PHYSICIANS AND MEDICAL CARE

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PHYSICIANS AND MEDICAL CARE

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PREFACE

THIS monograph is one of a series dealing with the present status of certain established or emerging professions in the United States. The studies were originally planned for publication as chapters of a single volume comparing conditions in the professions. This plan was abandoned, however, since it seemed probable that they would serve a wider purpose if issued separately. Social Work as a Profession, the first of the series to be published, appeared in May, 1935, and a revised edition was issued in May, 1936. The Professional Engineer was published in July, 1936, and Nursing as a Profession in October, 1936.

Although there is a large body of literature on the professions, it is often so scattered and sometimes so difficult to obtain that much of it is not used by professional people themselves and even less of it is known to the laity. In these monographs, therefore, significant data obtained from interviews, questionnaires, books, periodicals, and unpublished studies have been assembled and interpreted in such fashion, it is hoped, that the information may be readily utilized by those who are striving to make the professions contribute more widely to the welfare both of their members and of society and also by vocational counselors.

Because it is possible, within the compass of a small volume to present only a fraction of the material relating

to the given subject, those facts have been chosen that seem to explain the reasons why a particular group has reached its present degree of effectiveness. No one would dispute the assumption, for example, that today adequate preparation constitutes one of the most important elements of successful practice. So vital is formal training that a large proportion of each monograph has been devoted to a discussion of its evolution and the problems incident to it. Similarly, since professional associations are capable of doing much to raise standards of practice and of determining what the relation of a group to the society it serves shall be, the most important of the national associations are described at some length.

It is generally recognized that one of the most serious problems of the professions is the lack of an accurate determination of the number of persons who are needed in a specific group, and the lack of a form of control that would regulate the numbers to be admitted in the interests of the public and of the group. A corollary to this problem is the uneven distribution of professional service in the various sections of the United States, and the widespread lack of agencies for counseling new members of these professions about selecting localities in which to settle.

There is also the equally important problem of the inability of large numbers of persons receiving low incomes, especially in rural areas, to purchase as much professional service as they need. Even when service is paid for by the government or private philanthropy rather than by the individual, its quantity and quality vary in a marked fashion

from one locality to another. Although these difficulties exist to a greater or less degree in connection with all the professions, they are particularly grave in the medical field. Their seriousness is augmented by the fact that medical care is of such fundamental importance that when it is inadequate not only the health but the economic and social welfare of the people suffer.

In the face of these complex problems, there have been set down such data as could be obtained on the number of physicians engaged directly and indirectly in rendering medical care, their distribution and earnings, and the demand for their services as compared with the need for such services. These data refer not only to general practitioners and to physicians at work in the several medical specialties, but to those persons holding the M.D. degree who are occupied in medical education, administration of hospitals and health services, research, laboratory work, medical journalism, and so on. This group constitutes the profession of medicine.

Final sections have been devoted to a survey of new forms of medical service, and to the history of the attempts of the past twenty years to discover means whereby adequate care could be extended to an increasingly large number of the American people and physicians could work under more favorable conditions and receive higher remuneration.

PHYSICIANS AND MEDICAL CARE

THE last half-century has witnessed changes in the profession of medicine and the distribution of medical service in the United States that are at once extensive and complex. The era of numerous and poor proprietary medical schools has passed, and in their stead great schools of medicine with strict requirements both for entrance and for graduation have grown up within universities and medical centers. Medical science has developed to the point where no one physician can now have a comprehensive knowledge of it in its entirety, hence specialists have appeared who limit their practice to a single field of medicine. Country doctors have become less numerous and relatively less influential, while city doctors have rapidly gained in number and have established themselves in an environment of hospitals and nurses, larger equipment, and keener professional stimuli. The public health movement has grown slowly but steadily, and health service provided at the expense of the government for indigent and low-income groups has been increased. At present much attention is being devoted to the question of how care can be made available to that large proportion of the population that still has inadequate service.

The past fifty years have been indeed an important period in a profession that has repeated many of the phases of the social evolution of America. Dr. Henry E. Sigerist has well said that medicine is one aspect of the general

civilization of a country. Its quantity and quality form an index of the level of that civilization.[1] Recent changes in the nature and distribution of health service reflect diverse alterations in the political, economic, and philosophical concepts of our national life.

MEDICAL EDUCATION

Its Evolution during the Eighteenth and Nineteenth Centuries

Of these various aspects of change, medical education deserves first consideration. Although the service provided by physicians is naturally of more importance than the method whereby they are inducted into their profession, the quality of medical care that they give and their attitude toward professional questions are determined in large part by the medical schools in which they have been trained.

In colonial America prior to 1765 there were no medical schools. It was therefore customary for young men who wished to learn "physic" to go to Europe, if they could afford it, to study in Edinburgh, London, Leyden, or Paris. If they could not, they apprenticed themselves for a term of years to some physician of repute in this country, and at the expiration of the period began independent practice. Some students worked under a practitioner and then went abroad to study. We have one in-

[1] American Medicine. W. W. Norton and Co., New York, 1934, Introduction, p. xiv.

teresting report written in 1765 by Dr. John Morgan of Philadelphia, when he became professor in the first medical school in the colonies:

> It is now more than fifteen years since I began the study of medicine in this city, which I have prosecuted ever since without interruption. During the first six years I served an apprenticeship with Dr. John Redman, who then did, and still continues to enjoy a most justly acquired reputation in this city for superior knowledge and extensive practice in physic. At the same time I had an opportunity of being acquainted with the practice of other eminent physicians in this place, particularly of all the physicians to the hospital whose prescriptions I put up there above the space of one year. The term of my apprenticeship being expired, I devoted myself for four years to a military life principally with a view to becoming more skillful in my profession; being engaged the whole of that time in a very extensive practice in the army among diseases of every kind. The last five years I have spent in Europe, under the most celebrated masters in every branch of medicine, and spared no labor or expense to store my mind with an extensive acquaintance in every science, that related in any way to the duty of a physician; having in that time expended in this pursuit, a sum of money, of which the very interest would prove no contemptible income. With what success this has been done, others are to judge, not myself. Thus I have arrived at the middle age of life, in endeavoring to lay up treasures of useful knowledge, before I commence a settled practice.[1]

Training such as Dr. Morgan received was not characteristic of the majority who entered the medical profes-

[1] Pepper, William, "Higher Medical Education, the True Interest of the Public and of the Profession." In Proceedings of the Association of American Medical Colleges, 1921, p. 10.

sion. Although 63 Americans were listed as medical students at the University of Edinburgh between the years 1758 and 1788, it has been estimated that there were around 3,500 practitioners in the colonies of this country in 1775, of whom not more than 400 had received a medical degree. Except in New York and New Jersey, there were no laws regulating the practice of medicine, and as a consequence, many poorly educated physicians and charlatans gave inefficient, if not unethical, service to the public.[1]

Medical schools made their appearance in 1765, with the opening of a medical department at the College of Philadelphia. This first school was soundly conceived as an organic part of an institution of learning and was intimately connected with the large Pennsylvania Hospital. The Revolution brought confusion to its work, however, as did rivalry with the medical department that was subsequently established at the University of Pennsylvania. The latter difficulty was resolved by a fusion of the two departments in 1791, when they became the Medical School of the University of Pennsylvania. Three other "medical institutes" of a similar nature were opened before the close of the century, one having been begun in 1768 at King's College in New York. This school discontinued its work at the time of the British occupation of the city, and was only indirectly restored to life by union in 1814 with the College of Physicians and Sur-

[1] Packard, Francis R., History of Medicine in United States. P. B. Hoeber, New York, 1931, vol. 1, pp. 163–177, 273.

geons, that had been founded in 1807. Another was established in 1783 at Harvard College, and the third in 1798 at Dartmouth College. Yale followed the precedent of these institutions in 1810 and Transylvania College in Lexington, Kentucky, in 1817.[1]

These schools were well distributed geographically and their faculties were selected from among the most competent physicians in the United States. It is a significant fact that they were not intended to replace the apprenticeship system, but were designed to supplement the inadequacies of that type of training. They offered courses generally of one year to students who had already had considerable practical experience, in order to round out, through work in science and clinical training, what had already been partly learned empirically.[2]

Had medical education continued to evolve as a part of the curriculum of colleges and universities such as these, its history during the nineteenth century would have been very different from what it was. Unfortunately, the rapid expansion of population and the opening of the West created a wide demand for physicians long before adequate facilities were available for their preparation. As a result of this demand, proprietary medical schools were opened almost overnight. Groups of practicing physicians obtained charters, rented buildings, and divided among themselves the subjects they deemed essential: anatomy,

[1] Flexner, Abraham, Medical Education in the United States and Canada. Carnegie Foundation for the Advancement of Teaching, Bulletin 4, New York, 1910, pp. 4–5.
[2] Sigerist, Henry E., American Medicine, pp. 131–132.

physiology, sometimes chemistry, materia medica, pathology, the practice of medicine, obstetrics, and surgery. Lectures formed the principal method of teaching. There was no laboratory work, little dissection of cadavers, and there were only a few clinics. Most of these schools had no connection with a university and no educational requirements for admission. Few were affiliated with hospitals, hence instruction was largely confined to theory. Although the period of training was generally stated to be two years, lectures during the second year were only a repetition of the first, and in many places the length of the academic year was but sixteen to twenty weeks.[1]

Between 1810 and 1840, 26 new medical schools sprang up, nearly all of which were commercial in nature. In 1834 Dr. Charles Caldwell wrote of the situation:

> Within the last fifteen or twenty years, there has broken out, in the United States, a perfect *medical school mania.* . . . Its effect has been to give us about *twenty institutions* of the kind, where reason, experience, and example concur in showing, that *four* would be sufficient. It is a truth generally recognized, and which no one thoroughly versed in the knowledge of the subject will deny, that one school of medicine is enough for a population of from four to five millions. In no country, we believe, except our own, is the proportion higher, and, in most places not so high. . . . Yet in no other countries is the standard of the profession so high, as in Great Britain and France. The reason is plain. It is there taught and led only by men of high distinction. . . . The teachers are well paid

[1] Prudden, T. Mitchell, and Starr, M. Allen, "The Outlook in Medical Education." In Columbia University Bulletin, March, 1897, pp. 74–75.

> and highly honored, by the great schools, to which they devote nearly the whole of their time. Instead of anxiously scuffling for a bare living, they proudly vie with each other for fame and public usefulness . . . in the United States, with a population of 14 millions, we have already 20 medical schools, one for every seven or eight hundred thousand inhabitants—and still a fiery thirst for more. The consequence is, that, in certain sections of our country, medical education is declining, and some of the instructors nearly starving. We could name places, where it is much easier for a young man to be made a doctor *now,* than it was 30 years ago; and, we might add, in perfect consistency with truth, much easier than it is for him to be converted into a good shoemaker or carpenter. And all this is the mischievous and degrading, but natural result of an undue multiplication of petty establishments, misnamed schools of medicine.[1]

Regardless of such a protest, the number of medical schools continued to increase. In 1870 there were 75; in 1890, 133; and in 1906, when they reached their maximum number, there were 162. Many more had been opened but had collapsed after a longer or shorter existence. Dr. Abraham Flexner, who has retold the story of the disgraceful proprietary institutions that flourished throughout the nineteenth century, declared that "First and last America produced over 400 such medical schools. The teaching of medicine on these terms was, directly in cash and indirectly in prestige, a profitable business."[2]

In the wave of commercial exploitation that swept all

[1] Thoughts on the Impolicy of Multiplying Schools of Medicine. J. C. Clarke and Co., Lexington, Ky., 1834, pp. 21–22.

[2] Medical Education: A Comparative Study. By permission of Macmillan Co., New York, 1925, p. 41.

medical education before it, the original university departments were torn from their moorings. They became virtually independent of the institutions with which they were legally united. For years they managed their own affairs, disposing of professorships by common agreement and segregating and dividing fees in a proprietary manner. In general, these conditions existed at their worst from early in the nineteenth century until well into the 1880's. The apprenticeship system in the meantime became moribund, hence all training that the prospective physician obtained before beginning practice had to be procured within the medical school. The schools seemed unaware of the fact that this placed an added responsibility upon them. They were also frequently unaware that a more scientific attitude toward medical practice was replacing earlier empiricism, and made little consistent effort to adapt their training to this change.[1]

Standards of admission were so low that Charles W. Eliot remarked, upon becoming president of Harvard in 1869, that anyone who chose could come in off the street and enter the Harvard School of Medicine. The existence of this situation would seem incredible if it had not come to us from so unimpeachable an authority. The medical curriculum consisted of courses of lectures running through four months of the year, repeated year after year. President Eliot proposed to substitute instruction which should be progressive and should continue for a period of nine

[1] Flexner, Abraham, Medical Education in the United States and Canada, pp. 8–9.

months each year instead of four. He further suggested that no candidate should obtain a degree without passing a strict written examination in all the chief departments of instruction, instead of in five out of nine as had previously been required. The head of the medical school was so disturbed at the changes recommended that he declared that the young president was about to wreck the school, and that it would cease to exist in a year or two if such revolutionary reconstruction were allowed. "He actually proposed," said this professor, "to have written examinations for the degree of Doctor of Medicine. I had to tell him that he knew nothing about the quality of Harvard medical students. More than half of them can barely write. Of course they can't pass written examinations."[1]

Although there were many discerning physicians who saw the danger in the exploitation of medical education that everywhere existed, improvement was difficult to achieve because of the proprietary nature of the majority of the schools and because of lack of concerted effort on the part of the medical profession. Dr. Stanford E. Chaillé, who was writing on the subject in 1874, suggested three possible methods for raising the level of preparation: voluntary action by the colleges, legal restrictions, and public opinion. He declared that the first of these three methods was impractical, inasmuch as medical schools were commercial institutions interested only in their own welfare and actually engaged in competition with one an-

[1] Eliot, Charles W., Harvard Memories. Harvard University Press, Cambridge, 1923, pp. 28, 31.

other. He did not feel very hopeful about the efficacy of the second remedy, for he pointed to the fact that in 1851, 11 states had had laws regulating medical practice but subsequently had repealed them. Although these laws had been wise and adequate, public sentiment had not sustained them, and consequently Dr. Chaillé believed that the legislatures of his period would do nothing to enforce legal restriction on the practice of medicine. He asserted that medical education would never be improved to the extent of its constituting a major social benefit until opinion became sufficiently enlightened to insist upon reformation. Hence he considered that education of the public in medical knowledge, although a slow and tedious method, was essential in order that people might be able to estimate and secure the best measures and men to safeguard health and promote physical welfare.[1]

To the lasting credit of the medical profession and society, it was not necessary to wait for this long process of the education of the public. Before the end of the century there were actually hundreds of plans proposed for raising medical education from its degraded position. Some of these came from teachers in medical schools, some from medical societies, and some from practicing physicians. States also began to realize that society must be protected from the pseudo-physician. And so, in spite of fears such as those of Dr. Chaillé that legislatures would not enact

[1] "The Medical Colleges, the Medical Profession, and the Public." In New Orleans Medical and Surgical Journal, May, 1874, pp. 822–841.

regulatory measures, states began to assume the sole right to license physicians to practice. Subsequent to 1835 a few states had attempted this but the movement had failed. It was taken up again during the 1870's, and before the end of the decade, six states had set up commissions on examination. By 1895 practically all the states had such bodies. Although the type of examination given was far from satisfactory, the establishing of state boards of medical examiners, as they are now called, was a great forward step for they represented at least an indirect form of control over medical schools.

In spite of marked improvement in medical training between 1880 and 1890, progress was uneven and standards pertaining to admission and to the quality of work offered were still low. When Wellford Addis, a member of the staff of the United States Bureau of Education, made his report on professional schools in 1890,[1] he pointed to the lack of advanced educational requirements for admission to medical schools. In many of the catalogues consulted he found the expression "all the branches of a good English education." To this was added in some instances "including mathematics, English composition and elementary physics or natural philosophy." In other instances the requirements demanded were "proficiency in grammar, arithmetic, geography, history," and even in reading, writing, and spelling. The majority of the medical schools

[1] "Curricula of Professional Schools." In Report of the Commissioner of Education for the Year 1889–1890, Washington, 1893, vol. 2, pp. 875–879.

insisted upon only a common school education. But despite such low entrance requirements, Addis found that the proportion of students who were high school graduates had risen appreciably in a short period of time, and he estimated that about 15 out of every 100 matriculants in 1890 had even had a college education. Some of the schools, particularly those connected with universities, were becoming insistent upon higher standards. From the very opening of the Johns Hopkins Medical School in 1893, the possession of a bachelor's degree was a requirement for admission. Its action exerted a profound influence upon the subsequent practice of other university schools.

Most medical colleges continued to be weak in equipment, faculty, and curriculum. Science laboratories except in anatomy and chemistry were few, poorly equipped, and inadequately staffed. Clinical teaching was mostly didactic, and students had little opportunity for personal contact with patients. Although a limited number of schools were able to build up relatively good facilities for training before the close of the nineteenth century, some extremely poor schools still existed. Dr. Elias P. Lyon, formerly dean of the University of Minnesota Medical School, recalls a visit that he made as late as 1903 to a medical school in Indianapolis. It consisted of two rooms perhaps 20 feet square over a feed store. In one room was a table on which a cadaver might once have been placed. In the other room were several chairs and a blackboard. That was the entire physical equipment. Graduates of the

school in that year were eligible, if they passed the licensing examinations, for registration in nearly all the states.[1]

Twentieth Century Reform of Medical Education

Early in the twentieth century, when the profession seemed abandoned to the mercy of badly trained men, a well-organized and effective campaign for improvement was launched. This campaign owed its success primarily to the thorough reorganization of the American Medical Association, which converted itself in 1901 into an active body, representative of the medical profession. In 1902 the Association appointed a Committee on Medical Education to report on the status of medical colleges. This Committee recommended that in the absence of national governmental control, which was impossible inasmuch as the Constitution of the United States leaves the function of education almost entirely in the hands of the individual states, the control of medical education had best be assumed by the American Medical Association. In 1904 it proposed that a Council on Medical Education be created as the agency of the Association for dealing with this central problem, and pointed, in justification for this proposal, to conditions existing in what it called the "five especially rotten spots." They were Illinois with 15 medical schools, Missouri with 14, Tennessee with 10, Maryland with 8, and Kentucky with 7. Here in 5 states were

[1] "Aspects of Medical Education and Nursing Education." In Journal of Association of American Medical Colleges, July, 1932, pp. 229–230.

54 institutions for the preparation of physicians, not more than 6 of which could be considered acceptable.

Such startling facts led to immediate and drastic action. It was evident that the most important project for the newly created Council to undertake was a personal inspection of all schools in the United States in order to ascertain the adequacy of their equipment, the preparation of their faculties, and their general fitness to teach medicine. It was decided that those schools which received a score of 70 or above, on the basis of 10 points to be considered, should be called Class A schools and labeled as "acceptable"; those which received from 50 to 70 should be in Class B, the "doubtful" list; those below 50 should be known as Class C or "non-acceptable" schools. When the record of the inspection was submitted in 1907, it was found that of the 160 schools visited 82 were in Class A, 46 were in Class B, and 32 in Class C.[1] Much publicity was given to this report, especially by the Journal of the American Medical Association, and this weapon proved more powerful in its effect than all the resolutions and legislation of the preceding century. In addition to those schools that had previously demanded one year of college work, 38 promptly agreed to adopt such a requirement for admission on or before 1910. Many of the low-grade schools found that licensing boards refused to examine their graduates, and consequently by 1910, 34 institutions

[1] Bevan, Arthur D., "Cooperation in Medical Education and Medical Service." In Journal of the American Medical Association, April 14, 1928, pp. 1173–1176.

had surrendered their charters and discontinued instruction.[1]

The campaign, begun in 1904 by the American Medical Association, was furthered by the authoritative report on medical education published by the Carnegie Foundation in 1910. Its author, Dr. Flexner, who had spent two years in visiting the existing medical schools both in the United States and in Canada, exposed without hesitation many surviving abuses. Although the report was considered by some as a merciless piece of criticism, it offered numerous creative suggestions that have since been utilized to alter greatly the aspect of professional training. In the introduction to the study, Dr. Henry S. Pritchett, then president of the Foundation, summarized the conditions that Dr. Flexner had found.[2] He pointed to the enormous overproduction of uneducated and ill-trained medical practitioners that had continued for twenty-five years—an overproduction that has been "in absolute disregard of the public welfare and without any serious thought of the interests of the public." He maintained that the inadequacy of the quality of instruction in medical schools could be judged from the fact that the annual income of nearly half of all the schools was less than $10,000. Even the colleges and universities, in his opinion, had failed to

[1] Cutter, Irving S., The School of Medicine, Ginn and Co., Boston, 1930, pp. 287–289; Capen, Samuel P., "Results of the Work of the Commission on Medical Education," in Proceedings of the Annual Congress on Medical Education and Licensure, American Medical Association, Chicago, 1933, pp. 2–4.

[2] Medical Education in the United States and Canada, pp. x–xi.

appreciate the great advance in the science of medicine and the resultant increased cost of operating medical departments. They had frequently annexed schools without making themselves responsible either for the standards or the support of these professional training units.

In answer to the argument that numerous small and inexpensive medical schools were justified in the interest of the poor boy, Dr. Pritchett asserted that the poor boy has no right to seek to enter any profession for which he is not willing to obtain suitable preparation. The evidence indicated that this argument put forward in the name of the poor boy was insincere, and was in reality an excuse in behalf of the poor medical school.

The facts assembled seemed to prove: first, that future progress in medical education would have to depend upon a further reduction in the number of schools, and upon the better equipment and administration of those that continued to offer training; second, that schools should not only be integral parts of universities, but that they should be articulated with the general system of education in such a way that students would begin their professional training with more adequate basic preparation; third, that if clinical science were to be taught students effectively, every medical school should be affiliated with one or more hospitals under the complete educational control of the university.

Subsequent to the publication of this study, reorganization of medical training was begun in an extensive and systematic manner. Educational requirements formulated

by the medical profession were promptly embodied in licensure acts in the various states. Although these legal specifications differed widely from state to state, they were important in forcing medical schools to meet certain accepted standards. In 1916 the Association of American Medical Colleges decreed that no institution was eligible for membership unless it required of its entering students two full years of college preparation. By that year schools in the United States had been reduced to 90, and 48 of these had already met the higher requirements of the Association. Sixteen state boards of examiners had co-operated by refusing to license candidates who could not furnish a minimum record of two years of college study. The 90 medical schools, moreover, were busied in strengthening their positions through the installation of better laboratory facilities, the appointment of full-time salaried teachers, closer affiliation with teaching hospitals, and the seeking of larger endowments.[1]

Progress was continuous. Additional schools were rapidly added to the list of those that made their requirement for admission two or more years in a college of liberal arts. While some schools were obliged to close from inability to finance an efficient system of professional education, others that were deemed particularly necessary because of the lack of schools in their geographical areas were given assistance by foundations or interested persons. Since the South was badly provided for, the medical

[1] Colwell, Nathan P., "Medical Education." In Biennial Survey of Education, 1916–1918, Bulletin 88, 1919, pp. 71–72.

school of Vanderbilt University in Nashville, Tennessee, through aid from the General Education Board and the Carnegie Corporation, became a center of medical training for its section of the country. The medical school of Tulane University in New Orleans was enlarged and its work expanded, and as the result of the generosity of wealthy patrons, Duke University was established at Durham, North Carolina, with facilities for the training of physicians. In the Middle West the University of Chicago, Washington University in St. Louis, and the University of Iowa in Iowa City were granted aid by the Rockefeller Foundation for the further development of medical education.

Between the close of the World War and the beginning of the recent economic depression, money was more readily available than ever before for the purpose of constructing educational buildings. Several medical schools were provided with entirely new physical plants and equipment; others underwent extensive reconstruction. While the criticism was frequently made that much of the money spent on elaborate buildings might better have been expended on salaries for faculty members, libraries, and scholarships, the schools profited greatly from the construction of modern hospitals, the installation of excellent laboratories, and so on. Frequently, too, rebuilding stimulated them to make changes in the organization of their work and to improve their teaching staffs.[1]

In 1928 there were 80 schools. The Council on Medi-

[1] Sigerist, Henry E., American Medicine, pp. 139 ff.

cal Education discontinued its A, B, and C classification at that time and designated institutions only as "approved" or "not approved." So great had been the advance in medical education that only six schools appeared on the list as "not approved," and their enrolments represented but 1.9 per cent of all medical students. Although these six institutions still exist, they are no longer recognized as medical schools by the Council and statistics for them are not published by the American Medical Association. They have been refused recognition by the licensing boards of 46 states. Although they are chartered as medical schools, respectively, in Massachusetts, Illinois, and Missouri, they are generally recognized as such only in the states in which they are chartered.[1]

Since 1933 there have been 77 undergraduate medical schools in the United States listed by the American Medical Association, of which 10 offer only the first two years of the medical course.[2] Of the 77 schools 74 are "approved"; from the other three the Council has recently withdrawn its former approval. All schools now demand

[1] Rappleye, Willard C., "Medical Education." In Biennial Survey of Education, 1928–1930, Bulletin 20, 1931, pp. 545–552.

[2] There are six colleges of osteopathy in the United States which are approved by the American Osteopathic Association. They are not recognized by the American Medical Association, however, and consequently have not been included in this study. These colleges make graduation from high school a requirement for admission. Their curriculum, which covers four years of thirty-six weeks a year, includes surgery and the properties of drugs in addition to manipulation. The degree of doctor of osteopathy is conferred upon graduation. All graduates of osteopathic colleges must pass state board examinations before receiving a license to practice. In 12 states licenses granted osteopathic physicians confer upon them all of the privileges of physicians and surgeons; in 8 states the use of surgery is not included; and

at least two years of college preparation. Of the 45 that are exceeding this demand in 1936–1937, four require a baccalaureate degree; one admits only students who have had four years of college work; 36 insist upon three years; three admit candidates with three years of college preparation under the provision that their colleges confer on them the baccalaureate degree at the end of the first year of medicine; and one school has a requirement equivalent to two and one-half years of college work. In spite of the fact that only four schools definitely require an academic degree for admission, 77 per cent of the graduates of medical schools in 1935–1936 held the baccalaureate degree.[1]

Number of Medical Students

With the long continued decrease in the number of medical colleges, it is important to note what occurred to the number of students and of graduates. In 1880 there were 100 medical schools, 12,000 students were enrolled, and over 3,200 were graduated. In 1905, when the number of schools was 160, there were 26,000 students and 5,600 received the M.D. degree. Thereafter, with the closing of many institutions and the strengthening of entrance requirements and curricula in the remaining schools,

in 8 other states the prescription or administration of drugs is proscribed. The directory of the American Osteopathic Association for 1936 listed 8,733 osteopath physicians in the United States. For further information, see pamphlet on Osteopathy prepared by Walter J. Greenleaf, U. S. Office of Education, 1936.

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 29, 1936, pp. 661–671.

the number of students decreased appreciably. The 13,800 students and the 3,000 graduates of 1920 were the lowest in more than thirty years. In 1936, although the number of schools had fallen to 77, the enrolment had crept up to 22,564 and 5,183 students were graduated.[1]

TABLE 1.—NUMBER OF MEDICAL SCHOOLS, STUDENTS, AND GRADUATES, 1880 TO 1936[a]

Year	Schools	Students	Graduates
1880	100	11,826	3,241
1890	133	15,404	4,454
1900	160	25,171	5,214
1905	160	26,147	5,606
1910	131	21,526	4,440
1915	96	14,891	3,536
1920	85	13,798	3,047
1925	80	18,200	3,974
1930	76	21,597	4,565
1931	76	21,982	4,735
1932	76	22,135	4,936
1933	77	22,466	4,895
1934	77	22,799	5,038
1935	77	22,888	5,101
1936	77	22,564	5,183

[a] Rappleye, Willard C., "Medical Education," in Biennial Survey of Education, 1928–1930, Bulletin 20, 1931, p. 547; "Medical Education in the United States and Canada," in Journal of the American Medical Association, August 29, 1936, p. 671.

In spite of the fact that the number of institutions for the training of doctors has been almost stationary for more than ten years, the number of students admitted increased

[1] Exclusive of the six institutions not generally recognized as medical schools.

gradually from 1925 to 1935. In 1936 there was a slight decrease in the number matriculated. In 1900 the average school enrolled 157 students and graduated 33; in 1936 it had 293 students and a graduating class of 67. The range in size of school is not great when compared with that in some of the other professions. Although there were 11 schools whose enrolments for 1935–1936 for the four-year course were under 200, and 8 whose enrolments exceeded 500, the majority of schools had a student body of between 200 and 400.

Besides the number of students annually enrolled, almost as many are now refused admission. The pressure on medical faculties from applicants has been interpreted by some to indicate that there should be more medical schools in this country. In the opinion of Dr. Willard C. Rappleye, dean of the College of Physicians and Surgeons of Columbia University, this is not the fundamental question in the problem.[1] Whether there should be additional facilities or not, should be decided on the basis of the need for physicians and the extent to which present facilities meet this need.[2] In 1936 only 423 fewer students were graduated than in 1905 when medical schools were more than twice as numerous. Instead of being convinced by the pressure of numbers that more schools are necessary, the Commission on Medical Education, organized in 1925 by the Association of American Medical Col-

[1] "Medical Education." In Biennial Survey of Education, 1928–1930, Bulletin 20, 1931, p. 547.

[2] A discussion of the adequacy of the present number of physicians in terms of demand and need for medical service appears on pp. 109–134.

leges,[1] expressed the conviction in its Final Report that the production of doctors must be drastically curtailed.[2] As a result, the Council on Medical Education and Hospitals, as the Council on Medical Education was called subsequent to 1919, asked the Association of American Medical Colleges in 1933 to use its influence in reducing the number of graduates.[3]

Adequacy of Present System of Medical Education

While the problems with which contemporary medical education in the United States is faced are far less difficult and critical than were those of the nineteenth century, there has been considerable agreement, both among teachers of medical subjects and persons widely acquainted with general education, that there are two outstanding points of weakness which should be strengthened. They are the quality of teaching and the content and arrangement of the curriculum.

Selection of Teachers

In 1922 Dr. Pritchett asserted that perhaps no defect in the medical school made a sharper impression upon the

[1] This Commission was created to make a study of the educational principles involved in medical education and licensure. It was composed of representatives of general education, the basic sciences, clinical teaching, public health, the medical profession, and medical licensure. President A. Lawrence Lowell of Harvard was its chairman and Dr. Willard C. Rappleye was the director of the study. Its publications consisted of a series of reports beginning with the Preliminary Report (1927), and ending with a Final Report (1932).

[2] Final Report, pp. 119–121.

[3] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 26, 1933, p. 678.

lay visitor who was familiar with the grade of instruction of colleges of high standing than the lack of good teaching, particularly in professional subjects. He stated that the fundamental sciences, such as chemistry, physiology, anatomy and pathology, were ordinarily presented by trained teachers, but that the clinical and surgical subjects were, unfortunately, given by practicing physicians who, although they were often experts in their fields, had had no training in the art of teaching. As a consequence, students frequently failed to grasp the significance of much of the material. He was strongly of the opinion that men actively engaged in medical practice were necessary for the schools, but that some remedial steps must be taken to help them to a better understanding of how to present their subjects. He suggested that it was the duty of the deans of medical colleges to provide clinical and surgical teachers with needed training in the principles of pedagogy.[1]

Ten years after Dr. Pritchett's assertion, the Commission on Medical Education likewise criticized the teaching personnel of medical schools.[2] It insisted that appointments are generally made because of a physician's ability and interest in research, without sufficient consideration of his knowledge of the art of teaching. The fundamental difficulty, however, in finding first-rate men for teaching is probably due to the insufficient remuneration offered.[3]

[1] "The Relation of Medical Education to Medical Progress." In New York Medical Journal, January 4, 1922, p. 2.
[2] Final Report, p. 244.
[3] Chaney, R. H., "The Full Time Idea." In Journal of Association of American Medical Colleges, May, 1931, pp. 178–179.

Reorganization of the Curriculum

When the Commission on Medical Education was appointed, it was requested not only to make a study of the educational principles involved in medical education and licensure, as has already been noted, but it was asked to offer suggestions which would bring professional training into more satisfactory relationships with the newer conceptions and methods of university education on the one hand, and with the needs of present-day society on the other. In its Third Report, issued in October, 1928, the Commission pointed to certain defects in the curricula of medical schools, particularly in relation to the teaching of the sciences, that it believed should be corrected.[1] It stated that: (1) The course of study is overcrowded. (2) Too many details are required too early. Schools demand that many of these details must be memorized, although frequently they are of a relatively unimportant character, and are presented at a time when the student is unable to discriminate between their relative value or to correlate them with previous or contemporary experience. (3) Sciences are often taught in a highly technical fashion and with little reference one to another, instead of being presented in such a way that their relationship to each other and to medicine as a whole is readily apparent. (4) Stress is placed mainly upon laboratory manipulation and technique, rather than upon the use of the laboratory as a means of illustrating principles and providing opportunity

[1] Third Report, pp. 16–18.

for students to acquire first-hand knowledge of a few important fundamentals and methods. (5) Insufficient emphasis is centered upon the significance of the sciences in relation to the living human being in whom the student of medicine is primarily interested. (6) Because of the defects mentioned, the student fails to retain much important knowledge of the medical sciences and is unable to utilize essential principles in later work.

In considering these criticisms it is necessary to remember that medical education in the United States is, in effect, regulated by requirements for approval laid down by the American Medical Association, by the membership requirements of the Association of American Medical Colleges, and by the laws of the various states regarding medical licensure. Regulation by these bodies was urgently needed for the raising of standards of medical training and for the elimination of proprietary medical schools; in fact, it was largely responsible for the remarkable improvement that was made in professional education subsequent to 1907. Some of the later effects, however, have not been altogether desirable, for they produced such a crystallization of the course of study that the application of sound methods of education was often handicapped.

As a consequence of so much regulation by national organizations, medical colleges became unwilling to approve or apply further plans until some of the rigidity and confusion were removed. The Commission on Medical Education was therefore faced with the task not only of finding ways whereby the curriculum could be relieved of

its overcrowding and overstandardization, but of attempting to persuade the controlling bodies to decrease their pressure. It suggested to the Association of American Medical Colleges and to the Federation of State Medical Boards that a truce of a limited number of years be established, during which any medical school of approved standards might experiment with medical education without penalty to its graduates. Such a truce was agreed upon, and already much reorganization and experimentation are under way in several of the leading medical schools, particularly those connected with large universities.[1]

Content of the curriculum is being modified significantly.[2] Many of the courses have been made introductory in character, with emphasis placed on general principles. Training in technical aspects of laboratory work or special treatment, which require considerable experience and additional preparation if they are to be done properly, is being left for a postgraduate year. The course of study is beginning to be treated as a unit rather than as a series of individual subjects, and an effort is being made to correlate learning in the various fields that have become iso-

[1] Commission on Medical Education, Final Report, pp. 1–4; Capen, Samuel P., "Results of the Work of the Commission on Medical Education," in Proceedings of the Annual Congress on Medical Education and Licensure, American Medical Association, 1933, pp. 2–4.

[2] Commission on Medical Education, Final Report, pp. 231–235, 394–395; Edsall, David L., "Handling of the Superior Student," in Proceedings of Association of American Medical Colleges, 1925, pp. 114–117; The Human Welfare Group, New Haven, Conn., published by the General Hospital Society, Yale University, 1929, pp. 7–15; Kerr, W. J., "An Experiment with the Preceptor System," in Bulletin of Association of American Medical Colleges, October, 1927, pp. 290–291.

lated in the recent era of specialization and of emphasis on mechanical and laboratory procedures. More efficient training is sought through the demonstration of normal and abnormal structure and function in living human beings as part of the courses in anatomy and physiology; through the attempt to make the basic sciences more vital a part of clinical teaching; through the case method of study, the simplification of clinical instruction, joint clinics, and the use of comprehensive examinations. In order to equip students better to deal with the problems of illness and to identify conditions requiring consultation, expert treatment, or special study, they are being thoroughly drilled in the fundamentals of clinical study, such as the giving of physical examinations and the writing of case histories. Greater emphasis is coming to be placed in some schools on the study of the patient in his total environment: his emotional reactions, conditions of employment, habits of living, and other features of daily life are being considered as determinants in the diagnosis and treatment of disease and the prevention of illness.

Under these new conditions of medical education, a greater amount of responsibility for his own training is being given to the student. Instruction is becoming individualized through provision for very small classes that permit personal contacts between students and instructors. Many lecture courses have been replaced by discussion groups. Electives are numerous, and men and women are given an opportunity to do independent work in them.

Probably the chief criticism of such individualized

medical training is that it attempts, like the more formal education, to impose a single scheme of instruction upon all students of the institution. In actual practice, it has often been found impossible to select in advance those who are most likely to benefit from a curriculum built upon the theory of independent work. The majority, even of the more competent students, are not able at the outset to secure maximum benefit from such a plan and need to be inducted into it gradually. Furthermore, there is the likelihood that the student may miss important training and discipline which systematic instruction would provide and which accumulated experience has emphasized as important.

In order that this newer professional curriculum may meet with success, it is essential that the student body be small. It is equally essential that the medical school have a generous budget and a large faculty who are in a position to devote their full time to the work of the school and of the affiliated hospital or hospitals operated for teaching purposes. Many medical colleges are not able to meet these prerequisites. In those which are, great sums of money are being spent. It would have been unbelievable to the medical college of twenty-five years ago that such amounts could be amassed, or that such large faculties would be needed. The faculty of the Yale University School of Medicine consisted in 1935–1936 of 130 professors and 229 lecturers and assistants, while the students matriculated numbered only 206. Johns Hopkins University School of Medicine had in the same year a teaching

staff of 69 professors, 312 instructors, assistants, and others. There were 271 students. Harvard reported a faculty of 147 professors and 356 instructors and assistants, and a student body of 529.[1] It is apparent from figures such as these that the individualized program of instruction makes heavy demands upon any school that undertakes it.

Although the recent experimentation has exhibited some unfavorable aspects and many of its present methods and techniques may be eventually discarded, it is unquestionably of value. It represents an attempt to achieve that flexibility which is necessary if professional training is to adapt itself to constantly changing conditions.

Subjects Needing Greater Emphasis

Besides the attack upon the general plan of medical education that has recently led to the reorganization of courses of study in a significant number of schools, there have been persistent criticisms of specific weak spots within the curricula of most of the colleges.

OBSTETRICS AND GYNECOLOGY

The first criticism deals with obstetrics, and arises from the growing awareness of the extent of maternal mortality. Death at childbirth has been, and continues to be extremely high in the United States. In an article entitled "What Risk Motherhood?" published in Harpers Maga-

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 29, 1936, pp. 686, 688.

zine in June, 1929, Dorothy Bromley brought to popular attention the essential facts. She wrote:

> Few people . . . know that approximately 15,000 women die in this country from childbirth every year,[1] or that the mortality rate which these figures represent is as high as it was in 1900. . . . Childbirth constitutes a greater risk of death for women between the ages of 15 and 44 than any single disease or class of diseases, with the exception of tuberculosis; while the number of women whose health it destroys or impairs is incalculably large. . . . Most appalling of all is the fact that women in the United States apparently run a greater risk of death from childbirth than do the women of any other civilized country.

While it is true that maternal mortality is relatively very high in this country, it is difficult to arrive at a satisfactory basis for comparing the rate with that of foreign nations. This is due to differences in the existing methods of classifying causes of death. Many deaths are ascribed to puerperal causes here that are not so classified by most other countries. Dr. Elizabeth C. Tandy's Comparability of Maternal Mortality Rates in the United States and Certain Foreign Countries[2] contains a discussion of these dissimilarities of method and their significance. In the light of such differences, Table 2, which has been prepared from her data and which compares rates of maternal

[1] The Children's Bureau of the U. S. Department of Labor reports in The Child for August, 1936, pp. 9–10, that 12,859 women in this country died from diseases of pregnancy and childbirth in 1934. The mortality rate among white women was 54 to every 10,000 live births; among Negro women it was 93.

[2] Children's Bureau, U. S. Department of Labor, Publication 229, 1935, p. 15.

deaths for recent years as they are reported by the several countries, may make the case for the United States appear a little more unfavorable than it actually is. The situation in general, however, is one for grave concern.

TABLE 2.—RATES OF MATERNAL MORTALITY IN THE UNITED STATES AND IN CERTAIN FOREIGN COUNTRIES, 1927, 1929, 1931

Country	Deaths assigned to pregnancy and childbirth per 10,000 live births		
	1927	1929	1931
United States	64.7	69.5	66.1
Scotland	64.3	68.7	59.1
Australia	59.2	50.8	54.8
Chile	57.7	77.8	75.0
Canada	55.5	57.0	50.5
New Zealand	49.1	48.2	47.7
Northern Ireland	48.0	49.2	51.4
Irish Free State	45.1	41.0	43.1
England and Wales	41.1	43.4	41.1
Estonia	41.1	46.0	42.5
Czechoslovakia	35.8	42.8	41.4
Denmark	30.6	31.7	40.5
Netherlands	29.0	33.5	32.0
France	28.7	29.3	24.9
Sweden	27.8	37.9	36.8
Italy	26.4	28.8	27.8
Norway	24.5	36.2	27.0

In its recent study of maternal mortality in New York City, prepared under the direction of Dr. Ransom S. Hooker, the New York Academy of Medicine makes the

following significant statement applicable to the entire United States:

> The spectacular progress of the last years in the reductions of many death rates has not been paralleled by any drop in the rate of death from puerperal causes. Communicable diseases have shown steadily declining incidence and fatality rates with the wide application of the increasing methods for prophylaxis; infant mortality has been steadily declining, but puerperal mortality has remained stationary. This failure to show any improvement is the more significant when it is realized that, during this time, modern obstetrics has evolved from a neglected and relatively insignificant department of medical practice to a highly specialized one, demanding the attention of the best skill of the medical profession. Great progress has been made in the understanding and treatment of the more serious abnormalities of pregnancy and delivery. These advances have failed to produce a decrease in the deaths. The conviction has been growing that this group of diseases, if subjected to intensive study and investigation, would yield the information which could be utilized to produce an improvement comparable to that in other fields of preventive medicine.[1]

Several major causes of maternal deaths are recognized. The Commission on Medical Education estimated that 40 per cent are due to infections and 27 per cent to toxemias, both of which are largely preventable and controllable.[2] Most of the other causes were set down to faulty treatment during pregnancy and labor, such as inadequate prenatal

[1] Committee on Public Health Relations of the New York Academy of Medicine, Maternal Mortality in New York City: A Study of All Puerperal Deaths, 1930–1932. Commonwealth Fund, New York, 1933, pp. 1–2.

[2] Final Report, pp. 80–82.

care, lack of aseptic practice, interference with normal labor, unnecessary Caesarian operations, and risking the life of the mother in an effort to save the child.

In an attempt to analyze such causes in more detail, the New York Academy of Medicine investigated 2,041 deaths which had occurred in New York City in the years 1930, 1931, and 1932. In the judgment of its Obstetrical Advisory Committee, 1,343, or just under two-thirds, of these were preventable. More than one-third of the preventable deaths resulted from some failure on the part of the patient herself to take advantage of such facilities as were available for safeguarding her health. On the other hand, 60 per cent of the deaths that could have been avoided were attributed to the incapacity of the physician: lack of judgment, lack of skill, or callous inattention to the demands of the case. Most were classified as plainly the results of incompetence.[1]

It is apparent that if two-thirds of all cases of maternal mortality in New York City over a period of three years could have been prevented, and 60 per cent of all avoidable deaths were due to some failure on the part of physicians, the situation is a serious one. Moreover, it can probably be inferred that conditions throughout the United States are little if any better. Such a problem calls for immediate remedies, and one of the most fundamental and far reaching undoubtedly lies in the improvement of obstetrical training in medical schools and in the development of better clinical facilities for study in hospitals.

[1] Maternal Mortality in New York City, pp. 49–50.

The Obstetrical Advisory Committee of the New York Academy of Medicine was emphatic in its assertion that medical schools do not provide sufficient training in normal obstetrics. Since the general practitioner devotes a considerable proportion of his time to this branch of medical service and is frequently situated in areas where he cannot quickly obtain the assistance of a specialist, it seems imperative that training adequate for the practice of normal obstetrics and for recognizing abnormalities requiring the services of especially qualified obstetricians be given as part of the basic professional course. The recommendation of the Association of American Medical Colleges that 5 per cent of the medical course be allotted to obstetrics and gynecology has been questioned sharply by some of the leading obstetricians, who are convinced that more time is necessary if general practitioners are to be properly prepared to meet the needs of the situation.

More extensive training is also needed for the obstetrical specialist. The Committee of the Academy of Medicine declared that the medical school should convince the student that the training he receives in the basic curriculum does not qualify him to practice as a specialist in this field.

> The medical profession must insist that prolonged graduate study is necessary for specialization. So important is this element that it might be advisable to set up a legal barrier preventing any but those who had shown themselves especially qualified from doing any operative obstetrics. . . . If such education is to be demanded of the practitioner of medicine, facilities for obtaining it must be made available. Such facili-

ties are strikingly lacking today. The graduate in medicine who wishes to further his study of any specialty meets with the greatest difficulty in doing so. Hospitals must be prepared to receive these men as internes in order that they may have the opportunity of using clinical material. Medical schools should offer courses to the practitioner.[1]

Of late years the point of view has been rapidly spreading that, aside from the giving of better training in obstetrics, the medical college has a further responsibility in the reduction of maternal mortality. The battle against deaths at childbirth must be waged in considerable part through education of the laity. Although other groups besides physicians, notably public health nurses and social workers, have an important share in this task, both society and the medical profession are coming to insist that it is the duty of doctors to organize an attack upon ignorance, carelessness, and failure to realize the significance of prenatal care. What has already been done is a mere beginning. If the profession is to achieve extensive results, medical schools must train their students in methods and techniques for carrying on such education.

Closely allied with the subject of obstetrics are those of the regulation of both the number and spacing of births, and the physiology and psychology of marital relationships. Concerning such questions the medical profession in general has shown scant interest. This is to a considerable degree the result of a system of training which has concentrated its emphasis upon the cure of disease to the

[1] *Ibid.*, pp. 218–219.

neglect of the social aspects of medicine. When one views the heavy toll of deaths, invalidism, and serious complications that result from the bearing of children by women who are physically unable to do so, or when one reads the probably conservative estimate made by Dr. Frederick J. Taussig of nearly 700,000 abortions performed annually in the United States with some 8,000 resulting deaths,[1] the need for assumption of responsibility by the medical profession appears to be urgent.

It is admitted by many physicians that the profession has not given these problems the attention they deserve. Not until 1935 did the American Medical Association take any official action on the subject of birth control. At that time, largely as the result of pressure exercised by three state medical societies, which presented resolutions to the national body concerning birth control, the Association appointed a committee to study the question. The report of this committee, which was read at the annual convention of the Association in May, 1936, was not only accepted but praised by the reference committee to which it was assigned.[2] From a significant number of lay persons and physicians, as well as from members of birth-control leagues, however, it received much adverse criticism on the ground that it was neither sound factually nor progressive in point of view.

[1] Abortion, Spontaneous and Induced: Medical and Social Aspects. Sponsored by the National Committee on Maternal Health, Inc. C. V. Mosby Co., St. Louis, 1936, pp. 23–28.

[2] The report is published in full in the Journal of the American Medical Association for May 30, 1936.

Regardless of the attitude of the American Medical Association as a whole, the American Gynecological Society, the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association, a number of local medical societies, and some departments of health had already gone on record as favoring the giving of advice on birth control under medical supervision. Many individual physicians have expressed themselves similarly.[1] The extent to which such advice is given by doctors in private practice is not known, but the rapid growth in birth-control clinics in recent years is evidence of an increasing attempt to serve persons belonging to the under-privileged groups. In June, 1936, the American Birth Control League had received reports concerning 279 clinics. Six years earlier only 28 were listed by it. Among 50 states, if the District of Columbia and Hawaii are included, there were 8 in June, 1936, that had 10 or more clinics. California, Pennsylvania, and New York stood highest in the list with 30, 31, and 47, respectively. On the other hand, there were still 7 states that had no clinic at all, and 12 that had only 1 each. Even in those states that had the largest number, there were hundreds of communities without any such service available to the poor. Although birth-control clinics were initiated and are still largely sponsored and financed by lay groups, physicians are not only serving on their staffs but are beginning to take over their control.

[1] See statements such as the one entitled, Modern Medicine Demands Birth Control, signed by 65 physicians. Published by the American Birth Control League, New York, 1936.

It is evident that medical schools can play an important part, both in preparing students for such work and in instructing them in how to give premarital and marital counsel to those seeking advice. A slowly growing number of schools appear to be taking initial steps in this direction. The results of a survey conducted by the National Committee on Maternal Health in 1933 showed that 28 schools were then teaching the medical control of contraception and 31 were teaching techniques of sterilization.[1] In many of the schools that offered both subjects, however, the work was presented in different departments and in different ways. No school appeared to have planned a definite course in either subject as part of its curriculum. Teaching was by occasional lectures or clinical instruction or both. Although the question of the hygiene of marriage had not received so much attention as had contraception and sterilization, 42 deans or heads of departments of gynecology expressed their opinions to the National Committee on Maternal Health regarding its importance. Of the medical educators 32 considered instruction in the subject practicable and 38 desirable. Many believed that there was no one in their particular schools qualified to teach it, but their interest in the topic indicated that they thought it should not be longer neglected.

PSYCHIATRY

It is only slightly more than twenty-five years since Clif-

[1] "Contraception, Sterilization, and Hygiene of Marriage in the Medical Curriculum. The Report of a Survey Conducted by the National Committee on Maternal Health, Inc." In American Journal of Obstetrics and Gynecology, January, 1936, pp. 165 ff.

ford Beers wrote A Mind That Found Itself[1] and the National Committee for Mental Hygiene opened its doors. During this brief period the mental hygiene movement has spread to all parts of the world. Anyone who questions its vital significance should read the hundreds of letters of tribute sent to Mr. Beers upon the twenty-fifth anniversary of the appearance of his famous autobiography.[2] So great has been its influence that there are now within the United States, not only the National Committee, but also the American Foundation for Mental Hygiene, which acts as a financing agency, and numerous state and local societies. There is also an International Committee for Mental Hygiene, which was formally organized in 1930, and which held its First International Congress in Washington, D.C., in May of that year.

Among the functions of this widespread movement has been the focusing of attention upon one of the gravest medical problems of the twentieth century, that of nervous and mental diseases. The full magnitude of the problem is unknown, but such statistics as are available present a staggering picture. In 1935 there were 592 special hospitals in the United States for patients nervously or mentally sick, mentally deficient, or epileptic. These hospitals contained 530,522 beds, admitted 173,109 patients during the year, and had a daily average of 508,448 patients. In the same year there were 4,257 general hospi-

[1] Longmans, Green and Co., New York, 1908.
[2] Wilbur L. Cross, Editor, Twenty-Five Years After: Side-Lights on the Mental Hygiene Movement and Its Founder. Doubleday, Doran and Co., Garden City, N.Y., 1934.

tals with 406,174 beds. Although these institutions admitted nearly 6,900,000 patients during the twelve months, their daily average was only 261,294, or scarcely more than one-half the average number in hospitals for mental cases. Comparison of the amount of mental disease and deficiency under hospitalization with the amount of hospitalization for tuberculosis is particularly instructive, inasmuch as in most of the states there have been active programs for the treatment of tuberculosis. In 1935 there were 96 fewer hospitals for tuberculous than for mental cases, and their combined average number of patients was only 60,738.[1]

According to a study of the expectation of mental sickness in New York State published in 1929, approximately one person out of every 22 will become a patient in a hospital for mental diseases at some period during his lifetime.[2] Besides those who reach the stage of needing institutional care there are hundreds of thousands more who are suffering from mental difficulties which render them socially unadjusted and economically inefficient. There is scarcely a private physician or clinic that does not have patients who come to be treated for physical ailments, but whose difficulties are primarily emotional and mental. In her study of Mental Hygiene in the Community, Clara Bassett, consultant in psychiatric social work of the Na-

[1] Council on Medical Education and Hospitals, "Hospital Service in the United States." In Journal of the American Medical Association, March 7, 1936, pp. 790–792.
[2] Pollock, Horatio M., and Malzberg, Benjamin, "Expectation of Mental Disease." In Mental Hygiene, January, 1929, p. 144.

tional Committee for Mental Hygiene, states that experienced physicians estimate that from 30 to 70 per cent of all patients are ill, not because of physical diseases, but because of emotional and mental maladjustments.[1] This is indeed a serious situation and would be even more serious were it not believed that much mental illness could be prevented through careful physical and mental training in childhood. It is also fairly certain that early recognition and treatment of psychological problems would result in the recovery of a great number of those in whom nervous symptoms had already made some headway.

Psychiatrists and some general physicians have long pointed to the clear-cut responsibility of the medical profession for recognizing mental disease in its early stages. And yet, according to the reports of 99 physicians whom Dr. Lloyd H. Ziegler[2] interviewed as late as 1931, 46 knew nothing about mental hygiene, 48 knew very little, and only 5 felt themselves well informed. A mere 12, moreover, reported that they were much interested in the subject. If Dr. Ziegler's limited survey is applicable to the medical profession in general, it is impossible to see how progress can be made in stemming the formidable tide of nervous and mental diseases until the attitude of the medical profession changes. And it is equally impossible to see how that attitude is likely to alter until medical

[1] Mental Hygiene in the Community. Macmillan Co., New York, 1934, pp. 16–20.

[2] "Mental Hygiene and Its Relation to the Medical Profession." In Journal of the American Medical Association, October 17, 1931, p. 1120.

schools assume a far greater degree of responsibility than they have in the past for instruction in psychiatry.

When medical schools began to establish courses in psychiatry, they thought of the subject predominantly in terms of late stages of mental disease. In a considerable number of schools instruction in psychiatry is still limited to teaching students how to recognize and classify those forms of mental disorder that have progressed to the point of requiring hospitalization. In such schools a small number of lectures combined with a few visits to hospitals for the mentally ill are considered sufficient for undergraduate instruction, and graduate work is generally non-existent.

The Division of Psychiatric Education of the National Committee for Mental Hygiene maintains that psychiatric instruction in medical schools should be of two kinds: advanced work on the graduate level, and basic work on the undergraduate level. The former is necessary to meet the growing demand for psychiatric services not only in mental hospitals that are becoming active treatment centers, but in general hospitals, schools, courts, correctional institutions, child-guidance clinics, and so on. Eleven medical schools, which are among the best in the United States, are now listed by the Council on Medical Education and Hospitals as giving such advanced work.[1] The second type of instruction is equally important in order to prepare general practitioners to deal with the mental conditions of their patients. If psychiatric training in the

[1] Ebaugh, Franklin G., Graduate Instruction in Psychiatry. National Committee for Mental Hygiene, New York, 1935, p. 2.

undergraduate curriculum is to be effective, the Division of Psychiatric Education insists that the medical student should be taught to think in terms of the patient as an entire person, instead of thinking of a specific disease process or defect. He should have sufficient knowledge of mental reactions to recognize their marked influence upon the physical condition of the patient; he should also have some insight into the role that environment plays in individual and social behavior. This is a new approach to those who have been trained to view the patient as "the more or less incidental container of an interesting biochemical, physiological or bacteriological situation."[1] Dr. Ralph A. Noble, formerly director of the Division of Psychiatric Education, declares that efficient medical service can be rendered only on the basis of an understanding of the complex interplay of physical, psychological, and social reactions, and that adequate preparation for such medical service can be given only if psychiatry in its broader aspects permeates the entire training of the medical student.[2]

On the basis of this fundamental philosophy the Division of Psychiatric Education has vigorously attempted during the past five years to improve psychiatric instruction. One of its first tasks was a survey of psychiatric training given in 1931–1932. Of the 68 schools visited

[1] Campbell, C. Macfie, "The General Practitioner's Approach to Nervous or Mental Patients." In British Medical Journal, December 31, 1932, p. 1186.

[2] Psychiatry in Medical Education. National Committee for Mental Hygiene, New York, 1933, p. 11.

in the United States and Canada by Dr. Franklin G. Ebaugh, then assistant director and now director of the Division of Psychiatric Education, he found only one that offered no instruction in this subject. In many schools psychiatric teaching amounted to little more than a gesture, but in 14 it had been developed in recent years to a point where it was considered reasonably complete. Although the number of hours in the curriculum devoted to psychiatry is not an indication of the quality or effectiveness of instruction, it is significant to note that in the 67 schools offering this subject the required hours varied from 16 to 207, with a median of 77. This was about double the number required in 1920.

Many schools proved upon investigation to be seriously handicapped by insufficient faculty, lack of funds, and lack of clinical facilities.[1] Of the 317 teachers of psychiatry in the 67 medical schools, only 130 had the rank of assistant professor or higher, and only 37 were full professors. Some of the schools surveyed depended largely upon lecturers, who gave a very small proportion of their time to teaching, rather than upon instructors employed on a full-time basis. The total amount expended in psychiatric instruction in 1931–1932 by the 67 schools was $600,000. This was far less than the endowment for a single subdepartment in the one school which had not yet developed any facilities for psychiatric training.

[1] Ebaugh, Franklin G., "Present Status of the Teaching of Psychiatry," in Journal of the Association of American Medical Colleges, July, 1933, pp. 214–223; Noble, Ralph A., Psychiatry in Medical Education, 1933, pp. 14–15.

Psychopathic hospitals were used by some schools, and psychopathic wards or out-patient departments of general hospitals were used by others for clinical purposes. These were frequently entirely inadequate for demonstrating the broader aspects of the subject. All too often they did nothing more than give the student some knowledge of the advanced stages of mental illness. Even when psychiatric clinics were available, they were generally without psychiatric social workers and facilities for psychological testing. Few of these clinics treated any except the more pathological manifestations in children. Attempts were generally made, moreover, to examine and treat patients in the same manner and with about the same rate of speed as in medical clinics. Only a few exceptional schools had access for teaching purposes to well-organized child-guidance or to mental-health clinics with staffs that included a psychiatrist, psychologist, and psychiatric social workers.

As a result of this investigation, Dr. Ebaugh listed the following steps as necessary for the adequate development of psychiatric instruction.[1]

1. Establishment of psychiatric hospital units in general hospitals for teaching purposes.
2. Establishment of separate departments of psychiatry, adequately budgeted, in medical schools.
3. Establishment of a full-time or part-time teaching personnel for psychiatry.
4. Integration of psychiatry with other medical teaching.
5. Increase in number of required and elective curriculum

[1] "The Crisis in Psychiatric Education." In Journal of the American Medical Association, August 27, 1932, p. 705.

hours in psychiatry, with introduction of preclinical subjects such as psychobiology, psychopathology, and so on.
6. Better utilization of out-patient facilities for teaching purposes.
7. Establishment of child-guidance clinics in conjunction with teaching hospitals and their use in the teaching program.
8. Establishment of extramural psychiatric clinics and community programs.

Observation of the 68 schools has continued and Dr. Ebaugh reports that much progress has been made during the past five years. According to his latest appraisal, a high standard of psychiatric teaching is maintained in some two-fifths of these institutions, while another fifth show definite improvement. In recent visits to many of the schools he has been impressed by the changing attitude toward psychiatric instruction. Many administrative officers and faculty members who were formerly apathetic to psychiatry or skeptical of its value are now disposed to accord it an important place in the medical course. This change in point of view recently found expression in the report of the Committee on Educational Policies of the Association of American Medical Colleges, which "agreed that a more prominent place in the course should be occupied by the psychobiological, psychopathological and psychiatric aspects of medicine," and recommended that "psychobiology be added to the curriculum" and that "psychiatry be listed separately under medicine."[1]

Besides the investigation of the status of psychiatry in

[1] National Committee for Mental Hygiene, News Letter, January, 1936, pp. 5–6.

medical schools, the Division of Psychiatric Education has instituted a plan of annual conferences designed for the purpose of discussing what should constitute the subject matter, pedagogical procedures, and clinical facilities necessary for adequate instruction in psychiatry. Speakers at the sessions of the conferences have insistently maintained that the divisional barriers that have traditionally confronted the medical student should be broken down; that the psychiatric point of view should be introduced early in his career; and that that point of view should be integrated with the whole educational scheme of the medical school throughout the four years of training. Certain biological and psychiatric conceptions of the behavior of the individual in health and disease, it is held, should be presented at the very beginning of the course so that the student may be given an opportunity to learn some of the disorders of behavior and function at the same time that he is learning anatomy and pathology.[1]

As an example of what is being done on such lines at one medical school to give students a more adequate knowledge of psychiatric factors, a recent paper by Dr. Esther Loring Richards, associate psychiatrist at Johns Hopkins Hospital, is instructive.[2] Since it was Dr. Richards' purpose to discuss the place of the out-patient de-

[1] Ruggles, Arthur H., Minutes of Conference on Psychiatric Education, May 28–29, 1933. National Committee for Mental Hygiene, New York, pp. 14–16. Mimeographed.

[2] "The Teaching of Psychiatry in the Out-Patient Department of a Mental Hospital." In Proceedings of the Second Conference on Psychiatric Education, National Committee for Mental Hygiene, 1935, pp. 30–33.

partment of a mental hospital in the teaching of psychiatry, training in the dispensary has been emphasized. The substance of her discussion is as follows:

Although students are permitted to take elective work in the Henry Phipps Psychiatric Clinic from the last quarter of their second year until the end of their course, their required work in the dispensary consists of forty-eight hours during the third year. Before entering the dispensary they have had sixteen hours of psychobiology during their first year, and sixteen hours in the second year of clinical demonstrations of the main reaction sets and group practice in taking mental status under the supervision of members of the house staff. The dispensary period is their initiation into history-making and their introduction to the mental-hygiene problems of preventive psychiatry. Each student, either by himself or in a group of two under the supervision of a senior member of the staff, takes the case history from the patient, relatives, and social workers; makes a mental status; gives a brief neurological examination; and writes his summary of the facts for presentation before the entire group of students at the end of the dispensary hour. In the case of children, who form from 40 to 50 per cent of the total registration of the dispensary, and in a large majority of the cases of adults, the Binet-Simon intelligence test is given by the staff officer in the presence of the student until the latter becomes accustomed to the technique. Thereafter the student gives the test under supervision.

Although a third-year student is able to write excellent histories of cases of physiological difficulties that he has studied, he comes to the dispensary with no experience in writing the history of the patient as a whole. He has to be trained to see the relation of somatic complaints to school, vocational, economic, and family problems; to the growth and development of the patient's personality; to temperamental characteristics.

Every effort is made to help him utilize his native powers of observation and thoughtful reflection that often appear to have been atrophied from long search for some specific disease.

Each student is expected to keep a case book of his own and is encouraged to be present when the house officer and the director of the dispensary formulate the problem in the presence of the patient or the family. Thus he is given an opportunity to see what facts taken from the history can be constructively utilized in individual instances, and how these facts can be presented simply enough to be grasped by the patient.

The dispensary is utilized not only for instructing the student in the taking of psychiatric histories of patients but for instructing him in the broad field of behavioristic problems that are found in the school system, in juvenile courts, and in child-placing agencies. He meets the neglected child, for example, who has been sent to the dispensary for placement outside the home or for adjustment within the home; the child referred for difficulties connected with the school, or for behavior problems such as stealing, sex delinquency, nervous fears, speech defects, and so on. The student usually has little idea of how the problems of adult life are frequently rooted in those of childhood, and he knows almost nothing about the social agencies and institutions working in the field of prevention and rehabilitation. He comes to the dispensary believing that the health of the body is his business; it is the task of the out-patient department, to convince him that social and economic factors play so vital a role in connection with health that he will take them into consideration in the diagnosis of all cases throughout his subsequent practice.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

Medicine is still very largely in the first stage of its development, the age of therapy. How long the period will be before it enters a new epoch, the age of prophylaxis, will depend upon several factors, of which one of the most important will be the attitude of medical schools. Thus far the doctor has been concerned almost entirely with the small fraction of the population that is actually ill or under treatment at any one time, rather than with the conservation of health and the prevention of illness.[1]

With the great progress that has been made in the knowledge of disease, the question is often asked why the medical profession has done so little to utilize this knowledge for preventive purposes. Various partial answers have been advanced: it is hard for the private physician to interest the public in frequent physical examinations and other preventive measures; ignorance makes difficult the dissemination of public health information, particularly in connection with social hygiene; that part of preventive medicine which is carried on through public health channels, being largely in the hands of the government, pays salaries too small and is often entangled with political influence too great to attract as many able physicians as are needed. Although there is unquestionably a considerable element of truth in these arguments, many medical leaders assert that the fundamental difficulty lies in the fact that physicians are more interested in disease than in health. They believe that if the medical profession had centered its attention upon preventive measures, ways and means would undoubtedly have been devised long before this for

[1] Sigerist, Henry E., American Medicine, pp. 230–232; Emerson, Haven, "Education in Preventive Medicine in the Regular Curriculum," in Proceedings of the Association of American Medical Colleges, 1925, p. 36.

putting more extensive and efficient preventive service into operation.

Such preventive medicine as has been carried on has largely been the result of the development of the science of bacteriology. Narrow in scope and insufficient in amount though it has been, it has accomplished a great deal in reducing mortality rates. In 1900 the death rate from all causes in the United States registration area for deaths, which then included 10 states and the District of Columbia, was 17.6 per 1,000 population. In 1920 the rate for the registration area, which had grown to encompass 35 states, was 13.0. In 1932, when all states except Texas had become part of the registration area, the rate had fallen to 10.9. If only the registration area of 1900 is considered, however, the rate in 1932 was 11.7. The reduction in mortality between 1900 and 1932 was much greater for large cities than for the country as a whole. This was due to two reasons: rural rates were never as high as those which prevailed in congested urban areas, and in country communities there has been little effective health machinery to reduce mortality.

Many persons have questioned whether the decrease in mortality has really been the result of the application of public health procedures or is to be attributed to other causes. Dr. C.-E. A. Winslow of Yale University answers the question by an analysis of the components of the death rate. He finds that, in the original registration area of 10 states and the District of Columbia, more than half of the decrease in the mortality rate from 1900 to 1932 was

the result of great reduction of deaths from four diseases alone: typhoid fever, diphtheria, diarrhea and enteritis, and tuberculosis. The death rate from the first three of these diseases decreased over 90 per cent, that from tuberculosis about 70 per cent. From all other diseases taken together the rate of mortality declined by less than 22 per cent. As Dr. Winslow declares, it can scarcely be an accident that the four diseases which so strikingly diminished are those that have been made the objectives of organized attack by the health forces of the country.[1]

If results such as these were achieved in the reduction of death from four diseases, when only $1.00 per capita was available for all public health service, whether federal, state or local, when the per capita expenditure in cities of 100,000 was a mere 65 to 80 cents, and when four-fifths of all the rural and semi-rural counties in the United States had no organized health departments, it seemed likely that far more could be accomplished if ample financial resources were at hand. Expenditures for public health measures have been meager, indeed, and seem to indicate either disbelief in the ability of present knowledge to improve the general health or the lack of concern with the problem.

Two large experiments sponsored, and financed in considerable part, by the Milbank Memorial Fund proved conclusively the effectiveness of greater expenditures. The first experiment was begun in Syracuse, New York, in

[1] "Can Health Be Bought?" In Survey Graphic, December, 1934, pp. 610–611.

1923, as a demonstration of the value of adequate public health facilities and was continued for eight years. Appropriations for the work were increased from $1.00 per capita to $2.08. When the accomplishments from 1923 to 1931 were compared with those from 1912 to 1921, it was found that there had been a twofold acceleration in the rate of decline in the death rate from diphtheria, measles, scarlet fever, typhoid fever, whooping-cough, tuberculosis, and infant diarrhea, amounting to a saving of 300 lives a year in this city of 150,000 population.

The second demonstration, for which Cattaraugus County, New York, was selected, was made in an attempt to discover whether death rates in the rural areas are as low as can be reasonably expected. Public health expenditures in this rural county were raised from 50 cents per capita to slightly more than $2.00. Although the death rates from diphtheria, tuberculosis, and infant mortality had been very low before the beginning of the demonstration, all three rates fell sharply. The saving in lives, as compared with the period from 1915 to 1921, was 39 a year, in a population of 1,236.[1]

The public health movement has amply justified its existence in the successful attack it has made upon certain communicable diseases. The question that now arises in the minds of those interested in preventive medicine is

[1] "Can Health Be Bought?" In Survey Graphic, December, 1934, p. 612. For further details of these demonstrations, see two books by Dr. Winslow: A City Set on a Hill, Doubleday, Doran and Co., Garden City, New York, 1934; and Health on the Farm and in the Village, Macmillan Co., New York, 1931.

that of its future program. Is it to be limited to the restricted field in which it has so far worked? There is certainly much more to be done in directions that have already proved so profitable, and there is consensus that what has been accomplished in some cities and a few rural sections should be repeated throughout the entire United States. This point of view found expression in the Social Security Act signed by President Roosevelt on August 14, 1935, which included a section on public health authorizing an annual appropriation of $8,000,000 to be used for the purpose of assisting states, counties, health districts, and other political subdivisions of states to establish and maintain adequate public health services, including the training of personnel. The act further authorized the annual appropriation of $2,000,000 for expenditure by the United States Public Health Service for investigation of disease and problems of sanitation. These new appropriations represent almost double the amount that had formerly been expended by the federal government for public health.

In addition to the program that has already evolved, there are other areas, in Dr. Winslow's estimation, that offer rich promise of achievement.[1] The foremost of these is the control of syphilis. Dr. Thomas Parran, Jr., now Surgeon General of the United States Public Health Service and long a pioneer in publicizing the need to exterminate syphilis, has said in a recent article that one adult in

[1] "Can Health Be Bought?" In Survey Graphic, December, 1934, pp. 613, 632–633.

every ten is infected by this disease at some period during his or her lifetime.[1] If all conditions due to syphilis were reported as such, it would probably be found to be the leading cause of death in the United States. Although it is at present the most serious of the communicable diseases, it spreads from a relatively small number of foci of infection, and can be eliminated by vigorous epidemiological methods more effectively than has typhoid. Until recently, most health departments either had no real conception of the problem or the most meager facilities for its solution. It is now beginning, however, to receive concerted attention. In December, 1936, the United States Public Health Service called a three days' conference in Washington on the subject of the control of venereal diseases. The attendance of some 300 medical experts, social workers, and laymen, and the space devoted to reports of the meetings in the press are an indication of the degree of interest that is being taken in the subject. Plans for regional conferences throughout the country and for a great extension of the work of departments of health and many other agencies are distinctly encouraging.

Finally, there is the major health problem of the future: the so-called "diseases of adult life," such as cancer and affections of the heart, arteries, and kidneys. These are the diseases that account for nearly half of all deaths at present. Widespread facilities for health examination need to be developed so that the impending breakdown

[1] "The Next Great Plague to Go." In Survey Graphic, July, 1936, pp. 405–411, 442–443.

of the vital machinery may be detected and corrected or mitigated by a hygienic program. If substantial results are to be attained in the control of such ailments as heart disease and cancer, it is obvious that public health methods different from those of the past will have to be employed. Diseases of this nature cannot be dealt with as are sanitation and the control of acute communicable diseases. They require that preventive service be given to persons individually and not as groups. Tuberculosis campaigns and the promotion of infant hygiene have already done much to establish a new relation between physician and patient, in which the physician acts as a preventive rather than an ameliorative agent, and it is this line of attack that must be utilized, Dr. Winslow insists, in dealing with the diseases of middle life.

Dr. Parran visualizes an even broader field for the public health movement to cultivate. In an address before the American Public Health Association in October, 1936, he insisted that decent housing, healthful working conditions, facilities for recreation, food adequate for proper nutrition, and other factors which have a direct influence upon health should be the general concern of all engaged in public health.[1]

If a concerted attack is to be made not only upon the communicable diseases but upon those that beset persons in middle life, and if public health physicians are to concern themselves with social problems affecting health, a

[1] "Reporting Progress." In American Journal of Public Health and the Nation's Health, November, 1936, p. 1072.

distinct obligation rests upon the medical schools for preparing physicians to participate more actively in preventive medicine. The Committee on the Costs of Medical Care[1] took a very definite stand in Medical Care for the American People in recommending that such training should be given both to those who expect to go into private practice and to those who plan to become public health officers. In the estimation of the Committee, the former should be thoroughly instructed in the conduct and use of periodic health examinations, in the basic principles of psychiatry, and in the prevention of specific diseases. This training should not be confined to special courses in public health or preventive medicine, but should as far as possible permeate all courses.

As regards the training of prospective health officers, the Committee insisted that adequate provision must be

[1] This Committee was organized in 1927 under the chairmanship of Dr. Ray Lyman Wilbur, president of Leland Stanford University and formerly Secretary of the Interior. During most of its five years of study of the adequacy and cost of health service in the United States, the Committee was composed of 50 members, representing private medical practice, public health, medical institutions and special interests, the social sciences, and the general public. The work was financed by eight foundations at a cost of more than $1,000,000. Twenty-eight volumes were prepared by the group and its research staff and were published by the University of Chicago Press. The first volume appeared in 1928; the Final Report, Medical Care for the American People, containing a résumé of the facts presented in the other volumes and the recommendations of the Committee was issued in 1932. The American Dental Association, American Medical Association, Metropolitan Life Insurance Company, National Bureau of Economic Research, National Tuberculosis Association, Milbank Memorial Fund, and the Julius Rosenwald Fund, all of which collaborated with the Committee on the Costs of Medical Care, also issued a list of publications separately on related subjects. The recommendations referred to here are from Medical Care for the American People, pp. 138–140.

made by the schools. It believed that the development of public health work has been delayed almost as much by a lack of properly educated men as by lack of financial support or by political interference. Most of the present-day health officers began with only general medical training and have received such special training as they possess through apprenticeship. "An apprentice system is no more satisfactory in this field than it is in other fields."[1]

Dr. Ray Lyman Wilbur reported in 1935, on the basis of visits to 28 medical schools made by representatives of the Council on Medical Education and Hospitals, that wide variation in methods employed in the teaching of public health seemed to indicate that that part of the medical curriculum was still in an experimental stage.[2] Some schools were found to emphasize the functions of the public health official, although many consider that this medical specialty should be reserved for graduate study. Other schools stressed what they called the preventive aspects of general medicine and surgery, but actual accomplishments proved disappointing and will continue so, in Dr. Wilbur's belief, until public health teaching becomes a more substantial part of the medical course.

MEDICAL ECONOMICS

At the annual meeting of the American Medical Association in 1935 a resolution was submitted by the Medical

[1] Final Report, p. 139.

[2] "Report of the Council on Medical Education and Hospitals." In Journal of the American Medical Association, March 30, 1935, pp. 1064–1065.

Society of the State of Pennsylvania urging the Council on Medical Education and Hospitals and the Bureau of Medical Economics of the American Medical Association to continue to stress the importance of work in medical economics in every medical school. This resolution was the result of a survey conducted early in 1935 by the Philadelphia County Medical Society.[1] Of the 71 schools canvassed 33 reported that they were at least giving some lectures on medical economics. A few schools were offering formal courses in the subject; 27 had given the subject no consideration. In reply to a question concerning the advisability of teaching medical economics to undergraduate medical students, 48 stated that they favored the proposal.

Although this report revealed a friendly attitude toward the subject, such work as has already been undertaken appears limited in most instances to occasional lectures. As yet there is no consensus about what should constitute the subject matter of a formal course, and few schools have men of sufficient background and experience to introduce such courses. Definitions of the term, medical economics, still vary widely. Some schools limit their few lectures on the subject to a consideration of such problems as collection of bills and questions of fees. Other schools interpret the term broadly, and furnish discussions of the methods whereby medical service is rendered under different forms of government and of the relation of medicine to the economic system in general. The Philadelphia County Medical Society asked that outlines of the work of the various schools be submitted to it, and suggested that these outlines be used as a basis for attempting to determine what should be taught.

[1] "Resolution on Establishment of Courses in Medical Economics in All Medical Colleges in This Country." In the Weekly Roster and Medical Digest. Published by the Philadelphia County Medical Society, July 6, 1935, pp. 1309–1313.

Three experiments of particular significance have been undertaken within the last few years. In 1933 the Harvard Medical School appointed to its staff an assistant professor of medical economics. Although his work has been largely that of research, he has given lectures in connection with established courses. In 1937 he is conducting a seminar course, which some 25 students have elected.

The Institute of the History of Medicine of the Johns Hopkins Medical School has for several years offered a course which traces the interrelationship of the development of society and that of the medical profession. The content of this course is historical and sociological as well as economic. It surveys medical service from ancient to modern times. Attention is given to contemporary medicine in fascist countries, in the Soviet Union, and under democratic forms of government, particularly that of the United States. The Social Problems Forum of the Institute is an interesting innovation at Johns Hopkins. Talks, given on two evenings of each month, deal with social or health problems that have important implications for the medical profession. Discussion follows the presentation of the subject by the speaker. The large attendance at the Forum points to the existence of keen interest.

Washington University School of Medicine in St. Louis has probably developed work in medical economics more extensively than any other medical school. A course was begun in 1923 and revisions and additions have been made frequently since then. The course for 1936–1937, given under the title of Professional Conduct and Medical Economics, covers a wide field, ranging from questions of how to establish medical practice, medical ethics, and the relation of the physician to other health groups, to a survey of medical care in England, Germany, Sweden, France, and the Soviet Union. An important aspect of the course is the consideration of birth control, abortion, eugenic sterilization, and euthanasia.[1]

Internship

For many years graduates of medical schools have been urged to secure a period of practical experience under supervision in a hospital before assuming the responsibilities of independent practice. So important is this experience thought to be that in 1914 the state of Pennsylvania made it a requirement for licensure, and since then 16 other states besides the District of Columbia and Alaska have gradually added the same requirement. The following list records the names of those states in which the medical licensing boards have taken such action and the dates when the requirement became effective:

[1] White, Park J., "New Things Which Should Be Taught in a Course on Professional Conduct and Medical Economics." In Journal of the Association of American Medical Colleges, November, 1936, pp. 366–376.

Pennsylvania	1914	South Dakota	1924
New Jersey	1916	Utah	1926
Alaska	1917	Wisconsin	1927
Rhode Island	1917	District of Columbia	1930
North Dakota	1918	Wyoming	1931
Washington	1919	West Virginia	1932
Michigan	1922	Oklahoma	1933
Illinois	1923	Oregon	1933
Iowa	1924	Vermont	1934
Delaware	1924		

Fourteen medical schools also demand a year's internship as a prerequisite for the M.D. degree, while the School of Medicine of Duke University in Durham, North Carolina, grants the degree upon completion of the medical course with the understanding that all graduates shall spend two years in a hospital or in laboratory work before beginning the practice of medicine. The list of these schools with the date when the requirement went into effect is as follows:

University of Minnesota Medical School	1915
University of California Medical School	1919
Stanford University School of Medicine	1919
University of Chicago, Rush Medical College	1919
Northwestern University Medical School	1920
Marquette University School of Medicine	1920
University of Illinois College of Medicine	1922
Loyola University School of Medicine	1922
Wayne University College of Medicine	1924
University of Cincinnati College of Medicine	1926
College of Medical Evangelists	1927
University of Chicago, The School of Medicine of the Division of the Biological Sciences	1930

Duke University School of Medicine	1932
University of Southern California School of Medicine	1933
Louisiana State University Medical Center	1934

Belief in the value of internship has grown to such an extent that regardless of whether state boards or medical schools require it, 98 per cent of all graduates now obtain this added educational experience.

Internship originated in the attempt to provide practical training to supplement a medical course that was largely didactic and theoretical. Of late years the introduction of smaller classes, individual instruction, practical laboratory work, and clinical clerking have so greatly modified the medical course that internship is perhaps less necessary than it formerly was. The Council on Medical Education and Hospitals insists, however, that in spite of much progress, didactic methods of teaching in the clinical subjects still prevail to an unwarranted extent, classes are still too large, and individual instruction inadequate in many schools.[1] These facts, coupled with the realization that even the best clinical training cannot be expected to equip the student to assume important responsibilities immediately, have resulted in an increased emphasis upon the importance of the internship.

Hospitals receiving students for a period of training generally offer one of three types of internship: rotating, straight, or mixed. Rotating internships usually provide

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 31, 1935, p. 677; August 29, 1936, p. 661.

the graduate with experience in six services: medicine, surgery, pediatrics, obstetrics, clinical and X-ray laboratories. Straight internships are limited to training in a single field. Mixed internships comprise more than one service but do not include all of those constituting a rotating internship. Much discussion in recent years has centered around the question of the most desirable type of training. A number of state boards have attempted to prescribe the content of the internship and the length of time that should be spent in each part of it. When they have prescribed a type of internship, rotation has usually been specified because they have believed that it would acquaint the student with all the major clinical, laboratory, and special fields of medicine.

In its Final Report, the Commission on Medical Education expressed the opinion that the type of internship is not nearly so important as the opportunities which are provided for the right kind of training.[1] "A properly conducted rotating internship can be made a rich educational experience, but usually the periods assigned to each department are so short that a student has opportunity to get only the most superficial and often unsatisfactory contact with the subject matter of each division." The straight internship permits time for concentration on problems incident to one field of medicine. It is likely, however, to be unsatisfactory for the physician who is to become a general practitioner, as it often does not provide sufficient experience in the diagnosis of usual disorders, accidents,

[1] Final Report, pp. 144–145. The quotation is taken from p. 144.

and disabilities seen in the community. It is of particular value to the hospital because the young doctor can be expected to do a large amount of routine work for the staff. Consequently, a hospital may easily emphasize the need for resident medical service and forget that the internship was created for and should exist as an essential part of medical education. Severe criticism has been made of those hospitals, whether offering straight or other internships, that are more concerned with obtaining inexpensive medical assistance than with aiding the medical graduate to gain a well-rounded experience.[1]

The mixed internship represents an attempt to combine the virtues and to avoid the less desirable features of the rotating and straight types. It seeks to provide a sufficiently long and intensive training in one field, such as medicine, and a shorter period in at least one other field, such as surgery, pediatrics, or obstetrics. There is much flexibility in the arrangements in order that the experience may be fitted to the educational needs or preference of the student. In the judgment of the Commission on Medical Education, the mixed internship forms a more satisfactory preparation for general practice or for further training in a specialty than do most rotating and straight internships.

Medical graduates now take their internships almost entirely in those institutions that meet the standards set down by the Council on Medical Education and Hospitals

[1] Rees, Maurice H., "Curriculum Suggestions." In Journal of Association of American Medical Colleges, January, 1932, p. 1.

regarding amount of clinical material, staff organization, laboratory and library facilities, clinical records, number of autopsies, and conduct and duties of interns. In the annual report published in August, 1936, 705 hospitals in the United States with 216,494 beds, were listed as having been approved by the Council for the training of interns.[1] Of these institutions 530 offered rotating internships, 20 straight, 137 mixed, and 18 offered two of the three types. The 705 hospitals provided openings for 6,759 physicians. Since the number of interns between July 1, 1935, and July 1, 1936, was 5,042, it is apparent that there are, numerically at least, enough opportunities for practical experience.

The problem regarding internship that exists at present is not one of persuading students to engage in a period of hospital practice or of finding more opportunities for internship, but of improving the present system. The Commission on Medical Education reported as late as 1932 that failure to adapt the educational features of the internship to other parts of the basic medical training, and the extensive use of hospitals not associated with educational institutions and often conducted by a staff inexperienced or uninterested in teaching have resulted in the internship being the most unsatisfactory and uneven portion of medical education at the present time.

Many of the hospital services contain little of educational value but are offered to graduates in the hope of

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 29, 1936, pp. 693–703.

securing free resident assistance for the institution.[1] The best appointments, moreover, are usually secured by the superior students from the better medical schools. Less well-trained students may thus be further handicapped by inferior hospital practice.

The Commission urgently recommended that all internships should be made educational in purpose and method, with competent supervision of each student. This supervision should include discussion of the problems presented by each patient, check of the physical and laboratory findings and the differential diagnosis, insistence upon participation of the intern in clinical, pathologic, and staff conferences, reading of literature on the diseases encountered, and continuation of the methods of study now being emphasized in the basic medical course as essential to sound training.

It was further suggested that during his hospital period the student assume more personal responsibility than at present for the care of individual patients and that he become familiar with their home environment and everyday activities. Since hospitals are primarily concerned with serious disease and surgical conditions, the intern often secures an erroneous impression of the medical needs of society in general. Hence it is highly essential that the out-patient services be used as much as possible to assist him in becoming acquainted with the more common illnesses and with the wide range of social and economic factors which are significant in diagnosis and treatment.

[1] Final Report, pp. 143–150.

Advanced Preparation

It was long assumed that undergraduate preparation in a good medical school followed by an internship in an approved hospital was sufficient to prepare a physician to render adequate medical service for an indefinite period. Of late years the fallacy of this assumption has become more and more apparent. The rapid growth of medical specialties is making exigent demands upon facilities for advanced training. New concepts of disease and health, as well as new methods of diagnosis, treatment, and prevention are appearing continuously and the medical profession must be kept informed concerning them. Many physicians, moreover, who are still in active practice received their training before the value of the biological and newer medical sciences was widely appreciated, and hence should be provided with opportunities for supplementary instruction. For these reasons medical educators are coming to believe that training designed to make physicians acquainted with new knowledge and competent to use new methods is one of the most vital considerations in medicine at present. The Commission on Medical Education pointed to the need for a sequence of medical education, rather than a series of isolated and unrelated experiences, that would extend from premedical training to retirement from practice.[1] Such a continuity of training should be designed, so the Commission pointed out, to fit the needs of those persons providing medical service, whether they be specialists or general practitioners.

[1] Final Report, p. 124.

GRADUATE TRAINING IN MEDICAL SPECIALTIES

In spite of the fact that specialism is an essential feature of modern medical practice and a considerable proportion of all physicians restrict their work to one field, the medical profession is generally agreed that large numbers of specialists have not had a sufficiently broad clinical experience. The Commission declared that "many specialists are self-named; many are not trained even in their limited field and still less equipped in the broad fundamentals of medicine; some are frankly commercial."[1] This situation is the result of the fact that specialism has grown with great rapidity, while agencies designed to formulate and enforce standards concerning practice in the specialties have been slow in appearing. Supervision of advanced training has been non-existent except for the work of a limited number of special examining or certifying boards and the unco-ordinated interests of several other organizations active in various phases of graduate medical education.

Because of inadequate preparation for the medical specialties and the lack of a central controlling body, the American Medical Association adopted a resolution in 1933 authorizing the Council on Medical Education and Hospitals to formulate standards for the certification of specialists based in general upon those of the active American Boards of Ophthalmology, of Otolaryngology, of Obstetrics and Gynecology, and of Dermatology and Syphi-

[1] *Ibid.*, p. 125.

lology. The Council was furthermore authorized to recognize officially any new boards dealing with certification in the other specialties that met the standards formulated by it.

At about the same time a body known as the Advisory Board of Medical Specialties was created largely through the efforts of the four certifying boards then in existence. Organization began in 1933 and continued into 1934. As one of its first steps the Advisory Board made an arrangement with the Council on Medical Education and Hospitals to work in co-operation with and under the general direction of that group. The purpose of the Board is the advancement of standards and improvement of methods of graduate education and training in the specialties by means of the certification of those who have had sufficient education and training to qualify them as specialists. The original organizations which were requested to send representatives to serve on the Advisory Board were:

Association of American Medical Colleges
American Hospital Association
Federation of State Medical Boards of the United States
National Board of Medical Examiners
American Board of Ophthalmology
American Board of Otolaryngology
American Board of Obstetrics and Gynecology
American Board of Dermatology and Syphilology

During the past two years the following five special examining bodies have been organized, approved, and

elected to membership by the Advisory Board besides being recommended to the Council for official recognition:

American Board of Pediatrics
American Board of Psychiatry and Neurology
American Board of Radiology
American Board of Orthopaedic Surgery
American Board of Urology

Thus there is now in existence a certifying body for nine of the twelve major specialties recognized by the Advisory Board, and an American Board of Surgery is in the process of being organized.

One of the acts of the Advisory Board which should do much to raise the educational status of specialists was its adoption in June, 1934, of a definition of qualification for candidates who wish to be admitted to the examinations of the boards of the various specialties.[1] It decreed, in brief, that applicants should present evidence of:[2]

Satisfactory moral and ethical standing in the profession.

Membership in the American Medical Association or, by courtesy, in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals.

Graduation from a medical school in the United States or Canada recognized by the Council.

[1] In the same month the Council on Medical Education and Hospitals presented to the American Medical Association an outline of Essentials for Approved Specialty Boards. This outline which was accepted by the Association was practically identical with the one adopted by the Advisory Board.

[2] The Advisory Board for Medical Specialties. A booklet published by the Board in 1936, pp. 11–12.

Completion of an internship of not less than one year in a hospital approved by the Council.

In addition to these general requirements the Board adopted the following requirements for special training, to be effective in so far as practical not later than January 1, 1938.

A period of study after the internship of not less than three years in clinics, dispensaries, hospitals, or laboratories recognized by the Council.

This specialized preparation should include: intensive graduate work in the basic medical sciences necessary to the proper understanding of the particular specialty; an active experience of not less than eighteen months in approved hospital clinics, dispensaries, and diagnostic laboratories, examinations in the medical sciences basic to the specialty as well as in the clinical laboratory, and public health aspects of the subject.

An additional period of not less than two years of study, practice, or a combination of both.

If physicians are to be able to meet such qualifications for certification in a specialty, it is evident that training on the graduate level will have to be developed extensively. Although some of the large hospitals provide excellent facilities for preparation in pathology and other of the medical sciences as well as in the clinical subjects, it is believed that medical schools should devote more attention than they have done in the past to advanced instruction in anatomy, physiology, biochemistry, and bacteriology. Of the $8,000,000 that the schools derive annually from endowments and taxes, less than 3 per cent is allo-

cated to advanced work. This is one indication of the relative inadequacy of their graduate curriculum. More financial support will have to be secured before graduate medical courses within the university can be greatly increased either in quantity or quality.

Little is known about the present status of advanced work in the specialties. This is due in part to the fact that changes are being effected very rapidly. It is also due to the belief still held by some medical schools that no organized training and certainly no higher degree should be granted those who already have an M.D. Where this opinion obtains, many of the students engaged in advanced work are not registered as graduate students, and statistics submitted to the Council on Medical Education and Hospitals have little meaning. They do serve, however, to give the general reader some idea of the number of schools and hospitals offering advanced work.

During 1935–1936, 23 medical schools reported 715 students pursuing graduate work.[1] The three schools having the largest number of students were Washington University School of Medicine with 185, New York Medical College with 77, and Northwestern University Medical School with 70. Five schools reported more than 50 advanced students; eight, on the other hand, reported fewer than 10. Some schools known to have graduate students, such as the University of Pennsylvania Graduate School of Medicine, however, did not appear in the list.

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 29, 1936, p. 670.

In answer to questions recently submitted by the Council concerning graduate medical instruction, 25 of the 77 medical schools stated that they have organized graduate courses, while the University of Minnesota and the University of Pennsylvania have graduate schools of medicine.[1] Courses for medical students under the direction of the medical faculty were also offered by the general graduate schools of 59 universities. Fifty-seven medical schools furthermore stated that they gave residencies or fellowships. Many of these were for advanced work in affiliated hospitals.

Thus far hospitals have furnished more opportunities for work in the medical specialties than have universities. In 1935 there were 410 hospitals in the United States with 2,840 residencies that had been approved by the Council as providing acceptable training in one or more of the specialties for graduates who had had a general internship or its equivalent in practice.[2] Although there is much difference of opinion regarding the number of residencies necessary for advanced work, the present number is probably sufficient or nearly sufficient to meet all needs. It is generally agreed, however, that the supervision given these advanced students is like that given interns, inadequate in amount and in quality. Many of the hospitals approved by the Council are not affiliated with university medical schools. In spite of the fact that non-affiliated hospitals frequently offer excellent residencies, there is no correlation between their work and that of the medical

[1] *Ibid.*, pp. 675–676. [2] *Ibid.*, p. 703.

school. The majority of hospitals, moreover, are by nature institutions whose primary duty is to render service to the public. Only secondarily are they concerned with medical education. Consequently, Dean Rappleye maintains that all medical education from undergraduate instruction through advanced training and clinical experience should be integrated and brought under university direction.[1]

POSTGRADUATE TRAINING FOR PRACTICING PHYSICIANS

Discussion up to this point in the section has centered chiefly around the problem of the preparation of specialists. The second problem of equal importance with which the medical profession is faced is that of aiding the general practitioner to keep abreast of current medical knowledge. Medical journals and societies have long pursued the task vigilantly, but their contribution is, of necessity, inadequate. Although the journals are numerous and of great educational value, the printed word is insufficient as a means of imparting information and particularly practical skill. The societies hold periodical meetings and some of them, like the New York Academy of Medicine, have extensive educational programs. One-third of all practicing physicians, however, do not belong to medical societies, and undoubtedly many members do not attend regularly.

[1] "Current Trends in Graduate Medical Education." In Journal of the Association of American Medical Colleges, May, 1935, pp. 149–153. See also Charles G. Heyd's "Trends in Graduate Teaching," in Journal of the American Medical Association, March 30, 1935, pp. 1061–1064.

Besides these two media, a large number of plans for postgraduate education[1] have been tried within recent years in order to bring knowledge to the attention of the practitioner. Medical societies, hospitals, state health departments, public health, and other agencies have held conferences and short courses and have organized clinics. Sometimes these have been conducted in outlying districts in order that educational opportunities might be carried to the physician's neighborhood. They have been serviceable as experiments and have probably been of real aid to such doctors as they have reached.[2] They have done little, however, in providing any permanent solution of an urgent problem and their disadvantages have been marked.[3] They have been insufficient in number even in those states where the greatest development has occurred. Since it has often been necessary to make these courses self-supporting, they have frequently been held only in centers where adequate financial returns could be anticipated. Programs have been offered with little evidence of planning. Some have been the result of popular demand, others have grown out of attempts to eradicate a public health menace, still others have been given because a foun-

[1] The term, postgraduate education, as here used refers to training for the practicing physician. It is designed to increase knowledge and skill. It does not aim, as does graduate work, at special mastery of one field of knowledge.

[2] Davis, Michael M., "Social Planning and the Medical Sciences." In Publication of the American Sociological Society, August, 1935, p. 73.

[3] Committee on Medical Economics of the Michigan State Medical Society, Post-Graduate Medical Education and the Needs of the General Practitioner. The Society, 1934, p. 4.

dation or agency saw the need for them. With few exceptions no attempt has been made to study conditions in a given state as the basis for formulating a comprehensive program. There has been serious lack of unification of activities among the various societies, foundations, and departments.

The study of Post-Graduate Medical Education and the Needs of the General Practitioner made in 1934 by the Committee on Medical Economics of the Michigan State Medical Society, indicated how few physicians had engaged in any form of continuing education and demonstrated how necessary is such education.[1] Of 439 physicians in five Middle Western states who returned the questionnaires sent them by the Committee, only 29 per cent had taken part in any formal postgraduate education between 1924 and 1934, and nearly one-third of those who had participated had spent fewer than four weeks during the entire ten-year period. That these 439 physicians were far from well informed about current medicine was evidenced by their answers to 29 questions on problems of daily practice. The average grade for the group was 70. For those physicians who had been graduated in 1910, it was 65; for the class of 1920, it was 69; for that of 1930, it was 73. Forty-two per cent of all the physicians who took the test did not have enough clinical and medical knowledge to enable them to obtain the passing grade of 70, even though the questions dealt not with obscure conditions but with concrete daily problems.

[1] *Ibid.*, pp. 46–50.

Because these results so clearly indicated the need for a system of continuing education over and above what was being provided by the agencies already noted, the Committee sent letters to the 77 medical schools and to 4 special organizations largely engaged in medical training, asking for information about programs of postgraduate work. Of the 77 institutions that replied, 36 reported that they offered courses extending over one or more years. Since these courses were primarily designed for the training and development of the specialist rather than for the general practitioner, they should probably be considered as graduate work. Twenty-six institutions reported short courses ranging from one day to eight weeks, but only a few of these bodies had well-organized curricula covering practically all the divisions of medicine and surgery, and only three had distinct departments devoted to postgraduate education.[1]

Medical schools insist that serious difficulties are encountered in the organization of courses for practitioners. The amount of instruction that can be given in short periods is relatively scant, but brief courses appear to be a necessity since most physicians do not believe that they can profitably remain away from their practice for any considerable length of time. Previous training, moreover, differs widely from doctor to doctor, while the courses requested cover many fields. The schools assert, furthermore, that physicians show little interest in postgraduate work. The Committee believes that this lack of interest

[1] *Ibid.*, p. 14.

arises from the fact that courses are not designed carefully enough to meet the practical needs of general practitioners. Instruction tends to be too theoretical; it concerns itself with complicated laboratory procedures which cannot be performed by the average doctor in his simple laboratory; or it emphasizes unusual pathological conditions that rarely enter into daily routine.

Cost of Medical Education

So elaborate and consequently expensive has medical education become in the United States that it is pertinent to examine its annual cost to the schools and to their students. In 1926–1927, when the Commission on Medical Education studied the budgets of 63 schools, it found an annual expenditure of a little more than $11,300,000.[1] By 1930 the figure for these 63 institutions probably reached $13,000,000. How much expenditures decreased during the depression is not known. Some schools raised fees appreciably and accepted a larger number of students to help offset reductions in income from other sources.

Between 1915 and 1930 the budgets of many schools increased from 200 to 1,000 per cent, and the growth in endowments was of even greater proportions. The largest single item of increase was for salaries and other expenses in the clinical divisions, particularly in those schools which had placed the clinical departments on a university basis. Forty-two per cent of total expenditures in 1926–1927 were for salaries of full-time teachers in all divisions, and

[1] Final Report, pp. 283–284.

6 per cent for part-time teachers. A large but not readily isolated fraction of the total was for investigative work which, in some instances, was conducted quite independently of the teaching program.

The income of medical schools is derived from various sources. The Commission estimated that students' fees accounted for slightly more than one-third of the 1926–1927 budget, while income from endowment, state and city support, and certain minor sources made up the other two-thirds. The average cost of training was a little above $700 a year per student. In a few schools it actually exceeded $3,000, although a considerable fraction of the budgets of such schools was spent for research and purposes other than student instruction.

Table 3, prepared by the Council on Medical Education and Hospitals, shows the present distribution of fees for students of the 77 medical schools in the United States and the 10 in Canada.[1] Included as fees are not only tuition but minor charges, such as those for matriculation, breakage, diploma, and graduation. The average fee charged students, who were residents of the state or province in which the school is situated, in 1935–1936 was $329. Four schools connected with the Louisiana State University, University of North Dakota, University of Oklahoma, and the University of Texas charged less than $100. The first three of these institutions, however, made additional charges of $300, $85, and $200 respectively to matricu-

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 29, 1936, p. 673.

lants from other states. The University of Texas does not accept non-residents. Thirty-one medical schools connected with state universities in the United States and three schools in Canada followed the practice of requiring additional sums, ranging from $50 to $300, from non-resident students.

TABLE 3.—STUDENT FEES IN 87 MEDICAL SCHOOLS IN THE UNITED STATES AND CANADA, 1935 TO 1936

Annual fees	Schools
Under $100	4
$100 to 200	10
200 to 300	26
300 to 400	15
400 to 500	21
500 and over	11
Total	87

In the group that made an annual charge of $500 or more were the schools connected with Yale, George Washington, Johns Hopkins, Columbia, Cornell, New York, Syracuse, Buffalo, and Pennsylvania universities, the Long Island College of Medicine, and the New York Medical College. The majority of these 11 institutions are parts of private universities and most of them draw students from a wide geographical area.

Large fees seem a necessity particularly to medical schools that do not receive large appropriations from state legislatures or are not heavily endowed, but they work hardship upon many students. When items for books and living expenses were added to fees, the annual cost of

medical education for the average student in 1930 in the United States was $1,163.[1] Costs were highest in schools in the New England and Middle Atlantic states. They were lowest in the Mountain and Pacific states, with the South Atlantic states following closely. Fortunately, most schools now have scholarships and loan funds that are granted to students of ability who might not otherwise be able to study medicine. In spite of such assistance, the Commission on Medical Education pointed to the fact that matriculation has become increasingly difficult for those in moderate circumstances.[2] Since medical students are recruited chiefly from the professional classes whose incomes are not large and whose standard of living is necessarily high, the long, expensive period of training frequently entails sacrifices on the part of entire families.

NATIONAL ASSOCIATIONS

There are many national associations representing physicians in general, the medical specialties, medical schools, boards of medical examiners, and so on. Since it is obviously impossible to discuss here all these organizations, emphasis has been centered upon four that have played outstanding roles in the improvement of medical education and medical practice. Of these the American Medical Association deserves first consideration because of its priority and its notable accomplishments.

[1] Leland, Roscoe G., "The Costs of Medical Education." In Journal of the American Medical Association, February 28, 1931, p. 690.
[2] Final Report, p. 286.

American Medical Association

The American Medical Association had its inception at a national convention of delegates from medical societies and colleges called in 1846 by the Medical Society of the State of New York. The purpose of the convention was to improve the existing deplorable standard of medical training. A year later a permanent organization was effected and a constitution drawn up. For fifty-four years the Association operated under this constitution, which provided for representation from organized medical societies, hospitals, medical colleges, and other similar institutions. Every 10 members of an affiliated society were entitled to one delegate. Only delegates had a right to vote. This plan was excellently suited to conditions existing at the time of its adoption, but with the growth of the profession it came to be ineffective. By the end of the nineteenth century, the Association had so outgrown its form of organization that neither deliberate and well-considered action nor adoption and execution of any continuous policy was possible.

In 1901, therefore, a reorganization was accomplished. Representation was almost entirely restricted to state medical societies and the total number of delegates was reduced. Shortly afterward the state societies were reorganized along lines similar to those of the national association. Under the present system, when a physician becomes a member of his local unit, the county society, he automatically becomes a member both of the state society and the national body. A group of 500 members of each perma-

nently organized state or territorial medical society is entitled to one delegate in the American Medical Association. In addition, each of the 16 sections of the Association representing various branches of medicine is permitted a delegate, and there is one each from the Medical Department of the United States Navy, the Army, and the Marine Hospital Service. These delegates constitute a body known as Delegates, and in it is vested the control of the national organization.

The constitution of the American Medical Association states that:

> The object of this Association shall be to federate into one compact organization the medical profession of the United States, for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of state medicine, and of representing to the world the practical accomplishments of scientific medicine, with power to acquire and hold property, publish journals, etc.

The Association has grown into a huge body with some 98,000 members. Its headquarters are in Chicago, and its staff is composed of about 500 employes. Annual meetings are held in various leading cities of the country. So vast is the program of the organization that only a few of its interests can be mentioned in this small volume. Much of the work is carried on by 11 councils, bureaus, or com-

mittees, each of which is engaged in extensive undertakings within a specific field. The Council of Pharmacy and Chemistry, for example, attempts to protect physicians and the public from fraudulent medicines. The Judicial Council investigates and reports on all questions of a judicial character, and interprets the code of ethics. The Bureau of Medical Economics studies questions pertaining to economic aspects of medical practice, and the Bureau of Health and Public Instruction disseminates information on infectious diseases and on other subjects relating to community health.

Of the 11 groups, the Council on Medical Education and Hospitals is the most important for the present discussion. Although reference has already been made to its success in raising educational standards, further detail will reveal the scope of its work. Prior to 1904, committees on medical education had been unsuccessful in improving conditions within the schools. This had largely been the result of inadequate organization, facilities, and funds for carrying on any investigation of colleges. The Council on Medical Education, as it was at first called, was created for the purpose of overcoming some of these disadvantages. It now has a permanent office with a trained staff. It collects and disseminates facts and statistical information regarding medical education, medical laws in the various states, results of state licensing examinations, and so forth. One of its most outstanding pieces of work has been its investigation of the standards of medical schools and its annual publication of the list of schools meeting

its requirements for approval. It has been instrumental in obtaining for medical education better buildings, laboratories, clinical material, libraries, and museums. It has also emphasized the importance of more adequately trained teachers and improved methods of instruction. Through its efforts the level, not only of medical training but of pre-professional education, has been greatly elevated.

The Council also occupies itself with the investigation and rating of hospitals. It began this task in 1914 in the attempt to distinguish between suitable and unsuitable institutions for the internship of young physicians. In 1919 the American Medical Association recommended establishment of a Bureau of Hospitals. This was placed under the jurisdiction of the Council, and consequently, the name of the latter was enlarged to Council on Medical Education and Hospitals. The annual publication by the Council of a list of approved hospitals furnishes the prospective intern with much needed information. It also leads indirectly to the improvement of conditions in those institutions desirous of having their names added to the list. Recently the Council has further extended the scope of its work in connection with hospitals. It is now carrying on investigations, not in the interest of internship alone, but for the purpose of providing the public with the names of hospitals, including mental hospitals, in which they may have confidence.

One of the latest projects of the Council has been a comprehensive re-survey of medical schools, and a re-

examination of the methods and objectives of medical education. The Association of American Medical Colleges and the Federation of State Medical Boards have aided in this task. Visits to the individual schools have been completed and the compilation of data is now under way. The Council reports in brief as follows:

> Attention may again be directed to the overcrowding and understaffing of many of the schools. Speaking generally, the problem of securing clinical facilities adequate in kind and amount, under university control, so far as the appointment of clinical teachers is concerned, has not been satisfactorily solved. Correlation of the training and experience of teachers with the degree of responsibility assumed has still to be achieved. The selection of students, on a qualitative rather than a purely quantitative basis, is a problem calling for the best efforts of admission authorities.
>
> From our observations it is evident that medical libraries need to be still further developed. Research needs greater encouragement. Salary scales, in the lower brackets, must be revised. Didactic methods of teaching in the clinical subjects prevail to an unwarranted extent. Substantial improvement along these and other lines will involve considerably greater financial support. The public should be brought to a realization of the fact that the well-trained physician is a costly product and that, unless medical education receives adequate public support, inferior medical service will be the inevitable result.[1]

One of the most important functions of the American Medical Association is its publishing activities. The weekly Journal which goes to a large proportion of all

[1] "Medical Education in the United States and Canada." In Journal of the American Medical Association, August 29, 1936, p. 661.

physicians in the United States as well as to many schools and libraries both here and abroad, is the most widely disseminated medical periodical in the world. A Spanish edition is intended primarily for Latin America. One section of the Journal is devoted to original articles on any subject in the entire field of medicine; other sections are devoted to résumés of the medical literature of other countries, reports of medical societies, medical education, state registration boards, and so forth. Besides this general periodical, the Association publishes special journals dealing with internal medicine, children's diseases, neurology and psychiatry, dermatology and syphilology, surgery, otolaryngology, pathology, and ophthalmology. Hygeia, a monthly magazine for the layman, affords the Association a valuable medium for educating the public in standards of present-day medical practice. The annual American Medical Directory has become, through the thirty years of its existence, the acknowledged source of authoritative information regarding the location of physicians and their educational and professional qualifications. Finally the Quarterly Cumulative Index Medicus, covering some 1,600 medical journals in English and numerous foreign languages, represents the most easily available guide to medical literature.

It is apparent that the program of the American Medical Association is extensive. So is the power wielded by the national organization in the name of nearly 100,000 physicians. But like most large bodies the Association is conservative. Many individual physicians and informed

laymen look upon this conservatism as a misfortune. They consider the work of the Association in raising medical education to a position that merits universal respect an achievement of great magnitude, and they note accomplishments of importance in many other fields, but when they have asked why the Association has not suggested any plans nor sponsored any program designed to provide more adequate and extensive medical service for our population as a whole, they have found that it had little of a constructive nature to offer. Its Journal has appeared to be opposed to many honest experiments that were being undertaken by groups of physicians and foundations in the interest of more extensive medical service. Events of recent years have shown, however, that present methods of supplying medical service are so out of step with contemporary social and economic conditions that the Journal's opposition to change seems to be slowly breaking down. Later pages will record steps of a more advanced nature that the Association has recently taken toward finding a partial solution of the problem of how the scope of medical service may be expanded.[1]

Association of American Medical Colleges

The American Medical Association, through its Council on Medical Education and Hospitals, has been the most active agent in the field of medical education. As a result, the Association of American Medical Colleges has played a secondary role. This is contrary to what has occurred in

[1] See pp. 179–180, 181.

some other professions, where the national association of colleges has assumed the major responsibility for the advancement of professional training. In spite of the fact, however, that the Association of American Medical Colleges has not been conspicuous, it has devoted itself effectively to problems of the curriculum, administration and teaching, and to inspection of schools. It has also exerted an important influence in stimulating the interest of universities in medical education.

According to its constitution, the Association has the power to establish such educational standards and regulations governing matriculation, the curriculum, and requirements for graduation from medical schools as it deems necessary for the best interest of medical education. Any medical school conforming to these requirements is eligible for membership. Graduate schools of medicine that are part of a university, or graduate divisions that offer courses to general practitioners but do not grant a degree, are also eligible if they conform to the requirements. In May, 1936, there were 81 schools that held membership in the Association, including three graduate and postgraduate schools and three Canadian schools.

This national organization originated under the name of American Medical Colleges Association, in a convention held in 1876 at the Jefferson Medical College in Philadelphia. The deans of medical colleges who assembled there were agreed that the time had come when attempts must be made by the colleges to advance the educational standards of their profession. They recom-

mended, as one of their first acts, that the colleges offer, without extra cost, the option of three courses of graded lectures instead of the customary course given in the first year and repeated in the second year. When the fourth annual meeting was held in 1880, the Association reported, perhaps too optimistically, that it had greatly lessened the number of diplomas granted without thorough study and examination, reduced the number of "deadheads" in the classes, diminished the undignified bidding of schools for students, increased the revenues of the schools as a whole, promoted uniformity in medical teaching and in requirements for graduation, and reformed the schools holding two official terms in one year.[1]

In 1882 the Association disbanded, but was reorganized in 1891 under its present title. During the last decade of the century it was the only organization directly active in medical education. Although it made progress in achieving certain ends, the problems that beset it were almost overwhelming. It did not inspect any schools except those which applied to it for admission, and the majority of them did not continue to conform to all requirements once they had been admitted. In 1903 regular inspection of member colleges was undertaken and continued for many years. This resulted in forcing the constituent members to maintain the standards set by the Association for entrance requirements, physical equipment, and so forth.

[1] Holland, J. W., "The Association of American Medical Colleges." In Proceedings and Transactions of the Association of American Medical Colleges, 1898, pp. 4–8.

In 1907 the Association appointed a committee to prepare a uniform curriculum for the first two years of the medical course. Three years later a curriculum for the last two years was adopted.[1] In 1916 it initiated the rule, noted earlier, that no school should be eligible for membership that did not make two years of college preparation a requirement for admission.

The most significant achievement of the Association of late years has probably been the appointment of the Commission on Medical Education, whose reports have resulted, as has been seen, in a broad reorganization of the curriculum in several schools and in much experimentation in ways of making professional training more effective.

A task with which the Association is occupied at present is that of collecting and interpreting data concerning applications for admission to medical schools and the disposition of those applications. Before the work was begun in 1926, there was little information about the number of applications, ratio of acceptances to rejections, reasons for rejection, geographic distribution of applicants, and the amount of college work that prospective students had had. Records of the enrolment of each school are now kept by the Association as well as a scholastic report of every medical student. The most recent interest of the national body is in the establishment of a placement bureau for interns. Deans of medical schools, who have

[1] Means, William J., "The History, Aims, and Objects of the Association of American Medical Colleges." In Proceedings of the Association of American Medical Colleges, 1919, pp. 5–8.

difficulty in finding suitable internships for their students, will be able to obtain assistance from this bureau. The plan has been endorsed by the American Hospital Association and other organizations of hospitals.[1]

American College of Surgeons

The American College of Surgeons was organized in 1913 when 450 prominent surgeons met in Washington, D.C. As defined in the by-laws of its constitution, the object of this body is: to establish a standard of competency and of character for surgeons; to provide a method of granting Fellowships in the organization; and to educate the public and the profession to understand that the practice of surgery calls for special training, and that the surgeon elected to Fellowship has had such training and is properly qualified to practice.

In 1934 the College reported that some 8,500 Fellows from the United States held membership in it, besides about 800 from territorial possessions and many foreign countries.[2] Requirements for membership are very strict. An applicant must be a graduate of a medical school. He must be licensed to practice in his respective state or province, or be a medical officer of the federal government. If the medical school he attended is not accredited

[1] Patterson, Ross V., "Activities of the Association of American Medical Colleges." In Journal of the Association of American Medical Colleges, January, 1936, pp. 10–12.

[2] American College of Surgeons, 21st Year Book, Chicago, 1934, pp. 1–64, 148.

by the College, he may be required to pass a technical examination in one or more subjects of the medical curriculum. He must give evidence that he has served at least one year as intern in an accredited hospital and two years as surgical assistant, or that he has had an apprenticeship of equivalent value. Seven years of special training and practice after graduation from medical school are generally considered a requisite for eligibility to membership. Emphasis is placed upon the nature of the laboratory and research work carried on during this period.

The professional activity of the candidate must consist chiefly of study, diagnosis, and operative work in general surgery or in special fields of surgery. If he resides in a city of less than 50,000, at least 50 per cent of his practice must be in surgery; if he is in a city of over 50,000, at least 80 per cent of his work must be in surgery. As evidence of his qualifications in surgical technique, the applicant is requested to submit complete case records of 50 major operations which he has performed himself, besides brief abstracts of 50 other major operations which he has performed independently or under supervision, or in which he has acted as assistant. In the case of physicians who have been certified by the American Board of Ophthalmology, the American Board of Otolaryngology, and the American Board of Obstetrics and Gynecology, only 25 detailed case records and 25 abstracts are requested.

One of the important functions of the American College of Surgeons is its annual inspection and rating of

hospitals,[1] which evolved indirectly from a desire to advance the practice of surgery. When the College first made the requirement that an applicant for Fellowship should present 100 case records, it found few candidates who could comply with this requirement because most hospitals did not keep records that provided accurate data. Further inquiry into the organization of hospitals revealed that the average institution lacked diagnostic and therapeutic facilities which are now recognized as essential for the scientific care of patients. Medical staffs were as a rule unorganized, professional work was generally without supervision, clinical laboratories and X-ray departments were not common. As a result of these inquiries, the College realized how essential it was that hospitals be improved both for the benefit of the patient and the surgeon. Consequently, conferences were held with other national organizations, eminent medical and hospital authorities were consulted, and finally in 1918 the College instituted what came to be known as the Hospital Standardization Movement.

The main features of the minimum standard formulated for the purpose of determining what hospitals should be placed on a list of approved institutions are as follows. Membership of the staff of a hospital must be restricted to physicians who are graduates of medicine in good standing, legally licensed to practice in their particular states,

[1] This function should not be confused with the similar function of the Council on Medical Education and Hospitals of the American Medical Association. The two groups carry on their work independently, with different purposes.

competent in their respective fields, and worthy in character. The physicians of a hospital, regardless of whether the institution be "open" or "closed," must be organized into a definite group or staff in order that they may collaborate with one another, and together initiate regulations and policies governing the professional work of the institution. Accurate and complete histories of all patients must be kept in conformity with directions provided by the College. Diagnostic and therapeutic facilities for study under competent supervision must be available, including at least a clinical laboratory for chemical, bacteriological, serological, and pathological services, as well as an X-ray department.

Once this minimum standard had been agreed upon, the American College of Surgeons began its annual hospital survey. During 1918, 692 private hospitals of 100 or more beds were investigated, and it was found that only 89, or 13 per cent, met all requirements. In spite of this discouraging situation the College did not relax its standards, but continued its investigation year after year, extending its inquiry in constantly wider circles. After 1922, hospitals of from 50 to 99 beds were included in the report; after 1924, those containing from 25 to 49 beds; and after 1925, governmental hospitals were added.

Institutions meeting the minimum standard are reported as fully approved; those which have accepted the standard, and because of various circumstances have not been able to carry it out completely, but declare that their failure to do so is only temporary, are conditionally approved;

the rest are reported as not approved. In 1935, 3,565 hospitals were surveyed. Of these, 64 per cent were fully approved, 7 per cent provisionally approved, and 29 per cent were not approved.[1]

National Board of Medical Examiners

The National Board of Medical Examiners was organized in 1915 as a voluntary organization designed to aid physicians who wished to transfer their practice from one state to another without being subjected to re-examination. It believed that it could achieve this end by conducting examinations of so high a quality that the diploma awarded successful candidates would be regarded as an adequate qualification for the practice of medicine. Since national licensure is not possible under the constitution of the United States, this body attempted to create the best substitute that could be devised.

The Board is composed of 27 members, 12 of whom are representatives-at-large, chosen with special consideration for their geographical distribution and their position in medical education. Of the remaining 15, six represent the federal medical services; five, the Federation of State Boards of Medical Examiners;[2] two, the Association of

[1] MacEachern, M. T., "Report of Hospital Standardization for the Year 1935." In 23rd Year Book of the American College of Surgeons, 1936, pp. 64–66.

[2] This Federation of State Boards was established in 1912 through the union of two examining and licensing bodies. Its stated purpose was to harmonize the laws and regulations for licensure of the several state boards, and thus promote more uniform requirements of medical education. The Federation serves primarily as a medium for the exchange of ideas and for the formulation of principles designed to guide its constituent boards.

American Medical Colleges; and two, the Council on Medical Education and Hospitals. Approximately one-half of the present membership teach in medical schools.

The national organization has met with much success in its undertaking. The relations existing between it and the state boards are, in the main, harmonious and effective. Its diploma is granted recognition by the licensing bodies of 43 states and four territories.[1] Some of these bodies, however, have additional requirements. Diplomates of the National Board are accepted by the United States Army as having fulfilled the requirements in science for entering the Medical Corps. The Federal Public Health Service honors the certificate as a substitute for its written examination, but requires oral, laboratory, and clinical examinations of all applicants. England, Scotland, and the Irish Free State acknowledge the certificate by admitting its holders directly to the clinical part of the final examinations. It is also recognized in South Africa, Spain, Syria, and Turkey.

All applicants for the diploma must present the following credentials: graduation from a four-year high school; completion of two years of acceptable college work, including physics, chemistry, biology, and a foreign language; graduation from a medical school approved by the Council on Medical Education and Hospitals; completion of at least one year of internship in an approved hospital or one year of work in an acceptable laboratory.

[1] "Medical Licensure Statistics for 1935." In Journal of the American Medical Association, April 25, 1936, p. 1494.

Since 1922 the National Board has given its examinations in three parts. The first part is a written examination dealing with six basic sciences. It may be taken, if the applicant desires, at the end of the second year in medical school. The second part, which is also written, deals with general medicine, surgery, obstetrics and gynecology, neuropsychiatry, and public health. The third section is a practical oral examination in the various clinical branches of medicine.[1]

From 1915 to and including 1935, 4,840 diplomas were granted. Statistics published annually since 1922 indicate the growth in the number of physicians taking the examinations of the National Board. In 1922 there were 28 persons who took the final part of the examination and all passed it; in 1935 the number had increased to 578, of whom 97 per cent were successful. Physicians licensed in the United States on the basis of the diploma number 3,021. Two were licensed in 1917; in 1935, 442 were licensed in 39 states and two territories.[2]

Besides serving the primary purpose for which it was created, the National Board has exerted a salutary influence upon state boards. Its plan of examination has become a model for many licensing bodies, and it has thereby greatly promoted the more extensive use of practical and clinical tests. National boards of examiners in the various specialties, which have been organized in recent

[1] "National Board of Medical Examiners." In American Medical Directory, 1934, p. 62.
[2] *Ibid.*

years, have largely patterned their examinations after the plan it has evolved. The adoption of the same type of examination by a number of leading medical schools is a significant endorsement of the value of the Board's work.

NUMBER OF PHYSICIANS AND DEMAND FOR THEIR SERVICES

The preceding pages have been concerned with the evolution of medical education and with the work of some of the national associations in raising professional standards. We turn now to questions pertaining to physicians in active practice and to the delivery of medical care. How many physicians are there, and how are they distributed through the United States? What incomes do they earn? Are they sufficient in number to meet the existing demand for medical service? How great is the divergence between demand and the need for medical care? What efforts are being made to provide medical service to the full extent of need, and will they result in a demand for still larger numbers of physicians?

These are questions of primary importance both to physicians and to society in general. Although some medical groups and a few lay organizations have made noteworthy attempts to answer them, their magnitude and complexity are such that the conclusions reached have frequently been far from satisfactory. Some of the more significant recent studies will be reviewed briefly for such light as they throw upon certain professional problems with which physicians are faced, especially upon the ques-

tion of the extent to which the public receives the amount of health service it requires.

Although the occupational statistics published in connection with the decennial federal censuses of population fall far short of complete accuracy, they probably furnish the best information there is regarding the number of physicians at present supplying health service and their increase with the growth of population.

TABLE 4.—NUMBER OF PHYSICIANS AND POPULATION PER PHYSICIAN IN THE UNITED STATES, 1850 TO 1930[a]

Year	Population	Physicians	Population per physician
1850	23,191,876	40,564	572
1860	31,443,321	55,136	570
1870	38,558,371	62,383	618
1880	50,155,783	85,671	585
1890	62,947,714	104,805	601
1900	75,994,575	132,002	576
1910	91,972,266	151,132[b]	609
1920	105,710,620	144,977[c]	729
1930	122,775,046	153,803[c]	798

[a] Figures taken from federal census reports.
[b] "Other healers," first recorded separately in 1910, are omitted in this table beginning with that year. The number of these given by the census for 1910 was 6,834; for 1920, 14,774; for 1930, 29,556.
[c] Osteopaths, recorded separately in 1920 and 1930, are omitted. Their number for 1920 was 5,030; for 1930, 6,117.

Over 40,000 "physicians and surgeons" were recorded in the United States census of 1850. This number was more than doubled in the census of 1880 and more than trebled in that of 1900. Medical education in this country, as has been explained, lacked standardization throughout the nineteenth century, and many persons entered medical practice with no formal preparation. As a consequence of such conditions, men listed as practitioners by census enumerators in the earlier years did not by any means have the same degree of uniformity of training and proficiency as do the physicians recorded by the last two censuses. Healers, other than doctors of medicine, were also included until recently in the census figures in unknown but probably relatively small proportions. Osteopaths were first recorded separately by the census in 1920, while "other healers" were similarly separated from physicians in 1910. Because of changes in definitions underlying the census data, the figures presented in Table 4 for the several decennial periods are not satisfactorily comparable. It is likely, however, that they reflect fairly accurately the number of physicians at each census according to the meaning of the term then currently accepted.

Students in medical schools have probably been omitted in all the census figures, but hospital interns have been included. Physicians gainfully occupied in other than direct service to patients, a group undoubtedly much more numerous now than formerly, have also been included. Finally, it appears that a considerable number of physicians who had retired from practice and were not otherwise

employed, have been listed inadvertently by the enumerators.

Figures obtainable from directories of physicians published by the American Medical Association afford information for comparison with the census data. The census listed 144,977 physicians in 1920; the directory for 1921 listed 145,404. In 1930 the census reported 153,803 physicians and the 1931 directory reported 156,440. As in the case of the census, the directories include physicians occupied in other than direct medical service and omit students, but they intentionally include doctors who are retired or not in practice and omit hospital interns. While statistician of the research staff of the Committee on the Costs of Medical Care, Maurice Leven attempted to estimate how many of the physicians listed in the directory were not in practice.[1] He concluded that they numbered some 13,000. By deducting these 13,000 from the average of the total number of physicians mentioned in the 1929 and 1931 issues of the directory, he obtained a figure of about 142,000 as representing physicians actively engaged in direct or indirect medical service at the end of 1929. If some 6,000 interns, who were not included in the 142,000 physicians, are also added as engaged in medical service, but allowance is made for an approximately equal number of physicians occupying administrative and teaching positions, Leven's figures may

[1] Leven, Maurice, The Incomes of Physicians. Publications of the Committee on the Costs of Medical Care, University of Chicago Press, no. 24, 1932, pp. 7, 103–104.

perhaps be taken as roughly indicating the number of doctors engaged in direct medical service in 1930.

When changes in the number of physicians are compared with gains in population on the basis of census figures, it is found that the medical profession grew between 1850 and 1910 at much the same rate as did population in general. Physicians increased by 273 per cent; population by 297. From 1910 to 1920, physicians decreased 4 per cent although population gained 15 per cent. During the last decade physicians gained 6 per cent and population 16 per cent. Since immigration has almost ceased and the specific birth rate has been falling since 1924,[1] it is believed by most students of population that the era of rapid increase in our population nears an end or has already ceased. In the face of this fact, the Journal of the American Medical Association has questioned the wisdom of permitting any annual increase in the number of physicians licensed to practice.[2] This attitude, expressed by the chief organ of the medical profession, is a reflection of the strong competition that exists among doctors in areas where they are most numerous and of the restricted incomes of a large percentage of their group.

Dr. Robert G. Sproul, president of the University of California, has recently painted a picture of evils that he believes have already grown out of the existence of too

[1] Thompson, Warren S., and Whelpton, P. K., Population Trends in the United States. McGraw-Hill Book Co., New York, 1933, pp. 262–291.

[2] "Medical Licensure Statistics for 1933." In Journal of the American Medical Association, April 28, 1934, pp. 1389, 1402.

many physicians and that will become more serious if the present tendency is not checked.[1] Overcrowding in medicine, in his estimation, has resulted in an extensive increase in fee-splitting,[2] the promotion of unnecessary services or needed services in an unnecessarily expensive fashion, the frequent performance of illegal operations, the employment of "runners" in connection with accidents, and participation in other sordid by-products of severe competition.

One type of evidence offered to prove that an oversupply of physicians exists is the much larger ratio of population to doctors in most Western European countries than in the United States. In a recent year for which presumably comparable figures for the several countries were obtained, there were 780 persons for each physician in the United States as a whole. The situation in Austria was not very different. There were 880 persons to each doctor. In Switzerland there were 1,250. The number increased in Denmark to 1,430, in England and Wales to 1,490, in Germany to 1,560, in France to 1,690, and in Sweden to 2,890.[3] Many questions immediately arise in reference to these figures. Do the marked differences in ratios necessarily mean that the United States has too many

[1] "Medical Education and Its Relation to Society as a Whole." In Diplomate, March, 1935, p. 77. See Dr. Walter L. Bierring's two articles: "The Family Doctor and the Changing Order," in Journal of the American Medical Association, June 16, 1934, pp. 17–20, and "Social Dangers of an Oversupply of Physicians," in American Medical Association Bulletin, February, 1934, pp. 1995–1998.

[2] See Cabot, Hugh, The Doctor's Bill. Columbia University Press, New York, 1935, pp. 127–182.

[3] Commission on Medical Education, Final Report, p. 99.

physicians, or that European countries have too few? Do the American people, with a higher standard of living, demand more medical service? Do not the vast distances to be traveled in some areas in the country require a larger personnel? Is it possible that a greater number of medical services, particularly in the public health field, have been provided here, which makes necessary a proportionately greater number of physicians? All these questions need to be answered before one can judge the validity of inferences drawn from such statistics, yet the contrast is arresting.

When the Commission on Medical Education examined the question of the supply of physicians a few years ago, it concluded that reasonably complete medical care could probably be furnished the American people were there a ratio of one physician to about 1,200 persons, provided that doctors were well distributed in relation to medical needs, and that the services of specialists and other health workers were properly correlated.[1] This would have required the services of 120,000 active physicians, or 25,000 fewer than the total number at that time. If deductions had been made, however, for physicians engaged in teaching, research, hospital administration, the giving of insurance examinations, and other types of work not directly related to private practice, the figure representing oversupply would have been appreciably reduced.

The amount of factual information concerning a desirable supply of physicians is so meager and the entire situa-

[1] *Ibid.*, pp. 99–100.

tion so complicated, that in 1935 Dr. Hugh Cabot issued a note of warning to the medical profession against taking precipitous steps to control the number of physicians through a further limitation of enrolments in medical schools.[1] In his estimation the profession is too much interested in its own welfare to be able to examine such a difficult situation dispassionately. He points, for example, to the protest of physicians over "unfair competition" which is alleged to have grown up with the development of university and certain other types of clinics, closed hospital staffs, group practice, and so on. This attack on some of the newer forms of delivering medical care he deems unjust, but he believes that what private practitioners are really protesting against is not so much the initiation of these new types of services as the fact that the number of persons able to pay for medical care has shrunk greatly in the last few years.

At the very time when the medical profession is demanding "free competition" it is likewise demanding limitation in numbers, and does not appear to see that these two demands are incompatible. Dr. Cabot writes: "I do not myself believe in the doctrine of free competition, whether in this or in any other field, and I gravely doubt whether any such situation has ever existed. On the other hand, it seems to me that to clamor for limitations ill behooves those who support the doctrine of free competition. They cannot have it both ways."[2] If there is

[1] The Doctor's Bill, pp. 259–266.
[2] *Ibid.*, p. 261.

to be limitation, it should be introduced, he argues, as a matter of public policy, and should therefore be directed by representatives of the public and not of the beneficiaries. He concludes that the reason physicians desire limitation of numbers is because it would redound to their advantage; but he insists that the public interest must also be considered.

If the public interest were to be well served and if it were possible for all persons, rich and poor, to obtain adequate scientific care, the Committee on the Costs of Medical Care decided that the number of physicians would actually have to be increased. Statistics presented by members of the research staff of the Committee on the Costs of Medical Care regarding the incidence of illness and the amount of medical care, indicate that there are a large number of persons on all economic levels who receive little or no service even of a therapeutic nature in the course of a year.[1] Naturally, the percentage of persons who do not receive any care decreases as family income increases. It is significant to note that among the persons studied, 14 per cent of those in families with annual incomes of $10,000 and over were found to have had no medical, dental, or eye care in a period of twelve consecutive months during the years 1928–1931. In the lowest economic group—families having annual incomes of less than $1,200—47 per cent of all persons had had no serv-

[1] Falk, Klem, and Sinai, The Incidence of Illness and the Receipt and Costs of Medical Care Among Representative Families. Publications of the Committee on the Costs of Medical Care, no. 26, 1933, pp. 99–103.

ice. For the several income classes combined, in the proportion in which they exist in the total population, the percentage was 38. But this percentage, discouragingly high as it was, probably understated the facts, since those who bought drugs and medicines were counted as having received medical attention. Many who did not receive service undoubtedly went through the period of the survey with no evidence of sickness. Others, however, reported that they had suffered from illness. They not only failed to receive any therapeutic treatment, but did not consult physicians about the maintenance of health or the prevention of disease. Neither did they request periodic examinations, nor health counsel for the correction of physical defects and unhygienic habits of living. From the experience of the 39,000 persons studied in this survey, the authors estimated that in any one year at least 40 per cent of the population have no medical, dental, or eye care of any kind.

Such a report shows that the *demand* for medical care may be entirely different from the *need* for it. Dr. Roger Lee and Dr. Lewis Jones attempted to estimate for the Committee on the Costs of Medical Care how many physicians would be required if all the people in the United States were in a position to demand every medical service of which they are in need. They assumed that if doctors worked on the basis of eight hours a day, six days a week, and forty-eight weeks a year, 165,424 doctors, or 135 for every 100,000 population, would have been necessary in 1930. This would be more than 23,000 in excess of Dr.

Leven's estimate of the number of physicians giving direct medical service in that year and more than 10,000 above the census figure.[1]

Demand for medical service is conditioned largely by economic factors. Its availability and cost, and the patient's ability to pay determine to a great extent how much care will be requested. Education, too, has a definite bearing upon demand. Even though people are well-to-do and able to pay for the best service, they will not ask for more than the most urgent therapeutic care unless they have been taught the value of medical attention.

If demand can be defined largely in terms of economic and educational factors, need for medical attention must be defined, in the opinion of the Committee on the Costs of Medical Care, in terms of the physical and mental conditions of the public and the capacity of the science and art of medicine to deal with those conditions. Since both factors are subject to change, total need, when viewed in the light of the number of physicians required to provide it, ought to be considered over a period of years. Because of the impossibility of estimating future need, the Committee used the present incidence of diseases and defects as a basis for the expectancy rates of conditions requiring medical attention. If there were adequate preventive service, however, it would presumably modify the expectancy of disease and so reduce the need for diagnosis and treat-

[1] The Fundamentals of Good Medical Care. Publications of the Committee on the Costs of Medical Care, no. 22, 1933, pp. 11–12, 107–118.

ment. In contradistinction to this possible reduction in the amount of medical service necessary, refinements in medical science are likely to continue to raise the requirements for adequate care through an increase in diagnostic techniques and improved methods of therapy. In one field, moreover, that of nervous and mental diseases, it is probable that medical service will greatly expand in the near future. As more becomes known about the mind-body relationship, much of the service for mental disorders which is now merely palliative may be transferred to the functions of preventive medicine.

DISTRIBUTION OF PHYSICIANS

A serious problem that medicine shares with many of the other professions is the unequal distribution of personnel. It is a great misfortune for the people of the United States that some sections have more physicians than are necessary while others have altogether fewer than are needed.

The differences from state to state are conspicuous. According to statistics furnished by the Journal of the American Medical Association as of July 1, 1933, the ratio of active physicians to population for the entire country was 1:814; but in 16 states the ratio was considerably less. Standing first on the list in point of sufficiency was the District of Columbia with one physician for each 290 persons. Conditions in the District, however, are not representative of the remainder of the country, since its population is largely urban and many of its physicians are

connected with governmental health services and are not in private practice. New York was second with 585 persons to one physician; Colorado had 598 persons, and California 639. In 17 states, on the other hand, there were more than 1,000 persons for each doctor. These states were almost all in the South, Southwest, or Rocky Mountain area. The four with the least medical service were North Dakota with 1,369 persons per physician, South Carolina with 1,371, North Carolina with 1,373, and Mississippi with 1,411.[1]

These differences among the states in the proportional number of physicians are not primarily the result of regional factors, but rather of the extent to which the states are either rural or urban in the composition of their population. There has been a progressive concentration of physicians in the larger urban and industrial centers at the expense of the country. Dr. Falk, Dr. Rorem, and Miss Ring, who show that the egress of doctors from towns of 5,000 and fewer has been continuous for at least a quarter of a century, estimate that in 1906 these areas contained 60 per cent of the population and 48 per cent of the physicians.[2] By 1929, although they supposedly contained 48 per cent of the population, they had only 31 per cent of the physicians. In cities of 100,000 population and over, the figures present a very different picture. In 1906 these cities had about 22 per cent of the population and 30 per

[1] "Medical Education in the United States and Canada." In Journal of the Medical Association, August 25, 1934, p. 577.

[2] The Costs of Medical Care. Publications of the Committee on the Costs of Medical Care, no. 27, 1933, pp. 196–198, 604.

cent of the physicians; at the close of the third decade the percentage of population was 30 and of physicians 44.

Statistics presented by the Bureau of Medical Economics of the American Medical Association throw further light on this situation.[1] Although the figures are not complete for the entire country (since the Bureau excluded the New England states because their practice in regard to incorporation of municipalities makes classification with respect to size of community unsatisfactory), the trend is perfectly clear. Table 5, taken from these statistics, points to the drift of physicians away from small communities to the large cities. All communities of fewer than 5,000 population experienced a decline between 1906 and 1931 in the percentage of physicians located in them. In cities of between 10,000 and 100,000 there was a very slight increase in percentage. Above the 100,000 level, growth was greatly accelerated.

The shift in the distribution of physicians by size of place has been going on concurrently with and to a very important extent as a result of the shift of population away from rural areas. But physicians have concentrated more rapidly than has the rest of the population in urban centers. Table 6, which has also been taken from the statistics of the Bureau of Medical Economics, shows the great change in ratio of physicians to population that occurred between 1906 and 1931 in communities of varying sizes.

[1] Distribution of Physicians in the United States. American Medical Association, Chicago, 1935, pp. 35–38.

TABLE 5.—PERCENTAGE OF PHYSICIANS IN THE UNITED STATES EXCLUSIVE OF NEW ENGLAND PRACTICING IN COMMUNITIES OF SPECIFIED SIZE, 1906, 1923, 1931

Size of community	Percentage distribution		
	1906	1923	1931
Under 1,000 population	29.5	20.1	13.4
1,000 to 2,499 "	11.6	9.4	7.7
2,500 to 4,999 "	7.3	6.8	5.9
5,000 to 9,999 "	5.9	6.2	5.9
10,000 to 24,999 "	6.7	8.2	8.7
25,000 to 49,999 "	5.0	5.5	5.8
50,000 to 99,999 "	4.2	5.9	6.4
100,000 and over "	29.8	37.9	46.2
Total	100.0	100.0	100.0

TABLE 6.—POPULATION PER PHYSICIAN IN THE UNITED STATES EXCLUSIVE OF NEW ENGLAND, BY SIZE OF COMMUNITY, 1906, 1923, 1931

Size of community	Population per physician		
	1906	1923	1931
Under 1,000 population	997	1,338	1,602
1,000 to 2,499 "	590	910	1,265
2,500 to 4,999 "	557	749	1,023
5,000 to 9,999 "	604	688	927
10,000 to 24,999 "	571	721	774
25,000 to 49,999 "	530	647	714
50,000 to 99,999 "	597	628	661
100,000 and over "	492	536	530
Total	675	763	823

Table 7 gives additional information about the distribution of physicians. Material from the federal census for 1930 has been compiled to show the number of persons per physician for each state in places of 25,000 population or under, in cities of from 25,000 to 100,000 population, and in cities of over 100,000 population. South Carolina and North Carolina have the largest number of persons per physician in areas of under 25,000. Nevada and Vermont have the fewest; but since there is no city of 25,000 or above in either of these states, doctors are relatively more concentrated in small cities. Cities of 100,000 and over in New Jersey and Wisconsin have the largest number of persons per physician; the District of Columbia and Colorado the fewest. Had it been possible to obtain census figures for the number of physicians in small localities, greater differences in the ratios of population per physician according to size of community would have appeared in Table 7. Even the ratios presented here, however, are arresting. In places of fewer than 25,000 persons there were 1,076 persons per physician; in cities of from 25,000 to 100,000 there were only 640 persons; and in cities of over 100,000 there were 556.

The Commission on Medical Education has submitted some illuminating information on the subject of the distribution of recent graduates of medical schools.[1] It found that slightly more than 50 per cent of the graduates of 1920 and 1925, six years after receiving the M.D. degree, were practicing in cities of over 100,000, although only

[1] Final Report, p. 105.

30 per cent of the entire population lived in those areas. Less than 20 per cent had gone to communities of 5,000 or under, in spite of the fact that nearly half the population still lives in such places.

Reasons of varying degrees of importance and validity have been set forth as causes for the paucity of physicians in rural communities and their growing concentration in large cities. Several of these are closely connected with the question of medical education. There are those who believe that the present situation is the result of the reduction in the number of medical schools and medical graduates; the raising of requirements for entering medical training; the lengthening of the course; the increasing cost of receiving a medical education; and the tendency of medical schools to disregard the preparation of physicians for general practice and to overemphasize research and medical specialties. Those who adhere to this point of view advocate that the situation be remedied by lowering entrance requirements, simplifying training, shortening the curriculum, and decreasing the cost.

There are serious objections to the initiation of procedures of this nature. First, physicians coming originally from small communities do not return to equally small communities in anything like the same proportion that students from larger cities return to urban areas. Furthermore, no evidence has been produced to show that graduates of shorter and more inexpensive medical courses would open offices in the country. The Commission on Medical Education found from its study of the distribu-

TABLE 7.—NUMBER OF PHYSICIANS AND POPULATION PER PHYSICIAN IN 1930, BY STATE AND SIZE OF COMMUNITY[a]

GEOGRAPHIC DIVISION AND STATE	NUMBER OF PHYSICIANS IN STATE	PLACES OF LESS THAN 25,000 POPULATION			CITIES OF FROM 25,000 TO 100,000 POPULATION			CITIES OF OVER 100,000 POPULATION		
		Physicians, per cent of total in state	Population, per cent of total in state	Population per physician	Physicians, per cent of total in state	Population, per cent of total in state	Population per physician	Physicians, per cent of total in state	Population, per cent of total in state	Population per physician
New England										
Maine	943	72	83	978	28	17	508	–	–	–
New Hampshire	544	69	71	885	31	29	790	–	–	–
Vermont	472	100	100	762	–	–	–	–	–	–
Massachusetts	6,276	27	34	834	26	24	637	47	42	607
Rhode Island	781	17	26	1,376	26	37	1,258	57	37	565
Connecticut	2,014	41	46	895	22	25	904	37	29	630
Middle Atlantic										
New York	20,095	19	27	866	6	6	679	75	67	560
New Jersey	4,568	41	46	987	24	23	864	35	31	780
Pennsylvania	12,249	41	57	1,098	14	12	633	45	31	548
East North Central										
Ohio	8,405	40	49	956	15	11	597	45	40	705
Indiana	4,059	51	61	950	15	15	788	34	24	572
Illinois	11,370	30	41	920	15	13	589	55	46	557
Michigan	5,474	34	46	1,179	20	15	660	46	39	758
Wisconsin	3,014	54	64	1,148	21	16	778	25	20	763
West North Central										
Minnesota	3,209	53	67	1,008	–	–	–	47	33	559
Iowa	3,115	71	78	873	20	16	649	9	6	495
Missouri	5,507	45	61	903	8	5	435	47	34	469
North Dakota	508	87	96	1,469	13	4	447	–	–	–
South Dakota	599	89	95	1,242	11	5	491	–	–	–
Nebraska	1,783	65	79	945	9	5	449	26	16	462
Kansas	2,185	77	83	931	7	5	574	16	12	660
South Atlantic										
Delaware	287	43	55	1,063	–	–	–	57	45	654
Maryland	2,494	31	47	987	4	4	686	65	49	495
Dist. of Col.	1,450	–	–	–	–	–	–	100	100	336
Virginia	2,431	62	78	1,266	13	9	681	25	13	507
West Virginia	1,766	71	85	1,175	29	15	500	–	–	–
North Carolina	2,326	72	87	1,653	28	13	635	–	–	–
South Carolina	1,266	73	90	1,707	27	10	493	–	–	–
Georgia	2,839	67	83	1,267	14	9	664	19	8	448
Florida	1,810	57	68	967	13	9	523	30	23	639
East South Central										
Kentucky	2,848	66	80	1,113	12	8	614	22	12	491
Tennessee	3,025	56	75	1,144	2	1	482	42	24	502
Alabama	2,162	73	85	1,434	9	10	1,332	18	5	339
Mississippi	1,527	90	96	1,405	10	4	521	–	–	–
West South Central										
Arkansas	2,035	84	93	1,014	16	7	377	–	–	–
Louisiana	2,030	47	72	1,584	14	6	482	39	22	573
Oklahoma	2,545	69	84	1,155	4	2	541	27	14	469
Texas	6,397	59	74	1,144	11	8	624	30	18	555
Mountain										
Montana	499	78	87	1,209	22	13	616	–	–	–
Idaho	383	100	100	1,162	–	–	–	–	–	–
Wyoming	222	100	100	1,016	–	–	–	–	–	–
Colorado	1,702	42	64	920	10	8	493	48	28	355
New Mexico	380	80	94	1,309	20	6	345	–	–	–
Arizona	480	65	81	1,134	35	19	483	–	–	–
Utah	507	42	64	1,544	10	8	760	48	28	580
Nevada	145	100	100	628	–	–	–	–	–	–
Pacific										
Washington	1,986	39	58	1,167	5	4	653	56	38	530
Oregon	1,326	44	65	1,083	4	3	453	52	32	437
California	9,765	29	43	872	14	14	541	57	43	443
All states	153,803	45	60	1,076	13	11	640	42	29	556

[a] Figures compiled from federal census data for 1930.

tion of graduates of a large school of chiropractic, which gives a course considerably shorter than that of medicine, that 90 per cent were located in communities of at least 50,000 persons.[1] Students prefer to undergo the hardships and expense of a training which will entitle them to enter into competition with doctors in places where there is large demand for medical service.

Another and far more serious objection to the establishment of rural medical schools is the strong probability that they would maintain standards considerably below those of the best universities. As a consequence, patients might ultimately be at the mercy of inadequately trained doctors. Medical educators inquire why country people should have to accept professional services that are less efficient than those provided for city dwellers. Are they not entitled to medical assistance which is just as good as that which people who live in more populous areas obtain? These educators insist that the problem of rural health service can and should be solved on some other basis than that of reducing the quantity and quality of medical education.

The most important reason why practitioners do not settle in the country is because of the economic and social conditions which prevail in rural communities. The country physician frequently has great difficulty in making a living; social life, educational facilities, and professional contacts are less attractive than in cities. Doctors who have been trained to be dependent upon hospitals, laboratories, and diversified equipment are not desirous of prac-

[1] *Ibid.*, p. 110.

ticing without those facilities which they have come to consider as necessities. Fortunately, certain improvements are counteracting the isolation of rural sections. Good roads, the automobile, and the telephone are making it easier for the country physician, not only to carry on his practice, but to be in contact with hospital centers and colleagues in larger localities.

In 1925 Massachusetts issued an ambitious report on health facilities in 118 out of the 191 towns in the state that contained fewer than 2,500 persons. It found that only 18 towns of those studied were more than 6 miles from a physician, and only 5 more than 10 miles.[1] The total number of persons thus handicapped in consulting a physician were 6,382. Of these, only a few over 1,000 resided more than 10 miles from a physician. Only 2 towns were more than 20 miles from a dentist, and only 8 with some 3,000 population were more than 20 miles from a hospital. When one considers these facts in the light of modern means of transportation, the situation does not appear critical for the patient. It is probable, however, that conditions in sparsely settled and less prosperous states are not nearly so favorable.

The very factors, however, that are operating to make country life somewhat more attractive for the physician are also reacting against his practice. Roads and the automobile, that are an asset to him, are also a means whereby

[1] Massachusetts State Department of Health, Special Report of the Department of Public Health, January, 1925, House no. 1075, pp. 69–71. See Commission on Medical Education Final Report, pp. 107, 112.

rural people may either visit the office or call a city physician. The latter is now frequently in competition with practitioners located in smaller communities. Because there is a widespread feeling that the urban physician is more competent than the rural one, that part of the country population which is best able to pay for medical service is the very one likely to call upon the city doctor. The results are frequently disastrous for the rural physician who finds his services limited, particularly in the summer months, to the less educated and poorer sections of the community. So discouraging is this situation that it is not surprising that young doctors do not wish to settle in rural communities and very small towns.

The median age of physicians in localities of fewer than 1,000 persons is 52 years,[1] and statistics show that as resident physicians in these areas retire from practice or die their places are frequently not taken by others. Of the several factors that have been mentioned as contributing to make the country an undesirable place in which to practice, the economic one is the most important. The Bureau of Medical Economics has recently pointed to the fact that there appears to be a rather definite relationship between the number of physicians in a locality and the proportion of persons with sufficient income to pay a federal income tax.[2] Whenever a locality is financially able to support a doctor under present methods of remunera-

[1] Peebles, Allen, Survey of Statistical Data on Medical Facilities in the United States. Publications of the Committee on the Costs of Medical Care, no. 3, 1929, p. 22.
[2] Distribution of Physicians in the United States, pp. 9–10.

tion, one or more is generally found there. It would seem then that the solution of the problem of rural medicine depends upon the devising of methods whereby the physician may be adequately compensated for his services. In its Final Report, the Committee on the Costs of Medical Care declared that only as the low financial resources of sparsely settled areas are supplemented by funds from more prosperous sections can these areas retain the needed physicians, dentists, hospitals, and public health officials.[1] The Committee was of the opinion that geographical co-ordination and regional planning are urgently needed, and stated that although local co-ordinating agencies might assist in such work, the primary responsibility belongs to a larger area, usually that of the state.

In connection with the problem of finding a way to give medical care to rural people, the experience of Sweden, Norway, and three Canadian provinces is instructive. In Sweden, upon completion of a thorough training that frequently extends over ten or more years, most practitioners apply for various types of government positions. One type is specifically designed to provide medical services in sparsely settled areas. It carries with it a fixed salary paid by the state, and the privilege of engaging in such private practice as may be obtained under certain prescribed conditions. As a result of the far-sighted policy of the government, doctors are so well trained and distributed that there seems to be satisfactory medical care for the entire population except among the Lapps, even

[1] P. 54.

in those sections where the great majority of persons are unable to pay individually for service.[1] Similar but less extensive provisions are made in Norway. Men who qualify for positions as district physicians are usually sent to the far north. They generally receive traveling expenses, a fixed salary to cover the cost of living, and whatever fees they are able to collect. They are obliged to treat the poor without charge.[2]

In Canada a number of rural municipalities (political subdivisions that correspond roughly to counties in the United States) employ or subsidize medical practitioners known as municipal doctors. The plan of employing municipal doctors was first tried in the province of Saskatchewan in 1921, when one physician was engaged to serve a particular community. It proved so successful that in 1935 more than 60 of the municipalities of the province had full-time physicians, employed at regular salaries ranging from $3,000 to $5,000 a year. A number of other municipalities made annual grants of $1,500 or less as subsidies for public health services and for the care of the indigent. Manitoba and Alberta have also adopted the system of municipal doctors, but its use has not yet become extensive.

Special provisions are included in the Municipal Act of Saskatchewan with respect to engaging physicians for service. A municipal doctor must agree to give medical

[1] Commission on Medical Education, Medical Education and Related Problems in Europe, 1930, pp. 111–112.

[2] Conel, Jesse LeR., "Medical Education in Norway." In Journal of the Association of American Medical Colleges, November, 1930, p. 343.

care to each resident of the area without cost. The services provided are those of general practice, including necessary drugs, medicines, and dressings. The physician is generally expected to make no charge for the care of fractures, minor operations, or obstetrical cases, provided they are reasonably within the competence of a general practitioner. It is part of his work to immunize all children and adults who request protection against smallpox, diphtheria, and other communicable diseases. Preventive service also includes inspection of school children at least once a year.

Salaries are paid from taxes levied uniformly on the value or land acreage of the respective farms. Benefits are available to all residents, regardless of whether they are citizens of, or own property in the municipality. If it does not interfere with his regular work, the physician is usually permitted to engage in private practice on a fee basis outside the particular area.

A number of municipal doctors have reported that they believe their net earnings are larger under this system than they would be in the same localities were they in private practice. Medical care is probably much greater in amount and better in quality than would be the case were the communities dependent upon the services of private practitioners. Residents regard this form of medical care as an integral part of public service to be shared and supported by the entire community. It is predicted that within another decade there will be a municipal doctor in every municipality in Saskatchewan that can support one.

In spite of the apparent success of this plan it does not

solve the entire problem of providing complete health service or of distributing total costs equally. If these two aims were achieved, provision would have to be made for including major surgery and other medical specialties, nursing, dentistry, and hospitalization in the present system. At present the most expensive illnesses are borne by a few individuals or families. In the case of indigent persons, however, all medical costs are met from community funds.[1]

INCOME OF PHYSICIANS

Findings of Recent Surveys

The subject of the income of physicians is one of vital interest and significance to the medical profession and also to society. Prior to the study of Income from Medical Practice made by Dr. R. G. Leland for the American Medical Association, and the three surveys of income conducted by the Committee on the Costs of Medical Care, little was definitely known. These four studies, reviewed below, represent extensive attempts to determine professional incomes for the entire United States. When compared with one another, the results of the investigations are so similar for average gross income that it is reasonable to suppose that the figures are fairly accurate. Unfortunately, average gross income is likely to give the reader too optimistic a picture of the actual situation. High incomes of

[1] For further details of the Saskatchewan plan, see New Plans of Medical Service, published by the Julius Rosenwald Fund, Chicago, 1936, pp. 66–68, and C. Rufus Rorem's, The "Municipal Doctor" System in Rural Saskatchewan, Publications of the Committee on the Costs of Medical Care, no. 11, 1931.

successful city doctors, particularly specialists, raise the average so much that it is easy to overlook the plight of many general practitioners, particularly those in sparsely settled areas. The surveys were completed, moreover, before the economic depression had crippled the ability of vast numbers of the population to purchase medical service. What has happened to professional incomes in the past six years can only be conjectured.

Surveys of Selected Communities, 1928 to 1930[1]

Some ten surveys of the income of physicians in various localities of the United States were made by the Committee on the Costs of Medical Care in 1928, 1929, or 1930. It is evident that a comprehensive estimate of earnings for the entire country cannot be computed on the basis of information gained from so small a sample. Since these surveys revealed, moreover, the salary status of physicians practicing either in very small communities or in large metropolitan areas, it was not expected that the results would be representative of the country as a whole. Although about one-half of all physicians are located in cities of from 10,000 to 1,000,000 people, only two surveys were concerned with localities falling within that population range. Stockton, California, with which one of these two surveys dealt, was probably not a typical city of 50,000, and average incomes were found to be higher there than in Philadelphia or Detroit. Incomes in Vermont cities of 10,000 or more population, on the other hand, were prob-

[1] Leven, Maurice, The Incomes of Physicians, pp. 7–11.

ably lower than the average for all cities of similar size on account of the rather poor economic condition of that state. In spite of all the limitations readily apparent in these data, the figures of Table 8 throw some light on the question of the average gross income of physicians.[1]

TABLE 8.—AVERAGE ANNUAL GROSS INCOME OF PHYSICIANS IN 16 SELECTED COMMUNITIES, 1928, 1929, OR 1930

Place	Year	Average annual gross income
Communities with no incorporated places of more than 10,000 population		
Chester County, Tenn.	1930	$2,712
Lee County, Miss.	1930	3,432
Toombs County, Ga.	1930	3,469
Vermont communities under 1,000	1929	5,182
Shelby County, Ind.	1928	5,659
Franklin County, Vt.	1929	6,242
Vermont communities 1,000 to 5,000	1929	6,351
Orange County, Vt.	1929	6,440
San Joaquin County, Calif., exclusive of Stockton	1929	7,549
Vermont communities 5,000 to 10,000	1929	7,829
Cities of 10,000 to 1,000,000		
Vermont cities over 10,000	1929	9,483
Stockton, Calif.	1929	12,609
Cities of 1,000,000 and over		
Philadelphia	1928	9,056
Detroit	1929	10,204

[1] Averages are arithmetic means unless otherwise indicated.

Survey by the American Medical Association, 1928[1]

The first serious attempt to investigate the professional incomes of physicians on a country-wide basis was made in 1929 by the American Medical Association. A detailed questionnaire was printed in one issue of the Journal of the American Medical Association and in three issues of the American Medical Association Bulletin. In addition, questionnaires were mailed to 25,000 physicians selected at random from members of the Association. Altogether 6,328 usable schedules were returned with data concerning earnings in 1928. Twenty-five hundred of these schedules were known to have been replies to the request made by mail. The study, as Dr. Leland explained in his report, had certain definite limitations. There was no way of evaluating the representativeness of the results. Complete returns are never obtained and, unless careful checks supplement replies to questionnaires, it is impossible to be certain that the data derived from a sample are applicable to the larger group that the sample purports to represent. Returns from doctors in the low-income brackets were probably too few. Not enough questionnaires reached rural physicians with small earnings, since many of these practitioners do not hold membership in a county or state medical society and do not receive the Journal. Returns from doctors in the high-income brackets, on the other hand, were more numerous than they should have been. About 40 per cent of the

[1] Leland, R. G., "Income from Medical Practice." In Journal of the American Medical Association, May 16, 1931, pp. 1683–1691.

physicians who submitted schedules reported themselves to be specialists. This proportion was considerably too large.

The average gross income computed for the 6,328 physicians was $9,764. After corrections had been made for 853 physicians who were employed on a salary basis and for the disproportionate number of specialists as compared with general practitioners, the average indicated by this study for all private practitioners was, according to Dr. Leven, $9,546.

Survey by Committee on the Costs of Medical Care, 1929[1]

In 1930 this Committee mailed schedules to 20,000 physicians selected from the 1929 American Medical Directory in such a way as to give proportional representation to every part of the country and to every type of community. Of the 20,000 schedules distributed, 4,962 usable ones were returned with information regarding incomes for 1929. A little later, 1,109 more were obtained as the result of follow-up letters mailed to 5,000 practitioners to whom schedules had been sent earlier. Significant differences appeared in the incomes reported in the two sets of returns. The second contained a larger proportion of small incomes, and the median income was about $1,000 lower than that for the first returns. This difference may have been due to the nature of the follow-up letter that urged physicians to answer the questionnaire, even though they felt that their incomes in 1929

[1] Leven, Maurice, The Incomes of Physicians, pp. 12–19.

and 1930 were typical neither of their own practice nor of the incomes of physicians in general. The average gross income of physicians in private practice, as computed from the first returns of the nation-wide survey, was $10,237. When the returns from the follow-up letter were added, the average was lowered to $9,461.

Since the final estimate of average gross income must rest in large measure upon the sample obtained by the American Medical Association (referred to hereafter as the A.M.A. sample) and the results of the questionnaire sent out by the Committee on the Costs of Medical Care (C.C.M.C. sample), a comparison of their data is valuable. Although the general arithmetic averages for the two studies were very similar, both being close to $9,500, there was great difference in the results, as illustrated in Table 9, for physicians in small places and rural areas. For all cities with populations of 5,000 or more, which include the great majority of physicians reporting for both studies, the distribution of earnings was much the same and the average income was similar. For the smaller communities, however, the distribution and averages did not agree; the C.C.M.C. sample showed a very much larger proportion of incomes below $3,000. While the explanation of this difference is problematical, it is significant that both studies indicate that incomes of physicians in small communities are much lower than those in larger places. The C.C.M.C. study showed that well over a fourth of physicians in small communities had gross incomes of less than $3,000.

TABLE 9.—DISTRIBUTION OF PHYSICIANS ACCORDING TO ANNUAL GROSS INCOME AS SHOWN BY STUDIES OF AMERICAN MEDICAL ASSOCIATION FOR 1928 AND COMMITTEE ON THE COSTS OF MEDICAL CARE FOR 1929

Annual gross income	Percentage of physicians			
	Communities of 5,000 or over		Communities under 5,000	
	A.M.A. sample	C.C.M.C. sample[a]	A.M.A. sample	C.C.M.C. sample[a]
$ 0–$ 2,999	5.2	7.5	10.8	28.6
3,000– 5,999	21.1	20.7	38.1	33.1
6,000– 8,999	22.7	20.5	27.7	19.4
9,000– 11,999	17.2	15.1	12.9	9.8
12,000– 14,999	11.2	11.9	4.9	4.7
15,000– 24,999	15.1	15.3	5.0	3.6
25,000 and over	7.5	9.0	0.6	0.8
Total	100.0	100.0	100.0	100.0
Arithmetic mean	$11,733	$12,072	$7,097	$5,880
Median	9,154	9,245	6,080	4,746

[a] Only replies to first letter utilized.

Study of Federal Income Tax Returns, 1929

Through special arrangements with the federal Department of the Treasury, the Committee on the Costs of Medical Care obtained from the United States Bureau of Internal Revenue a tabulation of professional net incomes of physicians who filed income tax returns for 1929. Approximately 69,000 of the probable total of 142,000 active physicians were included in the tabulation. Estimates were then made of the distribution of income of the other 51 per cent of physicians, who presumably had incomes too small to require filing a statement of earnings. Details of the method of distribution employed are recorded by Maurice Leven in his volume on The Incomes of Physicians.[1] Although he warned the reader that the results were not completely accurate, he believed that they were a fair approximation, which could be used in conjunction with and as a check upon the data derived from the incomplete A.M.A. and C.C.M.C. samples. The average *net* income computed was $5,304. This included salaried physicians as well as private practitioners. The figure calculated for the latter was $5,467. By estimating the average ratio of net to gross incomes as 0.606, the average gross income for all private practitioners in the United States in 1929 would have been $9,020.

Influence on Income of Experience, Specialization, and Location

The preceding résumé of studies of professional income has told little of what they revealed about the individual practitioner or the factors that determine what he will earn. Even if the *net* income for all physicians were around $5,300 in 1929, earnings ranged from less than $2,500 net to well over $30,000. Years of experience, degree of specialization, geographic location, size of com-

[1] Pp. 19–21, 107.

munity, and personal qualifications all play an important part in fixing income. As medicine is practiced at the present time, the first year generally entails a loss. In the second year the margin of net income is very small, and it is not until the third year when the physician is about thirty-one years old, that he has an average net income of $1,700 or $1,800. Seven or eight years elapse before his gross income reaches a level that is average for all practitioners. The peak is attained in the seventeenth or eighteenth year. Income then tends to decline until, at about the thirty-fifth year, it is approximately the same as in the eighth.

Specialization has a great deal to do with the income which a physician may expect to receive. A survey made in 1931 by the Committee on the Costs of Medical Care indicated that 26 per cent of all physicians were complete specialists, 21 per cent were partial specialists, and 53 per cent were general practitioners.[1] According to the estimate of the Bureau of Medical Economics, however, only 16.5 per cent of all active practitioners in that year were complete specialists.[2] Since the Bureau classified partial specialists under general practitioners, no figure is available for their percentage. They represent a considerable group of persons who would undoubtedly like to restrict their practice to a specialty, but who, chiefly for economic reasons, have been unable to do so and are obliged to carry on more or less general practice.

[1] Leven, Maurice, The Incomes of Physicians, p. 50.
[2] Distribution of Physicians in the United States, pp. 39–44.

In view of the opinion expressed by some medical authorities that 85 per cent of human ailments do not require the services of a specialist, it appears that the proportion attempting to build up such practice is larger than is needed. The desire for public and professional recognition, the great increase in knowledge and technical procedures for diagnosis and treatment, the satisfaction of restricting one's efforts to a limited field that can be mastered are all causes of the growth of specialization. But one of the major reasons why so many doctors wish to become specialists is because they foresee the possibility of earning large incomes. Although nearly two and a half times as many general practitioners answered the C.C.M.C. questionnaire as did complete specialists, the latter received a slightly larger share of the total amount paid for the services of physicians. The average gross income of partial specialists in 1929 was 55 per cent higher than that of general practitioners, while complete specialists had an average gross income 63 per cent above that of partial specialists and 154 per cent higher than that of general practitioners. The average net income of general practitioners was $3,900, that of partial specialists was $6,100, and that of complete specialists was $10,000.[1] Some specialties are more remunerative than others. Anaesthesia, neurology, dermatology, and pediatrics are apparently less profitable than tuberculosis, roentgenology, and orthopedics. Surgery, whether practiced as a partial or complete specialty, is one of the most remunerative.

[1] Leven, Maurice, The Incomes of Physicians, pp. 53–54.

More important from the angle of income than years of experience or type of practice are geographic location and size of community. The gross income of private practitioners in the Pacific States in 1929 was higher than the average for all sections of the country, and the same was true of New England and the Middle Atlantic States. The East and West South Central, on the other hand, were considerably below the average for the country in the financial prospects they offered a practitioner. These sections are not densely populated, they are predominantly agricultural, and per capita income is small. The geographic factor is closely correlated with the industrialization and urbanization of the various sections of the country.[1]

Size of community is of particular importance, as has already been noted, in determining medical incomes. Table 10, based on data for all private practitioners of the C.C. M.C. sample, gives further information concerning the effect of size of community. For places of fewer than 5,000 persons, the average gross earnings for 1929 were below $5,300, or less than one-half the average income for physicians in all other population groups combined. Fifty per cent of the practitioners in these communities had gross incomes of less than $4,400, or net incomes of less than $2,500. It must be borne in mind, however, that the purchasing power of money is much greater in the country than in the city. Above a population level of 25,000, differences in average gross incomes were not pronounced. Figures for net income, as shown in the table,

[1] Falk, Rorem, and Ring, The Costs of Medical Care, pp. 201–209.

suggest that the largest cities were not, on the average, the most favored financially.

TABLE 10.—INFLUENCE OF SIZE OF COMMUNITY ON PROFESSIONAL INCOME OF PHYSICIANS IN PRIVATE PRACTICE, 1929[a]

Size of community	Arithmetic mean		Median	
	Gross income	Net income	Gross income	Net income
All communities	$9,461	$5,700	$7,026	$4,100
Under 5,000	5,285	3,200	4,372	2,500
5,000 to 9,999	8,892	5,400	7,424	4,500
10,000 to 24,999	10,399	6,300	8,574	5,150
25,000 to 49,999	11,147	6,900	9,308	5,600
50,000 to 99,999	11,222	7,100	8,950	5,500
100,000 to 499,999	11,874	7,300	8,768	5,400
500,000 to 999,999	11,035	6,800	8,303	5,200
1,000,000 and over	12,125	6,900	8,254	4,700

[a] Leven, Maurice, The Incomes of Physicians, p. 35.

Salaried Physicians

Physicians who work on a salary basis are relieved of the uncertainty concerning income which faces a large proportion of the profession. In 1929, according to Falk, Rorem, and Ring, 85.5 per cent of all doctors in active practice were independent private practitioners; 2.5 per cent were assistants to other physicians or were engaged in insurance, laboratory work, and research; while 12 per

cent held full-time positions from which they derived a salary.[1]

TABLE 11.—DISTRIBUTION OF SALARIED PHYSICIANS, BY TYPE OF EMPLOYMENT, 1929[a]

Type of employment	Number	Per cent
Federal positions	3,420	20.1
State hospitals	1,514	8.9
Other hospitals	5,443	32.0
Clinics	3,000	17.7
Industry	1,500	8.8
Teachers	1,300	7.7
Health departments other than federal	820	4.8
Total	16,997	100.0

[a] Falk, Rorem, and Ring, The Costs of Medical Care, p. 242.

The average earnings of full-time salaried physicians in 1929 were estimated by the Committee on the Costs of Medical Care to be $4,524, as contrasted with an average net income for all physicians of $5,304, or $5,467 for all private practitioners.[2] The contrast between the earnings of salaried physicians and private practitioners is greatest at the extreme. Over 40 per cent of physicians in private practice had net incomes of less than $3,000 in 1929, but only 13 per cent of salaried practitioners were below that level. Conversely, 24 per cent of the physicians who assumed the business risk of private practice received net

[1] The Costs of Medical Care, p. 243. [2] *Ibid.*

incomes of more than $7,000, while less than 8 per cent of the salaried physicians received more than that amount.

Men working for a salary do not receive distressingly low incomes, but neither do they receive salaries large enough to attract greatly the more financially ambitious. One of the chief advantages is that they are much less likely to suffer from the exigencies of the economic and social order. In 1930, for instance, when private practitioners experienced large decreases in the percentage of their collections, physicians employed on a salary basis did not sustain a proportionate reduction in income. Undoubtedly a good many salaried medical positions were closed subsequent to 1930, particularly in industry, and salary reductions were frequent. On the whole, however, salaried medical men have few risks, little overhead, and a relatively high degree of security.

NEW FORMS OF MEDICAL SERVICE

It has already been shown that a large proportion of the American population has no therapeutic care in the course of a year, while a still larger proportion receives no physical examination or health counsel. Dr. Frederick E. Sondern, past president of the Medical Society of the State of New York, insists, however, as do many of his colleagues, that few persons or families in need of care who ask for it are ever refused.[1] He admits that there may be a lack of service in isolated sections of the country and in sporadic instances, but he is convinced that in general the

[1] "Medicine and Men." In New York State Journal of Medicine, January 1, 1936, pp. 36–47. Quotation appears on p. 37.

patient who *seeks* care receives it. "Physicians do not eject patients from their offices because they do not have cash in their hands, nor do clinics close their doors to them. If the patient cannot pay the doctor in full, he pays less; if he has nothing, he is treated without cost or is referred to institutions which care for indigent patients." The problem of the extension of medical care, therefore, as Dr. Sondern visualizes it, is to educate people to know that they should have periodic health examinations and that they should consult a physician as soon as symptoms of disease appear. He recommends that persons connected with governmental or voluntary agencies interested in health education, who are in close contact with groups that know little about the necessity for medical attention, concentrate their efforts on educational programs and redouble their attempts to create the desire for good health. Many of these workers are advocates of health insurance or of other plans whereby financial arrangements may be made for the extension of medical care. Dr. Sondern maintains that it would be wiser for them to limit their interests to health education instead of trying to find "a panacea for ills too various for a simple cure."

While all informed persons would agree with Dr. Sondern that health education is of great importance, there is a large body of economists, sociologists, social workers, individual physicians, and others concerned with the public welfare who do not believe that the major part of the problem of medical care can be solved by teaching people to demand service. The long history of the generosity of

the medical profession in giving free assistance to those critically in need of it indicates that physicians would continue such service. But could they afford to give preventive service to all who need it? And would health education cause that portion of the middle class that is without sufficient means for paying for service and too proud to ask for it on a free or greatly reduced basis, to consult physicians as often as necessary? These are considerations that convince many persons interested in the question of medical care that the problem is primarily an economic one which must be solved, not by placing further burdens upon the medical profession and charitable health agencies, but by finding more systematic methods for paying for health service.

They emphasize the fact that the cost of medical care falls very unevenly upon the members of different income groups. It also falls with varying degrees of severity upon different families in the same income group. Although the cost of medical service in 1929 was only about 4 per cent of the money income of the country, or $30 per capita, no one was able to know in advance how much money would be necessary to provide medical service for a year. If a family had budgeted 4 per cent of its annual income and had put aside $110, let us say for such purposes, it might have spent only $10, but it might have spent $1,000.

There seems to be little question that the resources available in this country are sufficient to pay for adequate service of both a remedial and preventive nature. The Com-

mittee on the Costs of Medical Care pointed to entire states, however, where the great majority of the inhabitants are too poor to purchase medical care.[1] There are also many rural sections and industrial areas where large segments of the population have so low a standard of living that such care as exists is furnished at governmental expense or by charitable agencies. And finally, a considerable proportion of the middle class is incapable of demanding as much service as is needed, but it would be able to bear the expense of adequate medical care if the costs could be estimated and distributed over a considerable number of persons.

As a consequence of this serious situation and the economic plight in which many physicians, other representatives of the health services, and hospitals have found themselves during the last few years, a large number of new forms for offering care have been devised. As a means of meeting the problem of health service for a local community or for a particular group of persons, these new methods have considerable utility, although they are still in an experimental stage. As a solution of the basic health problem in its total aspects, their greatest contribution lies in their demonstration of the fact that it is possible to work out more flexible schemes for delivering service. They are inadequate in number and scope and present inherent weaknesses. They are, however, an adjustment to changing conditions, and they contain the germs of more extensive programs for the future.

[1] Medical Care for the American People, pp. 13–19.

It is not possible to review any of these plans in great detail. Brief descriptions of one example of each of the several more important types, however, will furnish a picture of the newer trends in medicine.

Industrial Medicine

Industrial medicine represents an attempt to make some provision for the care of the health of workers. It is generally financed by the employer, but occasionally service is maintained by employes themselves or by employer and employes jointly. Although industrial medicine was undoubtedly stimulated in its development by the enactment and progressively more exacting amendment of workmen's compensation laws, it has been steadily expanding beyond the minimum requirements of treatment of accidents to the broader field of prevention of sickness. So marked has been this expansion that industrial medicine has been defined in a recent book as the practice of medical supervision, preventive medicine, and public health within the confines of an industry. "Its aim is to safeguard the health of the employee from the time of his joining the working force until his discharge. It further endeavors to minimize time lost from work because of sickness or accident by providing prompt and efficient attention and by arranging for adjusted work when necessary."[1]

It is estimated that there are some 2,000 or more industrial plants scattered throughout the United States that

[1] Clark, W. Irving, and Drinker, Philip, Industrial Medicine. National Medical Book Co., New York, 1935, Preface, p. vii.

supply medical service. Of 2,452 industrial and business establishments employing 4,500,000 persons that replied to an inquiry made by the National Industrial Conference Board in 1935, 1,598, or about two-thirds, provided some form of medical care for their employes. Since 93 per cent of the total number of employes were connected with these 1,598 establishments, it is evident that medical service is least prevalent in small companies. The most frequently reported form of industrial medical care, and also the most elementary, was organized first aid. However, 1,154 companies had a dispensary or hospital, 867 had a nurse, and 722 had either a full-time or part-time physician or both. Nearly half of the companies, 1,124, gave physical examinations to new employes, and 471 provided periodic examinations for the purpose of discovering and arresting physical troubles. In a few instances special services, such as dental and optical clinics, were also maintained.[1]

In those plants that offer a reasonably well-developed service, the functions of the department of industrial medicine consist of:[2]

1. Physical examination of applicants for employment.
2. Physical examination at regular intervals of employed workers who have physical defects.
3. Periodic physical examination of those who work in

[1] National Industrial Conference Board, What Employers are Doing for Employes. The Board, New York, 1936, pp. 5, 17–18. See also Medical Supervision and Service in Industry, published by the same organization in 1931.

[2] Clark, W. Irving, and Drinker, Philip, Industrial Medicine, pp. 2–3.

departments where the manufacturing process involves a health hazard.

4. In some factories re-examination of the entire force annually.
5. Placement of those workmen found physically defective in departments where the work will not prove injurious.
6. Diagnosis and, in minor cases, treatment of workers applying to the factory dispensary for medical care.
7. Diagnosis and treatment of injured workers.
8. Diagnosis of all persons having surgical conditions who apply for information or care.
9. Spread of health publicity by lectures, leaflets, and similar publications.
10. Co-operation, where possible, with the family physician whose patient is a worker in the factory.

The plan of medical service offered by the Endicott-Johnson Corporation in Binghamton, New York, and neighboring cities since 1918, is one of the most comprehensive in the field of industrial medicine and has served as a pattern for many others. Free treatment is given to all of the 19,000 Endicott-Johnson employes and to all dependent members of their families. The full-time staff of more than 100 persons consists of 40 physicians, 5 dentists, 5 dental hygienists, 4 physical therapists, 26 trained nurses, 5 bacteriologists, and 5 pharmacists, besides technicians, office clerks, and assistants. Service is offered for all types of medical and surgical care including hospitalization, X-ray diagnosis and treatment, dentistry, and nursing. All costs are paid from the treasury of the company, and there is no contribution by employes toward the maintenance of this extensive program. The per capita expense

for those eligible for care in 1934 was $12. This figure was much lower than the cost in earlier years because of the increase in number of employes after 1932.[1]

In spite of the fact that industrial medicine is doing a great deal for workers in companies that offer such service, it would never completely solve the problem of medical care for wage-earners even though it were extended to all industry and included the families of workers. As Dr. Sigerist has pointed out, it is in considerable part a luxury that most industries can afford only in prosperous times.[2] From the standpoint of the public health, it is probably preferable to provide workers with free medical care rather than raise wages and let them look out for themselves, but industrial health clinics are frequently welfare agencies dependent upon economic conditions and the interest of the industrial management. There is no assurance of their survival. Workers have the privilege of medical assistance, moreover, only during the period of their employment. When they lose their jobs they lose medical care, even though it be the very time when they are most in need of it.

Group Practice

Group practice represents a movement instituted by physicians whereby doctors working together rather than individually are able to offer co-ordinated service. The inspiration came from the Mayo Clinic in Rochester,

[1] Julius Rosenwald Fund, New Plans of Medical Service. The Fund, Chicago, 1936, pp. 16–18.
[2] American Medicine, pp. 186–187.

Minnesota. Although Drs. William J. and Charles H. Mayo began to call specialists to their assistance shortly after the beginning of the twentieth century, their plan was rarely adopted elsewhere until after the World War. Since then group clinics have sprung up rapidly, particularly in the Middle West and West, until there are now several hundreds of them. Many of these groups consist of one or more general practitioners, a surgeon, gynecologist, ophthalmologist, ear, nose and throat specialist, dentist, and pathologist. There are smaller groups, and also larger ones of 15 or more doctors. As a rule, they have no hospital of their own, but are affiliated with one to which they can refer their patients.

An attempt is generally made to give complete service to all patients who are accepted. One physician assumes responsibility for each case while the others act as expert advisers. All or most of the physicians engage in the work of the clinic on a full-time basis. Because of the type of organization, more complete equipment can be provided and care can be given more economically than when physicians practice independently. A business manager is employed by the larger groups to attend to financial matters. Income is pooled and the remuneration of the participating physicians is determined by agreement among themselves rather than according to services rendered. Recently some of the clinics have contracted to give medical care to groups of employed persons in return for the payment of a "lump sum" before sickness.

Next to the Mayo Clinic and the Battle Creek Sanato-

rium at Battle Creek, Michigan, the Ross-Loos Medical Group of Los Angeles, formed by Dr. Donald E. Ross and Dr. H. Clifford Loos, probably represents the most widely known example of group practice in the United States. So significant is its plan of giving medical care, both as an illustration of what can be accomplished when a number of physicians work together and as an example of the utilization of the principle of group prepayment or voluntary health insurance, that a recent description[1] of its work is summarized here.

At the request of the Los Angeles Department of Water and Power, Dr. Ross and Dr. Loos began providing group service in 1929 on the basis of annual payments for the 2,000 employes of that organization and for their families. Later other large groups asked to be added: firemen, county and city employes, policemen, teachers, librarians, industrial workers, clerks, salesmen, members of university faculties, and so on. In the fall of 1935 there were some 20,000 subscribers representing more than 60 different groups, and constituting with their families over 60,000 persons.

Only groups of employed persons are eligible for care under the plan of annual payments. Doctors in the clinic will see any patients who wish to consult them, but fees for such service conform to the rates prevailing in private practice. For the subscriber the monthly assessment is $2, payable through the association or club to which he voluntarily belongs. This sum entitles him to all medical and surgical care required in the home, office, or hospital; to any needed operation, ambulance service, X-rays, laboratory tests, drugs, general nursing, or hospitalization in a ward up to ninety days per year. [For obstetrical cases, however, the subscriber must pay the cost of

[1] Julius Rosenwald Fund, New Plans of Medical Service, pp. 56–58.

hospitalization.] Insurance does not include dentistry, eyeglasses, special-duty nursing, radium treatments, hypodermic medication, or certain types of expensive medicines such as insulin and salvarsan. Dependents of members may receive all professional services, but are required to pay for their own hospitalization and for any supplies or apparatus used in their treatment. There is also a charge of 50 cents for an office visit, $1.00 for a home call, $25 for a major operation, and $20 for obstetrical service including pre-natal and post-natal care. In 1934 the monthly payments of Ross-Loos subscribers for medical and hospital care averaged $2.68 per family, including all charges for dependents.

The records of the Ross-Loos clinic seem to show that people will use medical service when they can afford it. During 1934, the typical family of 3.02 persons made an average of nearly 15 office calls. This represents much more than the amount of care demanded by families of similar income in the general population. Even within the groups holding membership in the clinic, however, the inhibiting influence of medical bills was to be seen. Subscribers, whose hospital charges were included in the flat monthly rate, used proportionately twice as much hospital service as did their dependents whose bills, even though very low, had to be paid directly.

The staff of the clinic consists of 40 full-time physicians and surgeons, 15 part-time physicians who serve patients in outlying districts, a large number of registered nurses with special training in the departments to which they are assigned, X-ray and laboratory technicians, and licensed physiotherapists. The building owned by the Group is so arranged with suites of private offices that the relation of physician to patient is what one would find in any large urban office building in which a number of private practitioners had individually rented space. Hospitalization is in an approved hospital where a floor and a half are reserved for Ross-Loos patients.

Physicians work on the basis of forty-four hours a week, twenty-five days a month. Salaries continue during vacations, while doctors are absent at professional meetings, and while taking the postgraduate work that is planned on a rotating schedule. Earnings of full-time men range from $300 to $750 a month. Mary Ross, who has reported at length on the clinic, concludes from a recent survey of incomes of California physicians that the earnings of the Ross-Loos physicians are above the median for the state.[1] These doctors also have a degree of economic security and freedom from financial details not characteristic of physicians in private practice.

The Committee on the Costs of Medical Care pointed in its final publication to the many advantages that accrue from group practice both for the patient and for the practitioner.[2] The patient is likely to receive a better quality of care from a well-rounded group than he would from physicians practicing independently and without continuous contact with one another. It is also a convenience to obtain the services of all needed specialists in one place and as part of one arrangement. From the physician's point of view group practice conserves time, decreases the spread between gross and net income, and tends to raise and stabilize earnings. It facilitates consultation with colleagues, makes easier the arranging for vacations and postgraduate study, and provides more nearly complete records that can be utilized for study and research.

Among the disadvantages charged against group practice by the Committee, is the tendency for the personal

[1] "The Case of the Ross-Loos Clinic." In Survey Graphic, June, 1935, pp. 300–304.
[2] Medical Care for the American People, pp. 78–79.

relationship between physician and patient to be lessened, although many clinics guard against this. There may also be some diminution of privacy for patients and division of responsibility for their care. Physicians working on a salary basis do not have the same personal and professional independence that they have in private practice. Group practice may be in direct economic competition with private practice, and it has often been alleged that this competition is "unfair." Economies of group practice are sometimes not passed on to patients, even in part. Clinics have occasionally been dissolved because the physicians could not agree on the division of income.

Aside from these immediate advantages and disadvantages, the question arises of the potential value of group practice as a means of solving the problem of more and better medical service for large sectors of the population that now have insufficient care. Those clinics that utilize the principle of voluntary insurance seems to be capable of contributing much to the extension of service by making it possible for groups of persons to share in the benefits offered. It is generally agreed, however, that even a widespread system of voluntary health insurance could never entirely meet the problem. The plan fails to lend itself readily to use in places where population is not sufficiently concentrated for groups to be formed easily. Because of its voluntary aspect, moreover, people without any education in health matters would not be likely to take advantage of it. Finally, inexpensive as its rates might be, the lowest income groups could not afford it.

Group practice that does not have the prepayment feature connected with it is capable of contributing less to the great mass of the population. Service is rendered either to patients able to pay individually, or it is given to the poor free of charge. The plan does not assist that class that can purchase adequate service only through the application of the principle of insurance. Although group clinics in this category may give much free work, it is an inescapable conclusion, as the late Edgar Sydenstricker pointed out, that most medical care rendered is not adequately paid for;[1] hence physicians who give care free of charge may be assuming a heavy burden. Many persons, particularly those who advocate that the cost of all health service should be borne by the state, insist that physicians should not be expected to give free service and patients should not be obliged to accept it on a charity basis.

That group practice is having to face opposition from the medical profession is evidenced by the action taken by the Los Angeles County Medical Society in 1934 when it expelled Dr. Ross and Dr. Loos from its ranks because of alleged solicitation of patients in connection with their prepayment plan. The action was upheld by the state society, but in January, 1936, the Judicial Council of the American Medical Association declared it void, on the ground that requisite notice and other elements of a fair trial had not accompanied the procedure of expulsion. The Council did not pass judgment on the merits of the case.

[1] "Why State Medicine Is Necessary." In The Forum, July, 1933, pp. 47–51.

Other groups have met with similar difficulties. Edwin R. Embree, in his annual report as president of the Julius Rosenwald Fund, wrote in 1929 that expulsion from the Chicago Medical Society and from the American Medical Association had been for several years the fate of any physician who became a member of the staff of the Public Health Institute in Chicago, a large pay clinic specializing in the treatment of venereal disease. Mr. Embree continued: "In fact, a urologist of national distinction has recently been expelled—with detonations heard throughout the country—simply for having a nominal connection with the clinic, as president of the Illinois Social Hygiene League, which together with several other agencies, receives funds for its charitable work from the surplus of the Public Health Institute."[1]

In a popular article on "The Attack on Group Medicine,"[2] James Rorty has recounted the experience of the physicians and surgeons associated with the Dallas Medical and Surgical Clinic who were recently expelled from the Dallas County Medical Society, the indirect attack upon the Saul Medical Service of Philadelphia by the medical society of that city, and the expulsion from the Chicago Medical Society of the staff of the United Medical Service of Chicago. The Journal of the American Medical Association[3] and the Illinois Medical Journal[4] record the inimical attitude of the national and the Chi-

[1] Julius Rosenwald Fund. A Review to June 30, 1929. Chicago, 1929, p. 19.
[2] In The Nation, July 4, 1936, pp. 14–17.
[3] October 8, 1932, p. 1264. [4] March, 1933, pp. 207–208.

cago medical associations toward the United Medical Service, a medical corporation operated for profit which has advertised extensively. In February, 1936, in People *vs.* United Medical Service, the Supreme Court of Illinois handed down a decision prohibiting corporations from practicing medicine, even though they attempt to do so through the medium of salaried employes who are licensed physicians.[1]

Co-ordinated Service for Low-Income Groups

Since the most difficult part of the problem of the extension of medical service centers around the economic situation of persons in the low-income groups, it is not surprising that many of the experiments now being made represent attempts to meet the needs of such groups. The following abstracts furnish illustrations of the nature of these experiments.

The Medical Society of Wayne County, Michigan, is an example of an association that has tried to co-ordinate the various health facilities of Detroit in order to make possible a greater amount of medical service for small-wage earners. On April 1, 1934, the Medical Society opened a medical service bureau for employed persons who earned in general between $20 and $30 a week. The objectives of this bureau are generally known as the Pino Plan from the name of their originator, Dr. Ralph H. Pino. Essentially the plan is an experiment in the instalment payment of medical and hospital bills in proportion to the patient's means. It is specifically not health insurance.

[1] American Medical Association Bulletin, April, 1936, p. 79.

Patients in need of medical care, particularly services that are relatively expensive, apply at the offices of the medical bureau for "medical relief through the Wayne County Medical Society." Data must be given concerning number of dependents, income, and so on. The amount of the total fee for necessary service is determined upon by the bureau after it has estimated the patient's ability to pay. The patient makes weekly or monthly payments, according to the plan determined upon, to the bureau. The bureau then distributes these payments to the physician, nurse, hospital, or dentist concerned. As a rule, the total instalments for hospitalized sickness are about 10 per cent of a family's annual income. When the bill exceeds more than 10 per cent of a year's earnings, the bureau, in consultation with a board of arbitration representing all the health professions, attempts to scale it down. The fees of physicians, surgeons, or dentists are generally reduced. Since charges for ward patients in hospitals have been below cost for some time, these institutions find it almost impossible to reduce their fees. Hence the hospital bill, where such care is necessary, generally represents the major part of the total.

Although much earnest thought and effort have been put into the development of the plan, it has encountered serious obstacles. Cases reported to the bureau are those urgently in need of medical care. Preventive service or even care in the early stages of disease are almost non-existent. The patients who register at the bureau are usually on the ragged edge of indigency. Payments of 10 per cent of their small and uncertain annual earnings will often lower their standard of living to a dangerous degree. Collections by the bureau, moreover, are likely to be badly in arrears, and the health groups cannot look forward to any reasonable remuneration for service rendered. One of the chief aims of this plan was to preserve the self-respect of patients by saving them from resorting to charity. Whether this aim can be realized is subject to ques-

tion, since they are receiving partial charity, at least, through the generosity of the medical profession.

Most serious of all the difficulties is the fact that the number of patients served has been small. Between April 1, 1934, and February 15, 1936, only 3,065 cases had been accepted for care in spite of the fact that much of Wayne County's population of 1,800,000 is industrial and had been hard pressed financially by the depression. One reason why the plan had not been put into operation more extensively lay in the hospital situation. During the first year the hospitals that participated reported a default of nearly 50 per cent on the instalment payments of bureau patients. They alleged that they were thus obliged to furnish much charity service to such patients, but were not permitted to use the facilities of their own admitting offices or social service departments in estimating ability to pay or needs. In November, 1935, the two largest voluntary hospitals in Detroit withdrew from participation in the Pino Plan on the ground that patients were permitted to assume obligations beyond their capacity.[1]

Plans for the payment of medical bills through the instalment system are relatively few. Those for payment through voluntary insurance are much more numerous and are rapidly increasing. Three experiments in Washington and one in Oregon, all very similar to each other, furnish significant illustration of a scheme whereby large groups of physicians offer their services to employed persons in the low-income brackets for an agreed annual payment. The features of these experiments that deal with voluntary

[1] For further details of this plan see "The Wayne County Medical Society, Detroit Plan," in Journal of the American Medical Association, September 8, 1934, pp. 759–760; New Plans of Medical Service, pp. 33–35; Ross, Mary, "Sickness Bills by Instalment," in Survey Graphic, March, 1935, pp. 109–111, 143–144.

insurance differ only in detail from those already described in connection with the Ross-Loos Medical Group. Features concerned with the method of delivering care, however, are totally different, inasmuch as they represent a plan for co-ordinating the work of physicians who are in private rather than in group practice.

In Washington, the state medical society is sponsoring the movement, and in both Washington and Oregon care is rendered under the auspices of the county societies that have set up medical service bureaus. Each bureau is a non-profit corporation directed by a board of trustees. The administrative problems of the organization are handled by a group of directors selected by the trustees. A physician chosen as medical director supervises the professional service rendered, while a non-medical director attends to the business details and establishes agreements with employers and employed groups. The original working capital of these bureaus came from initial membership fees of physicians. Before the name of a physician is placed upon the list of those offering service, it is necessary for him to pay a fee for which he receives, in most instances, one share of stock in the bureau. The amount of the fee depends upon the availability of funds for medical care in the community. Fees range from as little as $5.00 to as much as $100.

Participating physicians authorize the corporation to offer their services to employed groups and agree to accept payment for care rendered on the basis of a given fee schedule. Some indication of the extent to which doctors have affiliated themselves with this movement may be seen in the fact that in the fall of 1933, 100 of the 159 physicians in Tacoma were connected with the Pierce County Industrial Medical Bureau which had 2,500 subscribers. In October, 1935, the King County Medical Service Bureau in Seattle, which had been established

in 1933, was offering free choice from among 380 practitioners to its 25,000 subscribers.

The rate of monthly or annual payments made by subscribers differs, depending upon the particular plan and the scope of benefits offered. In some instances the payment covers medical care for acute conditions only; in other instances, it covers complete medical, hospital, and nursing care. The usual charge is between $1.00 and $2.00 a month. In Seattle employes pay from $1.26 to $3.50 a month for care which includes service for compensable accidents. The amount of the fee depends largely upon the hazard of the industry.

At the time of sickness the patient may choose for general service any physician on the list of participating practitioners, and he remains under the exclusive care of the doctor whom he first consults. In an emergency, any physician on the panel is eligible to handle the case temporarily. Services of a specialist can be obtained only upon the recommendation of the general practitioner.[1]

Plans for Payment of Hospital Bills

So difficult does the average middle-class family find it to pay for long and often unexpected hospitalization, and so precarious has been the financial situation in a large proportion of the voluntary hospitals, that a number of plans have been instituted which are designed to make the hospital bill less burdensome for the patient and to assure the institution a more fixed income. These plans fall generally into two classes: "all-inclusive rates," and hospitalization insurance. The term "all-inclusive rates" embraces the costs of institutional service, physicians' fees,

[1] Abstracted from New Plans of Medical Service, pp. 64–66.

and private nursing. It is essentially a device whereby doctor, patient, and hospital unite to reduce the total cost to the patient of hospitalization without interfering in any way with the professional relations between physician and patient. The brief summary given below describes the utilization of this device in the Massachusetts General Hospital in Boston.

One of the first hospitals in the country to try the scheme of "all-inclusive rates," or the "middle-rate plan" as it is known in this particular instance, was the Baker Memorial Unit established in 1930 by the Massachusetts General Hospital. In a building especially designed to permit economies in group nursing, accommodations are limited to persons of moderate means. Each applicant is interviewed before admission. A schedule of physicians' and surgeons' fees has been established by the medical staff with the understanding that, regardless of the nature or duration of the illness, no medical or surgical fee or both combined shall exceed $150. Hospital services are provided at cost. The rate is much the same as for similar accommodations in other Boston hospitals, but there are economies in fees for nursing, laboratory work, and other special services. The average charge for all cases admitted to the Baker Memorial Unit during 1934 was $160, including physicians' fees, special nursing, and hospital care. This was probably considerably lower than the average expense incurred in institutions of like rank in similar metropolitan areas. The combined fee makes it possible for patients to predict costs more accurately and plan for payments, if need be, in instalments. Although this scheme has been a great help to many, it does not eliminate the unevenness of hospital bills. Although the average cost in 1934 was $160, the actual charges ranged from $50 to $500 according to the length and kind

of care required. Many who could pay $160 might be unable to pay $500.[1]

In February, 1933, the trustees of the American Hospital Association formally approved the principle of insurance against the cost of hospital care, and recommended a scheme of "group hospitalization" whereby each member of voluntarily organized bodies would contribute a small yearly sum and in return would have most of his hospital expenses paid when incurred. The Council of the Association established certain essential features, which it believed should characterize group hospitalization wherever instituted. It maintained that all plans should have the public welfare as their aim, they should be under non-profit sponsorship, and they should be economically sound. They were not to interfere with the services of the family doctor, and they were to leave the subscriber free to choose his own physician or surgeon. Commercial plans by private promoters were discouraged.

Prior to February, 1933, when the Hospital Association took this action, plans for prepayment of hospital bills had already been put into operation in four or five cities. Since then the movement has grown with great rapidity. By September, 1936, some 60 communities in the United States had adopted group hospital insurance. Several hundred hospitals were participating in giving service and more than 450,000 subscribers were enrolled.[2] The Asso-

[1] Faxon, Nathaniel W., "Half-Empty Hospitals," in Survey Graphic, December, 1934, pp. 604–605; New Plans of Medical Service, pp. 12–14.

[2] "Hospital Plans Aid 450,000 in Nation." In New York Times, September 28, 1936.

ciated Hospital Service, established to serve New York City and neighboring vicinities as late as May, 1935, had 253,000 subscribers on March 1, 1937.[1]

The movement has been accelerated by the endorsement of the American College of Surgeons, which announced in October, 1934, that it was in favor of a system of voluntary group insurance that would make hospitalization more accessible to a greater number of persons. It is likely that the recently announced gift of $100,000 by the Julius Rosenwald Fund to the American Hospital Association for the study and development of voluntary health insurance over a period of five years will lend further impetus to the present trend.[2]

The organization of group hospital insurance has been promoted by individual hospitals, groups of hospitals, hospital councils, civic agencies, employes' benefit associations, labor unions, and commercial companies. Most of the plans began with the enrolment of groups of workers who were to receive needed hospitalization, but many have now been expanded to include individual employed subscribers and dependent members of subscribers' families. Although the details of administration differ from city to city, most hospitals provide up to twenty-one days of care annually, including the use of a semi-private room, operating and delivery rooms, meals, general nursing, X-ray and laboratory service, and ordinary medications and dressings. Hospitals generally do not accept patients with pulmonary

[1] Figures furnished by the Associated Hospital Service.

[2] New York Times, November 17, 1936.

tuberculosis, venereal disease, quarantinable disease, or mental disorder. Cases provided for under the workmen's compensation laws of the several states are not accepted, and only persons who have been subscribers for at least one year are entitled to obstetrical service.

The rate of insurance ranges from $5.00 to $12 a year for each subscriber, depending upon price levels in the community and extent of the benefits afforded. In many cities a combined rate is offered for a husband and wife which is less than two single subscriptions, and there may be a third rate for husband, wife, and children below a specified age. It should be noted that this form of insurance does not cover the charges of physicians, surgeons, or special duty nurses. The patient is free to select medical and special nursing service, and he must pay for it himself.

ADEQUATE MEDICAL CARE FOR ALL THE PEOPLE

Programs for the reorganization of methods of giving medical care, such as have been reviewed, suggest that the widespread application of some system of group payment might lead to a greatly enlarged demand for service by the middle-class, and might also relieve the health professions from the burden of having to render so much service for which they receive little or no remuneration. It is evident that group payment points either in the direction of voluntary or compulsory insurance. With voluntary insurance the United States has had experience reaching over many years. Aside from plans similar to those that have been previously described which are relatively new, certain in-

dustries have long utilized the principle of group insurance and through it several million employed persons are now receiving medical care. The railroad, mining, and lumber businesses have made the most extensive application of it. About one-third of the Class I railroads have organized insurance schemes for the medical care of their employes. In 1930 over half a million wage-earners engaged in the mining and lumber industries of 21 states were eligible to more or less complete medical care on a fixed, periodic, payment basis.[1] With compulsory insurance the United States has had no experience except for that required under the workmen's compensation laws which now operate in all states except Arkansas and Mississippi. Although workmen's compensation insurance is strictly compulsory in only 12 states, it is virtually so in practically all the others. The extent of this one form of insurance may be seen from statistics showing that some $80,000,000 are paid annually for medical services to injured workmen.[2] With few minor exceptions, premiums are paid by employers rather than by employes, although the workers are the beneficiaries.

For that large segment of the population that could not pay even the moderate group rates necessary to obtain medical service under a plan of voluntary insurance, adequate care would have to be provided, if at all, according to the general consensus of opinion, through governmental

[1] Falk, I. S., Security Against Sickness: A Study of Health Insurance. Doubleday, Doran and Co., New York, 1936, p. 44.
[2] *Ibid.*, p. 43.

subsidies. That the principle of tax-supported health service is already firmly established in this country, can be seen from an examination of nine broad fields in which, as Dr. Michael M. Davis has pointed out, extensive care is now provided through the use of public funds. They are:

1. Public health services rendered through health departments, and so on.
2. General medical care for legally dependent persons.
3. General medical care for the unemployed and their families under emergency relief administrations.
4. General medical care for entire communities in some rural areas through subsidies and subventions to physicians, support of local hospitals, and so on.
5. General medical care for certain non-dependent groups for whom special responsibility is assumed by a governmental agency. These groups include the army, navy, war veterans, Indians, seamen, prisoners, students in some colleges and universities, government employes, and so on.
6. Medical care for persons afflicted with certain diseases or conditions which are "infused with a public interest," such as special provisions for the prevention and cure of diphtheria, early diagnosis and prevention of tuberculosis, care of those suffering from venereal diseases, poliomyelitis, and so on, and special provisions for mothers and children.
7. Public hospitals and clinics for indigents with acute or chronic diseases.
8. Public hospitals and clinics for persons suffering from mental disease or tuberculosis.
9. Tax-supported care for certain patients in non-governmental hospitals and clinics.[1]

[1] Quoted on pp. 47–48 of Security Against Sickness from a manuscript as yet unpublished by Dr. Davis.

The subsidization of such medical care leads in the direction of state medicine. Although the term "state medicine" has been used in various ways, it can perhaps best be defined as a form of medical service which is not only paid for through public funds but actually furnished by public servants and public institutions, just as public education is furnished by teachers employed by the government and paid for from taxes. Not all the medical care provided by the use of tax funds, however, is state medicine. A substantial part of the funds collected is spent in the remuneration of private practitioners, private hospitals, and other institutions. Where this is true, state medicine can be said to exist only in respect to the payment of costs, not in respect to the furnishing of service. Although Dr. Falk estimates that about 15 per cent of all physicians now work for a salary and perhaps one-half of these are employed by public agencies, the actual furnishing of medical service by state employes is not as extensive as the figures might seem to indicate, because many of the salaried physicians in official agencies occupy administrative positions and are not primarily practitioners.[1] It is safe to conclude that the providing of medical service by physicians in the employ of the government is not nearly as great as the paying for service through tax-collected funds.

Although health insurance and state medicine have progressed to considerable lengths in the United States, numerous attempts to enlarge the scope of medical care provided by these means have met with strong resistance.

[1] Security Against Sickness, pp. 49–50.

The following pages review briefly the history of and the philosophy behind such attempts instituted during the last twenty years.

Health Insurance

The first extensive movement for a comprehensive system of compulsory health insurance appeared in 1916. It was a natural and logical sequence to the great success of workmen's compensation during the preceding five years. A small group of experienced social workers, according to the late Dr. Isaac M. Rubinow's account in The Quest for Security,[1] had carefully considered the question of "what next?" and had agreed that the problem of illness was so much more pressing than that of unemployment or old age that they had decided to seek some solution. "Health insurance—the next step in social progress" became their slogan. They initiated their campaign through the American Association for Labor Legislation. The methods were of a traditional character: propaganda, publicity, research, and legislative drafting. Several state commissions were created. The subject was discussed by scores of health, social work, and industrial organizations. The model bill, framed by representatives of medicine, social service, actuarial science, economics, nursing, public health, and specialists in drafting legislation, proposed a compulsory system of health insurance covering all wage-earners with the exception of home and casual workers and salaried employes receiving over $100 a month. A scale of

[1] Henry Holt and Co., New York, 1934, pp. 207–217.

minimum benefits was provided that included medical, surgical, and nursing care, medical and surgical supplies, benefits for lost time, maternity and funeral benefits for the insured. Medical and surgical aid were also included for families of the insured. The cost of this comprehensive program was to be borne jointly by the state, employers, and employes: the state was to contribute 20 per cent and the balance was to be shared equally by employer and employe.

Although bills were introduced in many state legislatures, the health insurance project failed. Its advocates had neglected to take into consideration the class and group interests involved. Large numbers of persons united against such legislation and so completely killed the movement that even agitation ceased for several years. The employer objected strenuously to bearing 40 per cent of the burden, particularly when he was not at all sure that he could shift it to the public through increased prices. Then there was the taxpayer who was opposed to the 20 per cent contribution from the state. The wage-earner rebelled against the plan, even though it had been made for his particular benefit.[1] He declared that he wanted a wage sufficiently high to buy his own medical aid. He did not wish charity, and was worried lest health insurance might carry with it obligatory health examinations and possibly discrimination in employment. Above all, he

[1] In 1935, for the first time, the American Federation of Labor recorded itself in favor of health insurance. At the annual meeting in 1936 it declared emphatically that it would support a movement for such insurance.

objected to having a deduction made from his weekly pay envelope. The insurance companies were antagonistic, for they believed that state health insurance would be detrimental to the extension of commercial business in this field.

Finally, there was opposition from the medical profession as an organized body. This came as something of a surprise, for in 1916 the American Medical Association had not only created a special committee on health insurance and had appointed Dr. Rubinow its executive secretary, but it had made the official statement:[1]

> . . . that the purpose and duties of this committee be understood to be the careful compilation of information in *re* social or health insurance and the relations of physicians thereto: and to do everything in their power to secure such constructions of the proposed laws as will work the most harmonious adjustment of the new sociologic relations between physicians and laymen which will necessarily result therefrom, and that this committee be authorized to carry on its work wherever seems most desirable.

Despite an auspicious beginning and the publication of several reports, the efforts of this committee were fruitless. In 1920 the Association declared its opposition to the institution of any scheme embodying a system of compulsory insurance against sickness. Years later Dr. Rubinow recalled that this group had "aroused such violent protests within the profession that it discontinued before it completed its studies."[1] The majority of physicians were alarmed at the prospect of a system of compulsory health insurance which seemed to threaten "their entire life and their living." They knew little about European types of health insurance, and they were antagonistic to all forms of contract practice in the United States. So great was their disturbance that the administration of the American Medical Association rapidly adjusted itself to what appeared to be the attitude of the profession, and the Journal of the Association has been emphatically opposed to compulsory health insurance ever since. At a special session of the House of Delegates of the American Medical Association held in February, 1935, the national body reaffirmed its opposition to all forms of compulsory health insurance whether administered by the federal government, the governments of the several states, or by any individual industry, community, or other group.

It is little wonder that compulsory health insurance failed when faced by such powerful and well-organized groups. The movement appeared completely dead and remained so until the publication of the survey of the Committee on the Costs of Medical Care. Then the subject began to receive attention once more. Although it was impossible to obtain unanimity of opinion from all members of the Committee responsible for the survey, 30 out of 48 signed their names to what is known as the majority report. Sixteen of the 24 physicians on the Committee were included in the list of signatures. Four

[1] Social Insurance: the Report of the Special Committee of the American Medical Association. Pamphlet no. 2 of the Social Insurance Series issued by the Council on Health and Public Instruction of the American Medical Association, 1916, p. 1.

[1] The Quest for Security, pp. 213–214.

out of the five recommendations in this report dealt with the problem of the delivery of medical service, and one was specifically devoted to insurance and taxation.[1] They read as follows:

The Committee recommends that medical service, both preventive and therapeutic should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

The Committee recommends the extension of all basic public-health services—whether provided by governmental or non-governmental agencies—so that they will be available to the entire population according to its needs. This extension requires primarily increased financial support for official health departments and full-time trained health officers whose tenure is dependent only upon professional and administrative competence.

The Committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, i.e., compensation for wage-loss due to illness, if and when provided, should be separate from medical service.

The Committee recommends that the study, evaluation and co-ordination of medical service be considered important functions for every state and local community, that agencies be

[1] Medical Care for the American People, p. xvi.

formed to exercise these functions, and that the co-ordination of rural with urban services receive special care.

So great was the discussion aroused by these recommendations and subsequent events that in the summer of 1934, the American Medical Association, the American College of Surgeons, and also the American Dental Association adopted articles defining their official positions. The American Medical Association was very cautious in its expression of opinion.[1] It devoted four out of its ten articles to a statement of its conviction that all features of medical service in any method of practice should be under the control of the medical profession. No third party should be permitted to come between the patient and his physician in any medical relation. Patients should have absolute freedom to choose a legally qualified doctor. One item dealing with payment for medical service was ambiguous. "However the cost of medical service may be distributed, the immediate cost should be borne by the patient if able to pay at the time the service is rendered." It was later stated that "immediate cost" should be interpreted to mean that at least part of the medical service should be paid for by the patient at the time the service is rendered.[2] Three other items appeared to indicate that the Association recognized the need for more flexible forms of delivering medical care. They read as follows:

Medical service must have no connection with any cash benefits [for loss of wages through sickness].

[1] Journal of the American Medical Association, June 30, 1934, pp. 2200–2201.

[2] American Medical Association Bulletin, March, 1935, p. 42.

Any form of medical service should include within its scope all qualified physicians of the locality covered by its operation who wish to give service under the conditions established.

Systems for the relief of low-income classes should be limited strictly to those below the "comfort level" standard of incomes.

The day before the American Medical Association presented these articles, the American College of Surgeons delivered a pronouncement of a more explicit nature, in which it affirmed its belief that encouragement should be given to the trial of new methods of practice designed to meet the need for more adequate medical service.[1] Four social groups for whom more facilities should be made available were recognized for immediate study: the indigent, the uneducated and credulous members of the community, those unable to meet the costs of serious illness and hospitalization, and those living in remote districts. The College declared that the periodic prepayment plan for individuals and families in moderate circumstances offers a reasonable expectation of furnishing more effective methods of securing adequate service. It suggested that prepayment plans should be divided into two classes: payment for medical service, and payment for hospitalization. The second should be considered the first project to be undertaken in the average community.

Several of its principles, although applied specifically to health insurance were in accord with the general point of view of the American Medical Association and other

[1] Bulletin of the American College of Surgeons, June, 1934, pp. 3–5.

health organizations. It asserted, for instance, that periodic prepayment plans should be free from the intervention of commercial companies operating for profit. The initiation of schemes for such payment should be under the control of the medical profession, and all organizations participating in this program should assume responsibility for the quality of service rendered.

During the past two years the national associations and several state and county medical societies have engaged in further discussion of health insurance, and some of them have participated in the formulation of plans. The type of insurance advocated has, in almost all instances, been voluntary and not compulsory. The American College of Surgeons and the American Hospital Association, as already noted, are sponsoring hospital insurance. The American Medical Association seems to be moving more and more in the direction of voluntary insurance. At the annual meeting in 1935 the House of Delegates of the American Medical Association offered "its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness. . . ."[1]

The Michigan State Medical Society was the first state organization to work out a comprehensive plan for voluntary health insurance. Its plan was approved in general principle in April, 1934, by the House of Delegates of that Society. Thus action was taken by it shortly before

[1] American Medical Association Bulletin, June, 1935, p. 91.

the national bodies expressed their several official opinions. The Society found that family incomes for the great majority of the population of Michigan were so low even in the prosperous year of 1929 that little margin remained after the absolute essentials of food, shelter, fuel, and clothing had been purchased. As a result, people either postponed medical care until an emergency forced them to seek it, or physicians were obliged to carry an excessive load of free or only partially compensated service. In the light of these facts, a Committee on Medical Economics devised a plan for providing almost complete medical care to families whose incomes did not exceed $1,500 a year at an annual rate of about $28 a person. The Committee proceeded on the assumption that its plan should apply only to industrial workers, and that the cost of insurance should be borne jointly by the employer and employes, or solely by the employer. The Michigan State Medical Society declared, on the strength of this design, that it was ready to supply service "if or when change appears imminent in methods of furnishing medical care according to state-wide or national plans."[1]

The California Medical Association has gone farther than any other state or national body, by recording itself in March, 1935, in favor of compulsory health insurance.[2]

[1] Warnshuis, Frederick C., "Michigan Makes Ready." In Survey Graphic, December, 1934, pp. 614, 639–640. Quotation appears on p. 614.

[2] Ross, Mary, "California Weighs Health Insurance," in Survey Graphic, May, 1935, pp. 213–216; "Two Years to Grow," in Midmonthly Survey, June, 1935, p. 177.

Two surveys led it to take this action. One, devoted to the question of medical services and their cost, had been authorized by the Association, and was made under the direction of a group of economists and sociologists from six colleges and universities in the state. The other study dealt with general economic conditions and health problems throughout the state, and was prepared under the auspices of the State Emergency Relief Administration. Both surveys not only confirmed the data presented earlier by the Committee on the Costs of Medical Care, but showed how much worse the situation had become as a consequence of the depression. The picture of more than half of the families of California living in 1933 on an income of less than $1,200, the entirely inadequate medical care resulting from such an economic situation, and the greatly lowered earnings of physicians were so serious in their implications that the state medical society deemed the need for action urgent.

It held, therefore, a debate of two days in its House of Delegates on the subject of health insurance. The House voted down a motion to accept voluntary health insurance and then passed a resolution, in spite of strong opposition, demanding legislation that would institute compulsory health insurance. It recommended that the system of insurance cover employed persons with incomes of $3,000 and less. This insurance should be mandatory for those working in the larger industrial plants, and voluntary within the same income brackets for agriculture and domestic workers and wage-earners in establishments of less

than three employes. If actuarial studies should prove it feasible, the House recommended that the dependents of wage-earners also be covered by the plan. Contributions should be on the basis of a fixed percentage of income and should be borne by employer and employe jointly.

It also voted that the Association offer its aid and cooperation to the Committee on Health Insurance already active in the Senate of the state legislature. The bill that was subsequently drafted by the Senate Committee and members of the state medical society proposed compulsory insurance for persons below the level of $3,000 income per family, and voluntary insurance for persons above that level. For several weeks it appeared as if the bill might be passed by the legislature. It was caught, however, in a welter of conflicting opinion and amendment and was referred back to the Senate Committee for further study before being reintroduced in the legislative session of 1937. A Committee on Health Insurance was also appointed in the Assembly to study the matter.

A rapidly growing literature on the subject of health insurance has made its appearance in the last few years, and much of it has been concerned with the compulsory aspects of insurance. Dr. Rubinow's The Quest for Security, which has already been mentioned, and Abraham Epstein's Insecurity: A Challenge to America[1] assert the need for compulsory health insurance as part of a broad program of social insurance. The Way of Health Insurance, by Dr. A. M. Simons and Dr. Nathan Sinai, was issued as

[1] Third edition, Random House, New York, 1936.

one of the publications of the American Dental Association in 1932.[1] Further mention of this book will appear later.[2] Within the last year there was published an authoritative study, Security Against Sickness by I. S. Falk, to which references have already been made. The author of this volume surveys the costs of sickness and existing forms of group payment in the United States; he then devotes 240 pages to an examination of the experience of Germany, Great Britain, France, and Denmark in regard to compulsory health insurance; and finally, after drawing conclusions from European systems and from the operation of workmen's compensation insurance in this country, he formulates a list of basic principles for an American plan of group payment.

In addition to the work of these individuals, several groups composed largely of interested laity have examined the question of insurance. The American Association for Labor Legislation and the American Association for Social Security have prepared model laws for compulsory insurance, and are now actively championing state legislation in behalf of such insurance. The staff of the Milbank Memorial Fund investigated widely the subject of compulsory insurance. Early in 1933 studies were initiated as a basis for formulating a plan that might solve the economic problem of the individual's ability to pay for sufficient medical service. Because of certain difficulties that arose no final report was published by the Fund, but the factual material

[1] University of Chicago Press, Chicago.
[2] See p. 189.

recorded in Dr. Falk's Security Against Sickness was taken largely from those studies.[1]

The Committee on Economic Security appointed by President Roosevelt in June, 1934, represents another group who carried on inquiries regarding health which, in the late Mr. Sydenstricker's estimation, were broader in scope than any ever before undertaken by a national body concerned with the formulation of a social security program.[2] In its report to the President in January, 1935, the Committee outlined the studies of its staff and voiced the need both for a great expansion of public health service and for a system of compulsory insurance that would furnish economic security against sickness. Concerning health insurance it presented the following broad principles and general observations which appeared to be fundamental to the design of any sound plan.

1. The fundamental goals of health insurance are: (a) The provision of adequate health and medical services to the insured population and their families; (b) the development of a system whereby people are enabled to budget the costs of wage loss and of medical costs; (c) the assurance of reasonably adequate remuneration to medical practitioners and institutions; (d) the development under professional auspices of new incentives for improvement in the quality of medical services.

2. In the administration of the services the medical profes-

[1] For such details of the Fund's plan for compulsory insurance as elsewhere appeared in print, see John A. Kingsbury's "Adequate Health Service For All," in Proceedings of the National Conference of Social Work, 1934, pp. 304–324, and his article on "Mutualizing Medical Costs," in Survey Graphic, June, 1934, pp. 285–286.

[2] Sydenstricker, Edgar, "Health under the Social Security Act." In Social Service Review, March, 1936, p. 12.

sions should be accorded responsibility for the control of professional personnel and procedures and for the maintenance and improvement of the quality of service; practitioners should have broad freedom to engage in insurance practice, to accept or reject patients, and to choose the procedure of remuneration for their services; insured persons should have freedom to choose their physicians and institutions; and the insurance plan shall recognize the continuance of the private practice of medicine and of the allied professions.

3. Health insurance should exclude commercial or other intermediary agents between the insured population and the professional agencies which serve them.

4. The insurance benefits must be considered in two broad classes: (a) Cash payments in partial replacement of wage-loss due to sickness and for maternity cases, and (b) health and medical services.

5. The administration of cash payments should be designed along the same general lines as for unemployment insurance and, so far as may be practical, should be linked with the administration of unemployment benefits.

6. The administration of health and medical services should be designed on a State-wide basis, under a Federal law of a permissive character. The administrative provisions should be adapted to agricultural and sparsely settled areas as well as to industrial sections, through the use of alternative procedures in raising the funds and furnishing the services.

7. The costs of cash payments to serve in partial replacement of wage loss are estimated as from 1 to 1¼ per cent of pay roll.

8. The cost of health and medical services, under health insurance, for the employed population with family earnings up to $3,000 a year, is not primarily a problem of finding new funds, but of budgeting present expenditures so that each family or worker carries an average risk rather than an uncer-

tain risk. The population to be covered is accustomed to expend, on the average, about 4½ per cent of its income for medical care.

9. Existing health and medical services provided by public funds for certain diseases or for entire populations should be correlated with the services required under the contributory plan of health insurance.

10. Health and medical services for persons without income, now mainly provided by public funds, could be absorbed into a contributory insurance system through the payment by relief or other public agencies of adjusted contributions for these classes.

11. The role of the Federal Government is conceived to be principally (a) to establish minimum standards for health insurance practice, and (b) to provide subsidies, grants, or other financial aids or incentives to States which undertake the development of health insurance systems which meet the Federal standards.[1]

These general conclusions of the staff were submitted to advisory groups representing the medical and dental professions and hospital management with the request that they develop a plan of health insurance before March 1, 1935, that would be beneficial to the public and the professions alike. No plan was made public, however, and the Committee did not submit any recommendation for immediate legislation concerning health insurance. The Social Security Bill, as already said, contained provision for some extension of public health work, but no reference to health insurance appeared in it.

In spite of all that has been written on the subject of

[1] Falk, I. S., Security Against Sickness, pp. 366–367.

compulsory health insurance, the majority of physicians the country over still seem to be opposed to any plan that incorporates mandatory features. They fear that such schemes would reduce them to the status of salaried doctors who would be robbed of their professional prestige, and whose initiative and enthusiasm would be stifled under an inefficient system of bureaucratic state control. Dr. Rubinow expressed the opinion of many students of European systems that the experience of those countries stretching over more than half a century proved such fear unwarranted.[1] He pointed to the fact that there was no one specific way by which medical service had to be furnished under compulsory health insurance. The various systems in existence are evidence of the flexibility of organization. A relatively small proportion of physicians giving service to insured patients, moreover, are employed on a salary basis. Finally, he declared that medical care rendered under a system of compulsory health insurance is almost the direct opposite of state medicine, and hence the plan should appeal to those who object to having medical service controlled by governmental agencies. Dr. Falk has recently asserted, in connection with this last argument: "Health insurance has been a bulwark against the socialization of medical practice because it has financed the private practice of medicine, especially the private practice among the poor and among the people of small means."[2]

Dr. Simons and Dr. Sinai state in The Way of Health

[1] The Quest for Security, pp. 205–206.
[2] Security Against Sickness, p. 286.

Insurance that there is scarcely any significant opposition to the principle of health insurance in those countries where it now exists.[1] This statement is particularly important because American physicians have often interpreted the many criticisms of particular details of operation as criticisms of the entire system. Although constant efforts are being made to change items in the various plans now operating in European countries, no agitation exists for the repeal of the system as a whole and no suggestion to return to the conditions of pre-insurance days in any of those countries. Dr. G. C. Anderson, medical secretary of the British Medical Association, is reported to have said that most English physicians are eager to have their names placed on the panel of doctors to whom insured patients are referred.[2] The British Medical Association has not only reiterated frequently its belief that the benefits resulting from health insurance have been sufficient to warrant its continuance and improvement, but that the system should be extended to include all dependents of insured workers. There is almost unanimous agreement in England among those who have examined the question that the insured receive better medical care than they did before the plan was put into operation. There is wide variation in professional incomes under insurance; but they average at least as high as, and probably somewhat higher than, they previously did in private practice among the working classes. There is no loss by bad debts; there

[1] Pp. vii–viii, 204–209.
[2] Detroit News, September 29, 1934.

is a much larger sum of money expended for the work of physicians and dentists; there is less idle professional time.

Dr. Simons and Dr. Sinai maintain that every European attempt to apply the principles of voluntary insurance on a large scale has proved to be only a longer or shorter bridge on the way to a compulsory system. They are of the opinion that a "voluntary" system is successful only to the extent that it contains compulsory features. Voluntary systems are of interest primarily because they set the pattern for future compulsory legislation. Many of the least desirable features of compulsory schemes have been inherited from previous voluntary ones.

Dr. Falk adds further witness to the efficacy of compulsory health insurance by stating that one of the characteristics which attests most unequivocally to its beneficent function is that no country which has ever tried it has given it up. "The march of events has always been from voluntary insurance of narrow scope, small contributions and meager benefits to compulsory insurance of more embracing scope, larger contributions and more generous benefits. The enlarging programs have had a sound economic basis because the increasing costs have been voted by representatives of those who make the contributions."[1]

State Medicine

Besides the movement toward voluntary insurance and a growing interest in compulsory health insurance in the United States, there is a definite trend toward more state

[1] Security Against Sickness, p. 288.

medicine. According to the estimate of the Committee on the Costs of Medical Care, 14 per cent of the costs of health and medical services in the United States in 1929 were financed by taxation.[1] An address delivered by Dr. Thomas Parran, Jr.,[2] in 1935 furnishes significant evidence of the recent rapid growth of state medicine. In speaking of New York State alone Dr. Parran declared that during the last fifteen years the annual budget of the State Department of Health had grown from less than $1,000,000 to more than $4,000,000. All municipalities in New York now expend about $18,000,000 annually for the conservation of health, $8,000,000 of which is for the control of tuberculosis. The state budget for mental hygiene increased from $13,000,000 in 1920 to $30,000,000 in 1934, and in 1931 more than $22,000,000 was spent in the construction of mental hospitals. Twenty million dollars were paid from public funds in 1934 for the treatment of patients in general hospitals, and about $10,000,000 for treatment in special hospitals. Public expenditures for hospitalization, even excluding the hospitalization of the mentally ill, exceeded the amounts paid by patients in the ratio of three to two. Less than one-half of the 871,000 patients in general hospitals in 1934 were listed as paying patients. Considered on the basis of the number of days of care, the proportion of private patients was even smaller because of the excess of chronic and long-continued illness

[1] The Costs of Medical Care, p. 8.
[2] "Public Responsibility for Public and Personal Health." In Bulletin of the New York Academy of Medicine, September, 1935, pp. 533–549.

among patients hospitalized at public cost. In addition to these expenditures, over $2,000,000 were utilized in New York State in 1934 for giving persons on relief rolls medical care in their homes.

Altogether the governmental units of New York State are now paying annually from public taxes about $85,000,000, or more than $6.50 per capita, for the prevention of disease and care of the ill. This represents roughly 25 per cent of all expenditures for physicians, hospitals, dentists, nurses, drugs, and so on. Large as is the governmental share of the total bill for health, however, it seems small when compared with the $109,000,000 of tax funds allocated in 1934 to the protection of persons and property, and the $239,000,000 to education. It represents only about 7 per cent of all the expenditures of that year for various services rendered by the state and local government.[1]

It is obvious from such figures as the above that the financing of medical service by the government is an accomplished fact in many sectors of medical practice. In spite of protests against state medicine as a principle, there is no real issue as to the public obligation for the prevention of certain diseases and the furnishing of necessary medical service to all indigent persons. The public is already paying, moreover, and will probably continue to pay for a large part of the cost of catastrophic illness among the marginal economic groups.

[1] Annual Report of State Tax Commission, 1934, Legislative Document (1935) no. 11, pp. 78–79.

Although the issue is blurred and indistinct in the minds of many physicians and laity alike, it seems to be rooted, not in the validity of the concept of medicine subsidized by the state for the above-mentioned groups, but in the extension of such medicine to that part of the population which cannot pay for enough medical service under the more customary circumstances, and which cannot possibly meet the financial burden of serious and prolonged illness without a drastic reduction in an already insufficiently high standard of living. Medical care provided by the state was long viewed as charity which was degrading to the recipient and an unwarranted burden upon the taxpayer. This concept, however, is now considered unrealistic and outworn both to those who are proponents of the idea that service paid for through taxation should be extended to all low-income groups, and to those who believe that practically all medical service should not only be paid for by the state but supplied by physicians publicly employed. They believe it illogical that the government should provide such tax-supported services as military, naval, and police protection, compulsory public education, garbage and sewage disposal, roads, and so on, but should fail to make more adequate provision for a service as essential to the welfare of the nation as medical care. It likewise seems inconsistent to them that the professions which furnish health services should be expected to bear so heavy a burden of care for which there is little or no remuneration. Although they admit that health insurance would do much to alleviate the seriousness of the present situa-

tion for certain groups in the population, they feel that insurance, even when partially borne by the employer and the state, is comparable to a system of taxation imposed upon the insured. And the insured in this case would be the very group least able to pay for it.

These persons, then, believe that the extension of health services must come through the greater utilization of facilities supported by a system of graded taxation. They disagree, however, as to the relative amounts of state medicine that should be provided. Dr. Parran, in his address already mentioned, adopted a point of view that would be acceptable to many: that private and public service should exist side by side.[1] All of the more favorably situated should purchase their own medical care individually. Even among the low-income group not all service would need to be given by the state. Many persons could probably make provision for illnesses of short duration. Tax-supported service should be extended, in Dr. Parran's estimation, to include facilities for accurate diagnosis, obstetrical care, hospital care, home nursing, and the treatment of chronic diseases among the many millions of persons who are now unable to purchase such services privately. Competent and adequate service should be readily available and should have none of the stigma that has long been associated with the acceptance of charity.

Although the proponents of this type of plan advocate only an enlargement of present public services and no

[1] "Public Responsibility for Public and Personal Health." In Bulletin of the New York Academy of Medicine, September, 1935, pp. 544–548.

fundamental change in the method whereby private medicine is delivered, many physicians declare themselves opposed to it. They insist that any such a step would open the door to still further extension of state medicine, and that it would set up unfair competition with the service the private physician renders. Since the income-group cared for by the state would be the very one from which the general practitioner now receives little or no pay, Dr. Parran believes that the doctor would actually benefit from the adoption of such a plan as he outlined. Under a tax-supported system of medical care for those in the low-income brackets, physicians would not be expected to serve in dispensaries, clinics, and on the staffs of hospitals without remuneration. Many more doctors, moreover, would be necessary to furnish an enlarged service. In an integrated program of public health, public medical service, and private practice, therefore, Dr. Parran maintains that the physician would retain everything now satisfactory to himself and his patient; he would be aided by public accessories to practice; and there would be no disruption in the physician-patient relationship for the large sector of practice in the home and the doctor's office. The poor would profit greatly from such a program since it would provide care freely for catastrophic and expensive sicknesses. It would remove the major economic hazards of illness; it would reduce present high disease and death rates resulting from important preventable causes; and it would advance the public health to a significant degree.

Although the adoption of such a plan would represent

a decided increase in the amount of medical care delivered by the state, there is one group to whom such an extension of service seems inadequate. It believes that *all* health service needful for the American people should be financed by taxation, and that the great majority of those who render the service should be paid by the government.[1] Thus, not only physicians, but nurses, dentists, druggists, laboratory technicians, hospital personnel, and so on, would be in the employ of the state. According to this point of view, there should be a system of public medicine comparable to the present system of public education. All persons who pay taxes would contribute to it, and service both in therapy and prevention would be provided all who cared to use the system. Those persons in the high-income brackets who preferred to consult private practitioners would be free to do so, but would not be exempt from taxation for public medicine. Thus private medical practice would hold a position similar to that of private education in the United States, and would be subject to much the same kind of regulation concerning the maintenance of standards as are private schools.

The Medical League for Socialized Medicine, of which Dr. Joseph Slavit is chairman and which has its headquarters in Brooklyn, New York, is an exponent of this idea of a complete system of state medicine. The League is dissatisfied with the existing form of medical service which it finds inadequate in quantity, often poor in qual-

[1] Harris, Louis I., "The Doctor Looks at Health Insurance." In Social Security in the United States, 1935. Published by the American Association for Social Security, Inc., New York, 1935. pp. 44–56.

ity, and deficient in the field of prevention. It deplores the unfortunate economic situation of a large majority of physicians who have suffered not only from the financial depression of recent years, but from the continuation of the competitive system of private practice. It sees no great hope of widespread improvement even under compulsory health insurance. Care given under such insurance, it maintains, would reach only industrial workers and would fail to aid the self-employed, the unemployed, and farmers. The League further declares that an insurance program would leave the competitive system of medicine undisturbed, and the result would be continued insecurity for the doctor.

In October, 1933, this group adopted a ten-point platform setting forth its philosophy, and through the medium of its organization it is now working for the furtherance of that philosophy. Dr. Slavit has summarized in the following words the insistence of the League that the only far-reaching solution of an urgent problem is state-medicine which:

> . . . provides medical care for all, without fees or premiums, and free of the stigma of medical charity, of the cold-cash ideology of actuarial insurance, and of the blighting economic obstacles and influences that enter the patient-physician relationship. It urges equitable taxation instead of a new costly and cumbersome machinery for levying and collecting contributions. It disregards class, income or other limitations that exclude any who may need medical care. Burdensome overhead and duplication of private offices and equipment are eliminated and professional income and work are assured on a

> salaried public-official basis. Planned co-operative scientific practice and medical care replace the chaos, competition and even commercialism that undermine medicine to-day.[1]

CONCLUSION

As we review the evolution of medicine in the light of the facts presented in this small volume, it is apparent that the problem of the nineteenth century was one of devising means whereby physicians might be more adequately trained and the medical sciences be developed to the point where they would provide a sound foundation on which the practice of medicine could be built. The degree of success with which this dual problem has been solved is little short of phenomenal. In 1892 Dr. William Osler remarked that the concept of laissez-faire had been carried to such limits that it had resulted in the "unrestricted manufacture of doctors, quite regardless of qualifications usually thought necessary in civilized communities."[2] So greatly has medical education been improved since that time that it now occupies a position probably second to none in the world. Progress in the medical sciences has been equally marked. Dr. Michael M. Davis has summarized their rapid development between 1860 and 1935 as follows:

> In no branch of human interest have more striking accretions been made of new knowledge and new technologies than

[1] Slavit, Joseph, "The Challenge of Socialized Medicine." In Survey Graphic, December, 1934, p. 636.

[2] Teacher and Student. Address delivered at the University of Minnesota, October 4, 1892. Pamphlet published by John Murphy and Co., Baltimore, 1892, pp. 5–6.

in the medical sciences and the immediately associated arts of medical service. This is the period wherein new sciences, such as bacteriology and biochemistry, have been created; wherein new scientific and technical knowledge has combined to make modern surgery possible; wherein the knowledge of the cause and method of spread of certain diseases, such as cholera and typhus, . . . have endowed society with the power to control or to prevent them; wherein a physicist's discovery of the X-ray has placed at the disposal of medicine a hitherto undreamed-of tool for the understanding and treatment of bodily ills; wherein hospitals and clinics existing sixty years ago in only a few cities, and there only for the poor, have spread throughout the country in a magnitude equivalent to the educational system in capital investment and annual expenditure, and have come to be utilized by all social classes; and wherein sciences of the mind have been established, now beginning to reveal transforming secrets of human personality and behavior.[1]

If the problem of the nineteenth century was that of the initiation of better medical schools and of concentration upon the basic sciences, the problem of the twentieth century is that of devising ways and means whereby adequate care can be provided for the entire population and physicians compensated fairly for the service rendered. This is primarily an economic problem, in which both physicians and society are involved, for both have much at stake. It matters little how excellent professional preparation may be, if the physician finds himself unable to render adequate care because of the persistence of outworn

[1] "Social Planning and the Medical Sciences." In Publication of the American Sociological Society, August, 1935, p. 70.

methods of delivering service or because of the inability of patients to pay for needed attention. From the point of view of society, it makes slight difference how many physicians there may be, if large parts of the population have not been taught to consult them and if plans have not been put into operation whereby the cost for those persons in the low-income groups can be so financed that they may have sufficient medical care.

Various experiments, such as those in the field of voluntary health insurance that have already been recorded, look toward a partial solution of a pressing need. Studies of compulsory health insurance and extension of state-supported medical services point to other ways of making care more widely available. It is evident that thinking has shifted in the direction of the needs of the masses, and the demands of society become increasingly more exigent. Regardless of the attitude of those physicians and medical societies who would preserve the status quo, there are a great many individual physicians, members of the health services, and lay persons concerned with questions of health who believe that change is imminent, and that only through change can there be progress.

That serious difficulties confront those who seek to devise means for extending medical care to the entire population while still preserving all that is best in medicine cannot be denied. They find the development of a cooperative and concentrated attack by persons capable of furnishing assistance slow to achieve, and they encounter numerous handicaps because the problem is interwoven

with many of the larger economic aspects of our national life. But the importance of finding a solution is commensurate with the difficulty involved. The challenge that confronts them has been well described by Dr. Sigerist who insists that American medicine stands at the crossroads. By unremittingly purposeful effort it has equipped itself with hospitals, laboratories, schools, and well-trained physicians. At present it is faced with the greatest task of all, that of putting this artfully fashioned apparatus to work in such a way that all people may receive medical care. "It is an enormous problem, requiring a great deal of courage; for it is a question of treading on new ground, of going along untried paths. A new frontier has been opened, and calls for another generation of pioneers."[1]

[1] American Medicine, p. 192.