866-1919, the *Sun*, 1866-1950 (from September 11-30, 1920, it was called *The Sun and the New York Herald*), and the *World*, 1866-1931. The latter newspaper also published the *Evening World* from 1887 to 1931. An exceedingly useful journal examined from 1866 to 1883 was *Frank Leslie's Illustrated Newspaper*. Its editor was interested in health

and social conditions, and his exposés were replete with graphic illustrations.

Journals: Because public health is of concern to professionals and laymen alike, a variety of journals were examined, including those in the areas of public health and medicine, and a miscellaneous group intended for a wider audience. In the public health field the best journal was *The Sanitarian*, edited by Dr. A. N. Bell, which began publication in 1873 and finally merged with the *Popular Science Monthly* in 1904. Aside from the fact that it was the first American journal devoted to public health, Bell had a special interest in the affairs of his hearth area, New York and Brooklyn. The *American Journal of Public Health*, founded in 1911, also contains a number of articles relating to New York City.

Medical journals, since so many of them were published, proved an even more fruitful source for New York public health material. The *Bulletin of the New York Academy of Medicine* has already been mentioned in connection with the NYAM publications. The *Journal of the American Medical Association*, from 1883, includes some material relating to New York City. Nineteenth-century medical journals are a particularly good source for social history, since medicine was neither too scientific nor technical, and many intelligent physicians displayed an acute social conscience. Among the more useful medical journals were the *Medical Record*, 1866–1922, and the *New York Medical Journal*, 1865–1923. These two journals united in 1924 to form the *Medical Journal and Record*, and after various title changes ultimately became the *International Record of Medicine* in 1956. Another valuable journal was the *Medical Times*. This journal began publication as the *New York Journal of Homeopathy* in 1873 and went through various name changes before reassuming the title *Medical Times* in 1937. Two medical journals which supplied information for the early twentieth century were the *New York State Journal of Medicine*, from 1901, and the *Medical Tribune*, 1904–13.

Insofar as medical history is concerned, the files of the *Bulletin of the History of Medicine*, beginning in 1933, and the *Journal of the History of Medicine and Allied Sciences*, beginning in 1946, contain occasional articles dealing with health conditions in New

York City. In the category of general purpose magazines, the ones proving most useful were: *Charities* (later *Charities and Commons*), *Harper's Weekly*, *McClure's Magazine*, *New-York Historical Society Quarterly*, and the *Milbank Memorial Fund Quarterly*.

Citations were also made from the following journals: *American Industrial Hygiene Association Journal*, XXII (1961); *American Journal of Diseases of Children*, V (1913); *American Journal of Nursing*, XLIX (1949); *American Journal of Orthopsychiatry*, XXXIV (1964); *American Journal of Psychiatry*, X (1930); *American Medicine*, XXVI (1920); *The American Review of Tuberculosis and Pulmonary Diseases*, LXXIX (1959); *American Statistical Association Journal*, X (1907); *Annals of the American Academy of Political and Social Science*, XXV (1905); *Annals of Internal Medicine*, XII (1938); *Archives of Dermatology and Syphilology*, XL (1939); *Archives of Internal Medicine*, CXII (1963); *Archives of Pediatrics*, XXXIII (1916); *Atlantic Monthly*, CXV (1915); *The Century*, XVII (1889); *Channels*, XXV (1947); *Dr. Foote's Health Monthly*, XIII (1888); *Food Technology*, V (1951); *Hospitals*, XXV (1951); *The Independent*, LVIII (1905); *Industrial Medicine and Surgery*, XXX (1961); *Journal of American History*, LIX (1972-73); *Journal of Home Economics*, II (1910); *Journal of Infectious Diseases*, Supplement No. 4 (1909); *Journal of Social Hygiene*, XXIII (1937); *Medical Advance*, XLII (1914); *Municipal Reference Library Notes*, XXXIV (1959); *Nation*, XIV (1871); *New York Medical Journal and Philadelphia Medical Journal*, LXXXI (1905); *Physio-Medical Journal*, VI (1880); *Spectrum*, VII (1959); *U.S. Medicine*, V, no. 2, (1969).

Books: Inasmuch as this study covers the years from 1866 to 1966, the dividing line between primary and secondary works is not too clear cut. In the nineteenth century the following city directories were helpful: D. T. Valentine, *Manual of the Corporation of the City of New-York for the Year 1866* (New York, 1866); Joseph Shannon, *Manual of the Corporation of the City of New York . . . 1869* (New York, 1869); and Phelps' *New York City Guide* (New York, 1870). The *Medical Register of New York City and Vicinity, for the Year Commencing June 1, 1866*,

vol. 4 (New York, 1867) and the successive four volumes covering the years to 1871 were also useful.

For a vivid picture of tenement and general health conditions in the late nineteenth century, the following six books are particularly good: Robert W. De Forest and Lawrence Veiller, eds., *The Tenement House Problem Including the Report of the New York State Tenement House Commission of 1900*, 2 vols. (New York, 1903); Jacob A. Riis, *The Battle with the Slum* (New York, 1902), and his classic study, *How the Other Half Lives* (New York, 1957); John Spargo, *Bitter Cry of the Children* (New York, 1906); and Stephen Smith, *The City That Was* (New York, 1911). This latter book by Stephen Smith is largely a condensation of the *Report of the Council of Hygiene and Public Health of the Citizens' Association of New York upon the Sanitary Condition of the City* (New York, 1865). Two excellent personal recollections for twentieth-century developments are S. Josephine Baker, *Fighting for Life* (New York, 1939) and Saul Benison, *Tom Rivers: Reflections on a Life in Medicine and Science* (Cambridge, Mass., 1967). Dr. Baker's account is particularly good for the child health movement and Dr. Rivers' for the period of the 1930s and 1940s. A book which involves both the personal knowledge of the authors and their historical skill is Charles-Edward Amory Winslow and Savel Zimand, *Health Under the "El," The Story of the Bellevue-Yorkville Health Demonstration in Mid-town New York* (New York and London, 1937). The results of three excellent surveys of the Health Department and health conditions in New York City can be found in the following: Michael M. Davis and Mary C. Jarrett, *A Health Inventory of New York City, A Study of the Volume and Distribution of Health Service in the Five Boroughs* (New York, 1929); Rebecca B. Rankin, ed., *New York Advancing, A Scientific Approach to Municipal Government, An Accounting to the Citizens by Their Departments, and Boroughs of the City of New York, 1934-1935* (New York, 1936); and *New York City in Crisis, A Study in Depth of Urban Sickness; Prepared by the New York "Herald Tribune" Under the Direction of Barry Gottehrer* (New York, 1965).

Other useful primary sources are: Leonard P. Ayres, *Open-Air*

Schools (Garden City, N.Y., 1911); Charles Loring Brace, *The Dangerous Classes of New York, and Twenty Years' Work Among Them* (New York, 1872); Louis I. Dublin and Alfred J. Lotka, *Twenty-Five Years of Health Progress* (New York, 1937); Robert Hunter, *Poverty* (New York, 1905); Allan Nevins and Milton T. Thomas, eds., *The Diary of George Templeton Strong, Young Man in New York*, 4 vols. (New York, 1952); American Child Health Association, *Physical Defects—the Pathway to Correction* (New York, 1934); Thomas D. Wood and Hugh G. Rowell, *Health Supervision and Medical Inspection of Schools* (Philadelphia, 1927).

Among the general secondary works, Annie S. Loop, *History and Development of Sewage Treatment in New York City* (New York, 1964), is one of the best. She has done a thorough job of covering her topic, and the work is invaluable. The writings of Charles-Edward Amory Winslow are fundamental to any history of American public health, and two of his books have a particular bearing on New York City: *The Contributions of Hermann Biggs to Public Health* (New York, 1928) and *The Life of Hermann M. Biggs, Physician and Statesman of the Public Health* (Philadelphia, 1929). A work which was exceedingly useful for volume one and was of help in writing volume two of this history is Isaac N. Stokes, *The Iconography of Manhattan Island*, 6 vols. (New York, 1915-28).

Among the other books cited are: Walter R. Bett, ed., *The History and Conquest of Common Diseases* (Norman, Okla., 1954); Charles F. Bolduan, *Over a Century of Health Administration in New York City* (New York, 1915); Robert J. Carlisle, ed., *An Account of Bellevue Hospital with a Catalogue of the Medical and Surgical Staff from 1736 to 1894* (New York, 1893); Walter S. Cornell, *Health and Medical Inspection of School Children* (Philadelphia, 1924); John I. Davenport, *The Election and Naturalization Frauds in New York City* (New York, 1894); Lavinia L. Dock and Isabel M. Stewart, *A Short History of Nursing*, 4th ed. (New York, 1938); John Duffy, *A History of Public Health in New York City, 1625-1866* (New York, 1968); John Duffy, ed., *The Rudolph Matas History of Medicine in Louisiana*, 2 vols. (Baton Rouge, La., 1958-62); David M. Ellis et al., *A Short History of New York State* (Ithaca, N. Y., 1957); Philip

Van Ingen, *The Story of the American Child Health Association* (New York, 1936); Dorothy Giles, *A Candle in Her Hand; A Story of the Nursing Schools of Bellevue Hospital* (New York, 1949); Roy Lubove, *The Progressives and the Slums* (Pittsburgh, 1962); Richard K. Means, *History of Health Education in the United States* (Philadelphia, 1962); Henry C. Meyer, *The Story of the Sanitary Engineer, Later the Engineering Record. Supplementary to Civil War Experiences* (New York, 1928); Warren Moscow, *What Have You Done for Me Lately, The Ins and Outs of New York City Politics* (Englewood Cliffs, N. J., 1967); David F. Musto, *The American Disease, Origins of Narcotic Control* (New Haven, Conn., and London, 1973); Allan Nevins, *The Evening Post: A Century of Journalism* (New York, 1922); Allan Nevins and John A. Krout, *The Greater City, New York, 1898-1948* (New York, 1948); Dorothy B. Nyswander, *Solving School Health Problems* (New York, 1942); Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (Chicago, 1962); Barbara G. Rosenkrantz, *Public Health and the State: Changing Views in Massachusetts, 1842-1936* (Cambridge, Mass., 1972); Wallace S. Sayre and Herbert Kaufman, *Governing New York City: Politics in the Metropolis* (New York, 1960); William V. Shannon, *The American Irish* (New York, 1963); Richard H. Shryock, *The History of Nursing: An Interpretation of the Social and Medical Factors Involved* (Philadelphia, 1959); Wilson G. Smillie, *Public Health Administration in the United States*, 2d ed. (New York, 1946); Wilson G. Smillie, *Public Health, Its Promise for the Future* (New York, 1955); James J. Walsh, *History of Medicine in New York. Three Centuries of Medical Progress*, 5 vols. (New York, 1919); James J. Walsh, *History of the Medical Society of the State of New York* (Brooklyn, N.Y., 1907).

Personal Interviews and Unpublished Material: In the course of my research, I have had occasion to talk to literally dozens of individuals associated or familiar with the New York City Health Department. Without exception they freely discussed their own work and the contributions of others, and scarcely one of them failed to urge me to interview other knowledgeable individuals. Since any listing of names would undoubtedly omit some indi-

viduals I have seen in the past few years, I have decided to give only the names of those with whom I held formal tape-recorded interviews: Dr. Leona Baumgartner, December 28, 1970; Dr. Carl L. Erhardt, June 4, 1970; Miss Hannah Haier, August 19, 1970; Dr. George James, January 21, 1972; Miss Margaret McMahon, June 5, 1970; Mr. Karl Pretshold, June 4, 1970; Dr. Morris Schaeffer, August 13, 1971; Dr. Ernest L. Stebbins, January 27, 1972; Mr. Jerome Trichter, August 19, 1970.

The usual bibliographical essay begins with a listing of manuscript sources. I chose to use a different format, and in so doing found myself with two items which were not easy to categorize. Since they were cited in the footnotes, I wish to add Gordon Atkins, "Health, Housing and Poverty in New York City, 1865-1898," doctoral dissertation, Columbia University, 1947, and Ralph E. Pumphrey, "Michael M. Davis and the Development of the Health Care Movement, 1900-1928," unpublished ms. in my library.

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