

THE COSTS OF MEDICAL CARE

A Summary of Investigations on
The Economic Aspects of the Prevention
and Care of Illness

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CHAPTER XXXIV

A SUMMARY OF THE FINDINGS

In the large volume of data presented in the preceding chapters certain facts are of basic significance and are especially germane to the conclusions which flow from this study as a whole. The present chapter attempts to focus attention upon the most significant findings which permit of quantitative interpretation; Chapter XXXV, which follows, briefly reviews present-day trends, developments, and experiments in the economic organization of medical service; and Chapter XXXVI presents a crystallization of the authors' main conclusions and an outline of a program for remedial action.

THE NATIONAL BILL FOR MEDICAL CARE

For the year 1929 the total national medical bill (see Table 1) was \$3,656,000,000, representing an annual expenditure of \$30.08 per person, or about \$123 per family. Approximately 2.9 billions of dollars, 79 per cent of the total, was paid by individual patients or their families through the medium of fees or other direct expenditures for medical service. Somewhat more than \$509,000,000, or 14 per cent of the total, was met through taxation. Approximately \$182,000,000, or 5 per cent, was provided through voluntary contributions and donations, more than one-half of which was destined for new buildings and equipment rather than for the current expenses of providing medical service. The owners of industrial enterprises contribute annually \$79,000,000-2 per cent of the total cost of medical care-by the payment of fees to individual medical practitioners or through expenditures to hospitals in which industrial accidents and occupational diseases are treated.

The Composition of the National Medical Bill.-The 79 per cent of the cost of medical care which is paid by individual patients or families is not distributed equally among the entire population. It comes not from the 123 million potential patients in the United States, but from the 60 per cent who receive some medical care; and it comes very unequally from those who in a typical year make expenditures for medical ser-

vices. It is this uneven incidence of the cost of illness for the individual and his family which is largely responsible for the public criticism of the costs of medical care. Similarly, the receipt of income by medical practitioners and institutions is very uneven and often uncertain and inequitable.

Taxation for medical care is seldom singled out for special criticism, except as part of general objection to the magnitude of taxation. Voluntary contributions may be discontinued when the contributor loses interest in a particular project or finds it inconvenient to continue his payments. Owners of industrial enterprises consider provision of medical care necessary in the maintenance of an effective working force. But the patient is never reconciled to the expenditures he must personally make for the compulsory and unpredictable costs of sickness.

It may be useful to recall the types of expenditure which have been the targets for the major criticisms directed against medical costs. The largest single class of expenditures made by patients consists of payments to physicians in private practice—\$1,090,000,000, or nearly \$9 per capita. About one-half the people of the country consult doctors each year. The payments to physicians are only 36 per cent of the total expenditures made by individuals and families, but the frequency of contact with the medical practitioner has undoubtedly served to identify the medical bill as the doctor's bill in the public mind.

The total annual expenditure for dentistry is \$445,000,000, equivalent to \$3.66 per person in the United States. Public complaint against the cost of this service will not be understood unless it is realized that only one person in five receives any dental service in a typical year and that the dental patient spends, on the average, \$18 per annum. For vast numbers of persons the cost of dentistry appears to be a serious financial burden and far larger numbers find the cost an effective barrier between the need and the purchase of dental care.

Another large item in the patients' bill is that for hospital care, approximating \$278,000,000 annually for all who are served in hospitals. Although patients' fees for hospital care are only 42 per cent of the total operating costs of hospitals and are only 25 per cent of the amount paid to private physi-

cians in an average year, the hospital has been a storm center for general criticism of the costs of medical service. The explanation lies in the fact that this fraction of the total hospital bill is for services rendered to a relatively small proportion of the population (about 4 per cent). Approximately 5,000,000 paying patients are admitted to the hospitals in the United States each year and each one incurs an average charge of \$55, not including physicians' or nurses' fees.

Although the expenditures for drugs represent two-thirds of a billion dollars-annually and exceed the payments to dentists and nurses combined, they have not given rise to widespread public complaint. The public buys its medicine as merchandise rather than as medical service, postponing purchase when money is not readily available for this purpose, and making payments complacently and in small amounts during periods when earnings are not interrupted by sickness or unemployment.

The annual bill for all medical care is but 4 per cent of the estimated national income for the year 1929. It is difficult to believe that this is an undue burden for the people of the United States *as a whole*. Compare the 3.66 billions spent for medical care with the amount (nearly 15 billions) spent for commodities other than food, shelter, or clothing-that is, for entertainment, chewing gum, candy, cosmetics, and similar items. Clearly the resources of the country as a whole are not strained by the necessity of paying for medical care of the quality, kind, and amount now being received, if the reasonableness of the entire national bill is to be judged by the total resources of the people of the United States.

If necessary or desirable, even larger annual expenditures could be made. In addition to the three and two-thirds billion dollars spent annually for the services of medical practitioners and institutions and for medical commodities, there is an additional estimated cost of more than six billion dollars represented by the money value of preventable deaths and by the wage losses due to sickness.

PERSONNEL ENGAGED IN THE PRACTICE OF MEDICINE

In a typical year of modern times, nearly 1,100,000 persons devote part or all of their working time to provide medi-

cal care for the people of the United States and earn their livelihood thereby. The total number is about equally divided between those who serve for fees from individuals or families, and those who are engaged by medical institutions such as hospitals, public health agencies, or clinics. There are 550,000 independent practitioners, of whom 121,000 are physicians; 57,000 are dentists; approximately 118,000 are graduate nurses and 150,000 are practical nurses; secondary or sectarian healers, midwives, chiropodists, optometrists, osteopaths, chiropractors, naturopaths or similar groups, and faith healers are approximately 110,000 in number. The institutions of the United States - hospitals, clinics, public health agencies, and drug stores - employ approximately 530,000 physicians, dentists, nurses, pharmacists, social service workers, medical technicians, and lay employees.

Medical care is an esoteric economic commodity concerning which the buyer has no basis for critical judgment of quality or value. The patient does not know whether he should purchase a particular type of medical service and is frequently unable to determine whether or not the medical service has been satisfactory after its receipt. The physician, therefore, is judge both of the patient's need for the service which he has to offer, as well as of the time and conditions under which it shall be purchased. Moreover, inasmuch as medical care involves life or death (or at least the risk of death), the patient frequently believes that only one individual practitioner holds the commodity which he needs. It therefore seems impossible to search for another purveyor of medical service, as he would do if the forces of economic supply and demand operated in medicine as in the majority of business transactions. The conditions surrounding the delivery of medical care are therefore unique and are unlike those which characterize ordinary economic phenomena, because there is but one buyer and one seller and because the commodity itself is of priceless value if received.

Traditionally and inherently medical care is a personal service rendered by a professional person to an ailing or to a potential patient. Economic efficiency cannot change medical care in this respect. The patient is ultimately and inevitably the personal recipient of medical service, and he derives benefit

from the medical service in proportion to the degree to which his particular medical needs are met. Just as medical service has been regarded as a personal affair, the payment for medical service has also been considered a personal obligation. Community responsibility has been accepted only in those cases where the nature of the illness involves danger to other persons or requires isolation, or where it entails long periods of treatment which cannot ordinarily be financed by the individual or his family, or where a patient is an avowed indigent and is unable to pay for medical care from his own resources. The personal nature of medical service has been the cornerstone for the evolution of present-day medicine. Each patient has exercised his right to engage a practitioner who suited his real or supposed needs, without regard to the wishes of other members of the community or the profession. Increasingly, however, this scheme of things has developed incongruities. Especially for economic reasons, the advancing perfection of medical science and art have carried medical care out of the reach of millions of families. Their voices raised in protest have made imperative an understanding of the problems and a search for practical solutions. During many centuries the economic structure within which the system of medical service has operated has reflected the views of the times. Society has been changing rapidly in the last few decades; but adjustments between the need for medical care and its effective provision have not kept pace. The newer architecture of society calls for changes in the temple of Aesculapius.

ILLNESS AND THE NEED FOR MEDICAL CARE

Studies of the incidence of illness and the corresponding need for preventive, diagnostic, and therapeutic medical service indicate that in a large population unit, the volume of medical care required is substantially constant in a given period of time. Whereas variations occur among individuals depending upon age, sex, occupation, or race, season of the year, and geographical location - for the United States as a whole, or for large unselected segments of its population, the frequency of illness and the need for medical care are normally predictable.

The fact that several severe illnesses among the members of one family are offset by apparent health and no recognized need for medical care in another, does not solve the problem of medical costs for the family which must find a way to pay its medical expenses. The economic problems of medical care must be interpreted in terms of the experience of families and of individuals rather than in terms of population groups so large as to conceal all individual differences.

Variations in Frequency of Illness. - The average frequency of illness is slightly less than one per person per year. This does not mean that each individual is sick once every twelve months or thirteen months, for nearly one-half of the people surveyed (47.5 per cent) report no illness whatsoever, and 2 per cent have four or more non-consecutive attacks of illness or of recognized need for medical care. The actual distribution of illness is found to be as follows:

Number of Illnesses During Twelve Consecutive Months	Percent of Persons Having the Specified Number of Illnesses (All Causes)
0.....	47.5
1.....	32.1
2.....	13.5
3.....	4.7
4.....	1.5
5 and over	0.7

There is also considerable variation with age in the proportions of individuals who are sick during the year. Among children under 5 years of age approximately 68 per cent are ill once or more, and only 32 per cent escape an attack of illness during the year. In the healthy ages from 15 to 19 years, the proportions are almost reversed, for 41 per cent report illness and 59 per cent report no illness during the year. Among persons 65 years of age and over, 60 per cent have one or more illnesses and 40 per cent report no illness during a twelve-month period.

A tabulation of the number of recorded illnesses per 1,000 persons reveals no great differences among persons in families with various incomes; 805 illnesses are recorded for each 1,000 persons in families with from \$1,200 to \$2,000 income, 880 for those with incomes of \$3,000 to \$5,000, and 1,111 for those with more than \$10,000. There is more *recognized* illness in the higher than in the lower income classes; it is uncertain

whether there is really more illness. The difference between the recorded rates for the lowest and highest economic classes is of the order of 1 to 1.4. And this, as we shall see, is of itself entirely insufficient to explain differences in the receipt of care or in the costs.

Considering families of all sizes and all incomes, at one extreme 8 per cent have no illness; but at the other extreme 7 per cent have nine or more illnesses during the year. Of the families with only two persons, 18 per cent experience no illness during the year, 4 per cent have six or more illnesses, and only 0.4 per cent suffer nine or more. Most of these small families may be able to meet their burden of sickness without undue financial inconvenience. Among the unusually large families with eight or more persons each, there are 39 per cent (nearly two-fifths) which have six or more illnesses, and 15 per cent have nine or more illnesses during the twelve-month period. For them the financial burden of sickness and medical care must be enormous.

The percentages quoted above for families of all incomes give a fair picture of the situation in each income level—except that among the very large families with the higher income, a larger percentage reports many illnesses. The problem raised by nine or more illnesses in a family with a total income of less than \$1,200 is vastly more serious than in the family with an income of \$5,000 or more. More than one-fifth of the families with incomes of less than \$1,200 have six or more illnesses per year, and 7 per cent of them have nine or more. In the same income group, 17 per cent of the families with eight or more persons have nine or more illnesses during the year. This situation as a whole may be presumed to occur year after year, although each family does not necessarily repeat its sickness experience one year after another. The data merely tell us that every year an appreciable proportion of all families has a very large burden of sickness. For a thousand families the incidence of illness may be predictable; but for the individual family it is uncertain.

Sickness surveys show that certain proportions of the population experience a year of life without illness. Indeed, the age curve for persons without illness is sometimes designated the "age curve of good health." But with records of physical

defects and impairments before us, it seems more probable that this age curve is a composite of the "age curve of good health" and the "age curve of neglected disease." Health is a relative term; yet it is probable that very few persons experience a whole year of good health. It seems more likely from the data presented in earlier pages that the need for some medical care each year is practically universal.

The Causes of Illnesses. - Considering all population classes combined, 844.5 illnesses per year occur among each 1,000 persons. Of these illnesses 434.4, or nearly one-half, compel the patient to remain in bed for one or more days, and 60.1, or 7 per cent of the total, are hospitalized for one full day or more.

Among the illnesses which cause the patient to go to bed, the so-called minor respiratory diseases, contrary to what might be inferred from the designation, constitute a larger proportion among the total bed cases (40.2 per cent) than among all illnesses - disabling and non-disabling - and together with the digestive disturbances (7.0 per cent), and confinements (5.4 per cent), make up more than one-half of all bed cases. Other important illnesses which receive bed care are accidents, measles, tonsil and adenoid operations, and ear and mastoid diseases.

Examination of the important items among hospital cases suggests that hospitalization of illness is determined not so much by the severity of the disease as by the nature of the medical need, particularly with respect to conditions which require surgical operations. The most frequent hospital cases are those which are admitted for tonsil and adenoid operations (25.6 per cent of the total). Together with confinements (15.0 per cent), accidents (11.1 per cent), and appendicitis (7.8 per cent), these constitute nearly 60 per cent of the total number of hospitalized cases. It will be noted that all four of these conditions always or commonly involve surgical operations. Of all hospital cases recorded in the Committee's study, 60 per cent are surgical, even when abortions and normal confinements are not counted as surgical cases. Considering the other frequent diagnostic groups among the hospital cases (see Fig. 14), diseases of the female genital organs, ear and mastoid conditions, and hernia all usually involve surgery.

Although the most frequent causes of morbidity are not necessarily the principal causes of death, many types of illness which do not appear in mortality statistics may - and frequently do - act as contributory causes of death.

Any consideration of the ills which medical care is designed to serve must take into account not only the frequency of illness of various types, but also the severity of each. It is not sufficient that the principal causes of illness are served by physicians, hospitals, and other medical agencies; if medical care is to be wisely and efficiently utilized it must be provided according to the most important, and not merely according to the total or the most frequent, need.

THE MEDICAL CARE RECEIVED

According to the Committee's survey of 9,000 families residing in 18 states, in the course of a year 86 per cent of the families receive the services of a physician, surgeon, or other specialist; 21 per cent have one or more surgical cases; 20 per cent have at least one hospital case; and 17 per cent have some nursing care.* About one-half (51 per cent) of the families have some dental care (including prophylaxis) in the course of a year, and 13 per cent have a case of eye refraction or buy eye-glasses on an old prescription. Nearly every family (97 per cent) buys medicines.

Illness rates are not markedly different among families in different income levels; but the amount of medical care received varies considerably with economic circumstance. Regardless of income level, nearly all the families make some purchase of drugs and medicines each year. The proportion of families which consult a physician shows a consistent rise with income and the proportion of families receiving surgery and hospital care in the highest income group is twice that in the lowest. Most of the nursing for the lower income groups is free service. Private nursing care is more than seven times more frequent in families with incomes of \$10,000 than in families with \$1,200 or less. Similarly, with respect to dentistry and refractions wide differences appear in the proportion of families

* A considerable proportion of these receive only free visiting nursing ; only 9 per cent of the families have nursing service other than, or in addition to, that provided by free visiting nurses.

of various income levels which receive such services. For example, only 43 per cent of the families with incomes of \$1,200 to \$2,000 receive some dental care, whereas 80 per cent of the families with annual incomes of \$5,000 to \$10,000 consult dentists.*

When the medical care received by individuals rather than by families is studied, very different ratios are found to exist, since a family is considered as having medical care if any member receives such care. For example, although 86 per cent of all the families have the service of a physician during the year, only about one-half (48 per cent) of the individuals consult physicians. Similarly, whereas about one-half of the families have some dental care, only 21 per cent of the individuals visit the dentist during the course of the year. Only 1 person in 17 (as contrasted with 1 family in 5) has hospital care, and only 1 person in 26 has eye care (as against 13 per cent of the families).

Individuals in well-to-do families receive more than twice as many office consultations and treatments from physicians as do those in families with incomes of \$2,000 or less, even when calls at "free clinics" are included in the calculations. An average of 21 per cent of individuals receive some dental care during the year, with ratios of 10 per cent for those in families with incomes under \$1,200; 16 per cent in the \$1,200 to \$2,000 group; 41 per cent in the \$5,000 to \$10,000 group; and 60 per cent in the class over \$10,000.

For all income groups combined, slightly less than one day (0.94) is spent in the hospital per person. The number of hospital days per person is approximately the same in the highest and in the lowest income levels, with fewer hospital days per person in the intermediate classes.

Health and check-up examinations amounted to 65 per 1,000 persons during the year of the study, exclusive of well-baby care which really constitutes a check-up examination for infants. Including well-baby care, there are 82 examinations per 1,000 persons, and the rate per 1,000 increases from 68 among families with \$1,200 to \$2,000 to 234 among those with \$10,000 and more. Immunizations equal 59 per 1,000 persons. The receipt of medical care goes hand in hand with the recog-

*Data for families in communities of 5,000 to 100,000 populations are used as examples here.

nition of its need; but recognition of need is correlated with economic level and is lower for the poor than for the rich.

Is the present amount of illness necessary? Are the medical personnel and facilities of the United States utilized efficiently in the prevention and care of illness? Are the potentialities of medical science and medical art effectively applied to the economic benefit of the individual, of the community, and of the nation ?

AN APPRAISAL OF CARE RECEIVED

The medical care actually received by the people measures only the current effective demand in the purchase of medical service. It is, for many reasons, less than the true need. Ignorance, apathy, and cost are chiefly responsible for the fact that effective demand is on a lower level than true need.

To appraise with some precision the adequacy of the medical care which people receive, the data accumulated in the Committee's survey of nearly 9,000 families have been compared with standards formulated in a study of the fundamentals of good medical care. Such comparisons reveal that, taken by and large, neither the rich nor the poor receive medical care in the home, in the physician's office, or in the hospital as often or as extensively as their true needs and the dictates of sound medical procedure warrant. The significance of the economic barrier between the true need and the current receipt of medical care is especially evidenced by the finding that far greater inadequacies obtain for those of small than for those of large means. Just as some people go hungry though the country produces more food than the people can consume; many are inadequately clothed though we manufacture more clothing than we can use; even so millions are sick, hundreds of thousands suffer pain and anguish, and tens of thousands die prematurely for lack of medical care which available personnel and facilities could supply. The tragedy concealed in this conclusion is the more poignant because medical practitioners and institutions are used to only part of their capacity-not because their services are not needed, nor because they are unwilling to serve.

If the people of the United States were to receive medical service in kinds and amounts according to the dictates of ade-

quate medical care, more practitioners and facilities than are now available would be required. Table 71 gives a summary of the present numbers and types of personnel and hospital accommodations, together with estimates of the numbers requisite for the needs of the American people under the present system of medical organization. A program of adequate care calls for more physicians, more dentists and dental assistants, more public health nurses, more private duty nurses, more

TABLE 71
PERSONNEL AND FACILITIES AVAILABLE AND ESTIMATED
AS REQUIRED IN THE UNITED STATES IN 1930

Personnel and Facilities	Per 100,000 Population		For United States	
	Number In 1930	Estimated Number Needed	Number In 1930	Estimated Number Needed
Physician.....	126	142	144,000	173,848
Dentists.....	(1928) 56	179(a) 99(b)	68,000	219,444(a) 121,081(b)
Public health and visiting Nurses(c).....	16	44	18,800	54,032
Home and hospital nurses (d)	99	176	118,000	216,128(c)
Hospital beds:				
General (e).....	328(f)	462(g)	452,010(f)	566,833(c)
Mental.....	350(f)	558(h)	437,919(f)	685,740(h)
Tuberculosis.....	52(f)	138(h)	65,940(f)	169,427(h)
Total hospital beds.....	730(f)	1,158	955,869(f)	1,422,000

- (a) Calculated on the assumption that dentists work without technical assistants.
- (b) Based on the assumption that X-ray and laboratory technicians and dental hygienists perform all but chair work. The total number of these submit persons required would be 109,907.
- (c) Including industrial nurses.
- (d) Staff nurses in hospitals and sanatoria are included in this count.
- (e) Includes in addition to general hospitals, maternity; industrial; convalescent and rest; isolation; children's; eye, ear, nose, and throat; orthopedic; skin and cancer; hospital departments of institutions; and all other hospitals, exclusive of nervous and mental and tuberculosis.
- (f) Compiled from the American Medical Association Hospital Register, 1931.
- (g) Assuming an occupancy of 300 days a year.
- (h) Assuming an occupancy of 340 days a year.

hospital beds. But until the public is educated to recognize the need for - and the value of - medical care, until the population is more generally able to pay for these services, increasing personnel and facilities would merely increase the present degree of unemployment among physicians, dentists, and nurses and would increase the number of unoccupied hospital beds. Administrative and economic problems must first be solved before the receipt of medical care can be commensurate with the true needs of the people.

THE UNEVEN BURDEN OF MEDICAL COSTS

If the nation's bill for medical care were equally distributed among the people of this country, the annual charge would be \$123 per family. If the direct family expenditures only were equally distributed, each white family of two and more persons would have annual charges of \$108. But the costs are not distributed uniformly. The burden of medical costs falls very unevenly in any one year; most families bear expenses of small magnitude, some incur medical obligations which strain their budgets, and others are loaded with costs which spell financial ruin if the family is not aided by the collective resources of the community.

The uneven burden of medical costs may be illustrated by the charges incurred by representative families. About 58 per cent of the families in a general, white, population group have annual charges of less than \$60 (see Table 29), and this fraction incurs only 18 per cent of the total medical bill for all families. About 32 per cent of the families have charges of \$60 to \$250, and the sum of their charges is 41 per cent of the total bill. Only one family in each ten has charges of \$250 and more, but the sum of their charges is 41 per cent of the total bill. The unequal distribution of charges occurs among families in each income class; the main difference between the poor and the rich appears in the total size of the bill, but not in the essential unevenness of the load.

If the annual medical charges incurred by families with incomes of \$1,200 to \$2,000 were distributed equally among all in this income class, each would be charged \$67. But this is not what happens. Only 5 per cent of these families have charges of \$250 and more, but the sum of their medical bills amounts to almost one-third of the total. Among the families with incomes of \$3,000 to \$5,000 the average charge is \$138; but approximately one-half of the total medical bill is incurred by 86 per cent of the families whose charges are less than \$250, and one-half by the 14 per cent whose charges equal \$250 and more. Even among families with incomes in excess of \$10,000, this disparity between the distribution of the families and the distribution of their total charges is very pronounced. The average charge in this class is \$503; about 16 per cent with

medical expenses of less than \$100 each incur only 1.3 per cent of the total ; 51 per cent have charges of \$100 to \$500, and the sum of their bills amounts to 24 per cent of the total; approximately 33 per cent have charges of \$500 and over and the sum of their bills equals more than 74 per cent of all charges in the income class.

The costs of medical care must, in the last analysis, be reflected against the family budget; but it is significant to observe the distribution of charges with respect to individuals rather than families. About 57 per cent of individuals either report no illness or report illness and receive no medical care. About 43 per cent incur no charges for medical care in illness or for preventive service. It is not surprising, therefore, that of the total charges for medical care, only 7 per cent is incurred by the 70 per cent of the persons whose individual charges are nothing or less than \$10; 41 per cent of the total is incurred for the 25 per cent whose charges fall between \$10 and \$100; and 52 per cent is charged for the 5 per cent of the population whose costs are \$100 and over per person. The proportions vary greatly, of course, for the diversified income groups which together constitute a general population. In families with incomes of \$1,200 to \$2,000, 43 per cent of the persons receive no medical care in a typical year, another 5 per cent are cared for entirely free of charge, and 30 per cent incur bills of \$10 or less. For persons in families with incomes of \$10,000 or more, only 14 per cent receive no medical care, 0.3 per cent receive only free care, and only 12.4 per cent incur bills of less than \$10 in the course of the year.

The average costs of medical care to the family are reasonably certain and predictable, just as the average incidence of illness is normally certain and predictable. But the statistical certainty for a large group does not apply to any one member of the group. The incidence of sickness, the amount and kinds of medical care which may become necessary, and consequently the costs for the individual or for the family cannot be anticipated. They may, and ordinarily do, vary greatly among persons and among families.

Medical Bills and Family Budgets. - The expenditures by families for medical care increase with family income, but not proportionately. The average charge per family for nearly

9,000 families studied by the Committee on the Costs of Medical Care ranged from \$49 for those with annual incomes of \$1,200 or less, and \$67 for families with incomes of \$1,200 to \$2,000, to \$249 per year for those with \$5,000 to \$10,000, and \$503 for those with incomes in excess of \$10,000 per annum. Among the families with incomes of less than \$5,000 it was revealed that the expenditure for medical care was limited by the size of the income and did not increase according to the number of persons in the family. For all the income groups except those with \$5,000 and more, there was, in general, less than 10 per cent variation between the average expenditures for families containing only one or two persons and for those having eight or more in the family. For families with \$5,000 or more income, however, the average expenditure for medical care ranged from \$209 for families in which there were one or two persons, to \$474 for those with eight or more. Apparently, when the income is less than \$5,000, only a small amount is squeezed from the budget for medical care, and this amount is more or less fixed regardless of the size of the family. These families spend a particular fraction of their budget for medical care; nor do they spend more if the family is large or less if it is small. The only apparent effect of family size is that it determines how many persons the average medical expenditure must cover.

The Composition of the Family Medical Bill.- How does the average family spend its money for medical care? Physicians receive approximately 40 per cent, dentists 18.5 per cent, hospitals 13 per cent, nurses on private duty 8 per cent, secondary practitioners and healing cultists 2 per cent; 13 per cent is spent for medicines, 2.5 per cent for eye-glasses, and about 3 per cent for all other types of medical service.

These proportions, however, do not hold for all income groups. For families with \$1,200 to \$2,000 income, the physician receives 44 per cent of the average family expenditure for medical care, whereas the physician's portion is only 35 per cent among families with incomes in excess of \$5,000. The proportions decline similarly for expenditures for hospital service, except among those with incomes in excess of \$10,000 annually. The opposite tendencies are observed for nursing and for dentistry: the percentage spent for private duty nurs-

ing and for dentistry increases both absolutely and proportionately with increasing size of the family income. On a proportionate basis, eye-glasses are of about the same economic importance for each income group. The same holds true with regard for secondary and sectarian practitioners. Medicines consume a decreasing proportion of the total cost of medical services for people in the higher income groups, accounting for 16.5 per cent of the total bill for families with \$1,200 to \$2,000, and for only 7 per cent of the total bill for families with \$10,000 or more.

These proportions should not be interpreted to mean that expenditures for physicians, medicines or hospitalization are lower for families in the upper than in the lower income groups. The average total costs of medical care for families with an annual income of \$1,200 or \$2,000 are only one-eighth of the expenditures for families with incomes of \$10,000 or more. Families with incomes of \$1,200 to \$2,000 spend \$29 and \$11, respectively, for physicians' services and for medicines; families with incomes in excess of \$10,000 spend annually \$175 and \$36, respectively, for these items in the bill. The comparative expenditures for nursing and dentistry are striking: families with incomes between \$1,200 and \$2,000 spend on the average \$3 and \$9, respectively, for all private duty nursing and for dentistry; families with \$10,000 and more spend approximately \$70 and \$130, respectively, for these same services.

Size of Community and Average Expenditures for Medical Care. -The average annual charge per person varies directly with the size of community ranging from \$16 per capita for those living in towns of less than 5,000 and in rural areas, to \$32 per capita for those in cities of 100,000 population and over. These comparisons hold substantially for families at all different levels of income. A series of eight community surveys in the United States showed a range of annual costs from \$6.45 per capita in an entirely rural county in Tennessee to \$54 per capita for the city of Philadelphia. Between these extremes appeared the following figures: \$7.54 for Toombs County, Georgia, and \$11.14 for Lee County, Mississippi - both small, essentially rural counties in the South; \$21 for Franklin County, Vermont, and for Shelby County, Indiana,

both of which are two-thirds rural; and \$36 for San Joaquin County, California, which is about 60 per cent urban.

Differences in the average per-capita costs for medical care in various communities result in part from differences in personnel and facilities, in part from the volume of medical services rendered, and in part from the relatively higher unit fees for services rendered in the metropolitan or urban areas in contrast to the small towns and the country districts. The per-capita expenditures follow closely the wealth - and especially the spendable wealth - of the population.

" High-Cost " Illnesses.- The drain of medical charges upon the family purse is of two quite different kinds : the costs of frequent and comparatively inexpensive illnesses or medical needs; the occasional occurrence of the so-called " high-cost " illness. The difference is of fundamental importance to the family. The occasional or even frequent incidence of minor illness and comparatively small costs for medical care may be easily and complacently absorbed in the family budget; but the occurrence of a " high-cost " illness, even when moderate rates are charged for each unit of service, may be a financial catastrophe for the family of small or modest means.

When the costs of medical care are examined with respect to the severity of illness (see Table 25), the two most significant observations are, first, that hospitalized illness * consumes 50 per cent of the total bill, and, second, that this proportion obtains without important variation in all income classes. In the charges for hospitalized illness are included not only the charges for hospital care, but also the charges of physicians and other professional personnel, the cost of drugs and medicines, and any other charges incurred for the case.

Of the remaining half of the total bill, 17.5 per cent goes for non-disabling illness, a scant 4 per cent for disabling illness which does not confine the patient to bed, and 29 per cent for illness which involves resort to bed at home. When these items are examined for the proportions of the bill which they consume in each income class, it is found that non-disabling illness accounts for a larger fraction of the total, and disabling illness for a smaller fraction, in the higher than in the lower

*That is, illness which involves hospitalization at any time during its course.

income classes. This is not surprising when it is recalled that the principal reason for higher morbidity rates in the upper income levels than in the lower is the reporting of more non-disabling illness, and especially of more cases which involve preventive and prophylactic services. With these minor exceptions, the composition of the total bill is the same in all income classes, despite the fact that the totals increase more than tenfold from the poorest to the wealthiest families.

The costs of hospitalized illness constitute such a large fraction of the total medical bill that they deserve special attention. The average total charge, per hospitalized illness, for all income classes combined is \$139. Among families with incomes of \$1,200 to \$2,000, the average cost of a hospitalized illness is \$103 as compared with \$470, four and one-half times as much, among families with incomes of \$10,000 or more. The average total cost for each illness which involves hospitalization exceeds the average charge for all medical care to all families in each income class. This, combined with the fact that the costs of a hospitalized illness are concentrated in point of time, explains the common opinion that hospital costs are too high and beyond the means of the average man.

Some people are accustomed to think that the services of the hospital are largely responsible for the high cost of hospitalized illness, but this is only partly correct. The bill for hospital care (see Table 26) accounts for only 41 per cent of the bill for hospitalized illness in the \$1,200 to \$2,000 income class, and for even less (32 per cent) in the groups with more than \$5,000 annual income. Physicians' fees are responsible for about the same percentage of the total costs of hospitalized illness in all income groups-namely, about 45 per cent. There is a tendency for the wealthier families to spend (absolutely and proportionately) larger amounts for special nursing in the hospital and in the home following hospitalization.

Charges for Preventive Medicine.- Preventive medicine has taken great strides in recent decades, and much is said about the importance of an increasing emphasis upon the prevention rather than the cure of disease. It is therefore disappointing to discover the small proportion of the total costs of medical care that can be charged to preventive medicine: of a total of \$30 per capita for all types of medical service, only \$1 per

capita is spent for official and non-official public health work. In the direct expenditures of families, of a total of \$108 per family spent for all types of service, 78.5 per cent represents the costs of the care of illness, 17.4 per cent is spent for dental care, 2.7 per cent for care of the eyes, and only 1.4 per cent for all types of preventive service!

ECONOMIC PROBLEMS OF MEDICAL PRACTITIONERS

The uneven burden of medical costs upon individuals and their families has its counterpart in the uneven distribution of income among the physicians, dentists, and nurses who minister to them. Nor are the economic uncertainties the only difficulties which confront the medical practitioner of today.

In our modern times, personal service is a costly service. The mechanization of domestic tasks which has lessened the drudgery of the housewife has not served to lower the cost of domestic personal service. On the contrary, parallel with increased facilities for lightening the labor of cooks, laundresses, and other domestic servants, the hour value of their services has marched upward. One full-time servant is now a maximum in most families with annual incomes as high as \$10,000. In fact, sample budgets for families with incomes of less than \$5,000 rarely contain items for domestic service, and in 1930 only 5.5 per cent of the families in the United States employed domestic help. Few indeed are the families of the present day which can afford a full-time physician, a full-time chaplain, a full-time tutor or governess, or even a full-time trained nurse. As a result, the professional services of these highly trained persons are made available on a visiting or hourly basis, or - as in organized medical services, in churches, and in schools - are supplied through group-payment devices which render the incomes of the professional personnel independent of the incomes of individual members of the purchasing group.

The Private Practice of Medicine.-The number of physicians in the United States has increased steadily for many years, reaching 142,000 in 1929, of whom 21,000 were full-time salaried practitioners. The increase, however, has been less rapid than the growth in population, so that the number of physicians decreased relatively from 173 to 126 per 100,000

population between the years 1900 and 1929. There appears to be a growing impression that the number of physicians in the United States exceeds the public's demand for their services, even though general education in health standards has undoubtedly increased the utilization of certain medical services.

Physicians are unevenly distributed throughout the nation, with a wide variation in the ratio of physicians to population from state to state and among various cities and rural areas. At first this concentration seems haphazard. One factor, however, appears to determine the location of medical practitioners; namely the ability to pay for medical care as evidenced by the per-capita wealth or the per-capita income of the people of the community. Wherever a community is financially able to support a physician, there a physician (or more than one) is established.

Approximately 23 per cent of the physicians in the country are complete specialists, and approximately 21 per cent are partial specialists, leaving scarcely more than one-half of the practitioners of the United States to act as general practitioners. When the distribution is considered according to size of community, one finds that 86 per cent of the physicians who practice in towns of 5,000 or less consider themselves general practitioners. In towns with populations of 5,000 to 10,000, this proportion is 65 per cent, and it is only 50 per cent for towns of 10,000 to 50,000 population. In cities with 50,000 or more population, less than 40 per cent of the physicians are in general practice. Specialism is urban - in the field of medicine as in many other activities.

It is estimated that physicians in private practice in 1929 received approximately \$1,090,000,000, or nearly one-third of the total amount spent for all types of medical service. This large amount does not mean, however, that the average income of the 121,000 private practitioners was high. The total amount paid to all physicians in private practice represents an average annual expenditure of \$9 per capita throughout the country and, if evenly distributed among physicians, would constitute an average gross income of \$9,000. This average gross income is not available in its entirety to the physician as earnings, for nearly 40 per cent of the gross receipts' of

private practitioners is consumed by professional expense. The real or net income of medical practitioners in 1929 was on the average but \$5,300, or approximately \$100 per week. It is lower in 1931.

The average income conceals important individual differences; professional gross incomes range from less than enough to meet the professional expenses to amounts in excess of \$100,000 annually. Length of time in practice is a factor in the earnings of a medical practitioner, but the peak of his earning capacity appears to be reached during the period from 15 to 24 years following the date of graduation. Throughout the United States, the average income of physicians in the industrial states is higher than that of physicians in the rural areas, and in large cities is higher than in small cities and towns.

Specialization is a primary factor in determining professional income. In 1929 the average net income for general practitioners was \$3,900; for partial specialists, \$6,100; and for complete specialists, \$10,000. This does not mean that most practitioners received these average amounts. The median net income for general practitioners was \$2,900, ranging from \$2,400 for towns with 5,000 or less population to a maximum of \$4,500 in cities with 25,000 to 50,000 inhabitants. In cities of a million or more population the net incomes of general practitioners showed a median of only \$3,300. Partial specialists and complete specialists fare well in all communities, although they comprise a larger proportion of the medical profession in the larger cities, and include a high percentage of experienced and older physicians.

If appropriately competent general practitioners and specialists were available in adequate numbers and in correct proportion to meet the potential demand for adequate medical care, the total medical bill for physicians' services (assuming the present average gross incomes of general practitioners and specialists) would be approximately \$1,300,000,000, or little more than \$10 per capita.

The adequacy of physicians' incomes may be judged by assuming an amount below which incomes may be termed inadequate by definition. If \$2,500 be adopted as the dividing line, approximately 33 per cent of the private practitioners, or some

40,000 physicians, had inadequate incomes in 1929. In communities with less than 5,000 inhabitants, one-half of the physicians fell into this class. If the standard of adequate incomes is set at \$1,500 per annum, the number of physicians in the United States whose incomes in 1929 fell below even this point was about 22,000, or about 18 per cent of the total number of active private practitioners, urban as well as rural. The people who complain against the high costs of medical care, and especially against the charges of physicians, consider only the large income of the economically successful practitioner. They are not ordinarily aware that for every physician who receives more than \$10,000 as an annual net income there are two who receive less than \$2,500.

The Private Practice of Dentistry.- There are approximately 62,400 dentists in the United States - 56,800 in private practice and the remainder employed at full-time salaries. The number of dentists has grown in direct proportion to population in recent years, with a ratio of 56 dentists to 100,000 population in 1928. A relative increase in number of practitioners is shown in most states when data for 1925 and 1928 are compared. The concentration of dentists in certain states and cities is influenced by total population and per-capita wealth, and the distribution of dentists among the communities of the country is in almost direct proportion to economic resources.

The average net income of dentists in the United States for the year 1929 is estimated as \$4,791, with a figure of \$3,989 representing the median (the middle point) of net incomes for dental practitioners studied. The dentist's net income seems to be a somewhat higher proportion of his gross receipts from patients than does the income of the physician: office and other professional expenses of dentists consume approximately 38 per cent of the total income. The average net income of dentists appears to reach its peak in the thirteenth year after graduation when the mean (average) is \$5,800 and the median \$4,900.

Incomes of dentists tend to be higher in the larger cities than in smaller towns and rural areas, but in each case the average gross and net incomes of dentists who engage in complete or partly specialized services are greater than the earnings of general practitioners. Specialization is not practiced to so

great a degree among dentists as among physicians, and it is estimated that 89 per cent of all dentists are general practitioners, 8 per cent are partial specialists, and 3 per cent are complete specialists. The average net incomes for the year 1929 for these types of practitioners were \$4,800, \$6,100, and \$8,000, respectively.

The Practice of Nursing.- The private practice of nursing in the United States is in a desperate economic situation. There were in 1930 approximately 118,000 trained and registered private duty nurses in the United States, and 150,000 untrained nurses who performed services for fees. These numbers are exclusive of approximately 77,000 graduate nurses and 80,000 student nurses in American hospitals. The supply of graduate nurses has increased rapidly, so that the number of nurses per 100,000 population has increased from 16 to 240 between the years 1900 and 1929. These nurses are not distributed evenly throughout the country, however, for rural areas and small towns have few graduate nurses, and in urban areas the field of nursing is overcrowded.

Data for 1929 and later years indicate that most private duty nurses are employed only intermittently, with average annual incomes of less than \$1,300. Unemployment is being increased by the graduation of approximately 25,000 students annually from the 2,000 hospitals which conduct nurses' training schools.*

The present situation is unsatisfactory alike to nurses, patients, and hospitals. The graduate nurse finds private duty nursing an overcrowded field, in which she can look forward to no professional advancement or substantial increase of professional income. The patient objects to the high fees for nursing care (\$5 to \$8 per day) which, although they do not exceed the rates for skilled artisans, are nevertheless a substantial burden to the patient who requires the service. The hospitals with training schools have avoided certain operating expenditures through the use of student nurses rather than registered graduate nurses, but they do not assume responsibility for finding positions for their alumnae, most of whom must seek employment in the field of private duty nursing

* Of this number only 1,663 are fully accredited by the State Boards of Nurse Examiners.

The net cost to the public in the support of an excess of registered nurses probably exceeds the savings to the hospitals (and hence to the public) through the conduct of nurses' training schools.

Nurses serving hospitals and public health agencies on a full-time basis appear to have larger professional opportunities than those in private practice, but at present not more than 77,000 nurses are employed in hospitals and 18,800 in public health work including industrial nursing. Some increase in demand for special nursing services has developed through the establishment of "group nursing" in hospitals and part-time service on a visit or hourly basis in homes. But to date these trends have not required the employment of a large number of graduate nurses.

The untrained "practical" nurse is, in many states, allowed to do nursing for hire without supervision or licensure. This has led to a state of affairs which confuses the public in its search for medical care, and often obstructs the provision of good service.

Subordinate and Competing Personnel.- The advance of medicine has not only developed specialization among physicians, but has been accompanied by the growth of other groups who perform special or subsidiary functions. The midwife, a practitioner in a vocation of ancient origin, has in the United States rarely had systematic training, although midwives still deliver nearly 15 per cent of the births which occur in the country. In some states, public health authorities have made substantial progress in training these women or supervising their work. The optometrist and chiropodist are mainly independent practitioners dealing with certain special forms of medical care. The development of proper relationships between these groups and physicians presents a yet unsolved problem to the medical profession and the public. The medical social worker, the physiotherapist, the occupational therapist, the laboratory technician, the dietitian, represent groups of personnel which participate in medical service almost entirely within hospitals and clinics and rarely practice as independent practitioners.

Of a different order are those other groups of practitioners who claim to treat a considerable and sometimes unlimited

variety of human ailments - the osteopaths, the chiropractors, the naturopaths, and the religious and other sectarian healers. As brought out in the Committee's special report on these subjects, summarized in Chapter XVI of this volume, these practitioners meet a demand currently made by some people and occasionally made by many people. The cruder forms of quackery and the entrance of insufficiently trained personnel into any field of healing practice can be partially controlled by law, but only educational measures can create a more informed demand on the part of the public for scientific medical care, and more effective handling on the part of the medical professions themselves of those diseases or conditions from which most sectarian and subordinate practitioners derive their support.

ECONOMIC PROBLEMS OF MEDICAL INSTITUTIONS

Hospitals. - There appears at the present time to be a sufficient total bed capacity in hospitals for acute medical and surgical cases, although these beds are not evenly distributed among states and communities according to population and medical need. General hospitals have been occupied to approximately 65 per cent of capacity during the past five years, in contrast with the 95 per cent occupancy of hospitals for nervous and mental diseases and 90 per cent for the tuberculosis institutions. During the past three years little new construction has occurred among non-government hospitals, although tax-supported institutions have been expanding continuously because of the demand for services to non-paying patients.

The present demand for " free service " in both government and private non-profit hospitals has emphasized the need for more adequate and more stable revenue. Of the \$656,000,000 spent annually for operating costs, approximately \$302,000,000 is paid by patients through the medium of fees, \$54,000,000 represents contributions and endowments, and about \$300,000,000 is derived from taxation. Most of the \$302,000,000 is paid by 5,000,000 " pay " patients admitted to non-government institutions for acute medical and surgical conditions. Most of the \$300,000,000 spent by governments is used to sup-

port hospitals for nervous and mental and tuberculosis cases, or the treatment of " indigent " patients requiring general medical or surgical care. Voluntary contributions have greatly declined in recent years. Endowment income, which reached its maximum with \$20,000,000 in 1929, shows little prospect of growth in the near future.

The general public, through taxation and voluntary contributions, has provided more than 90 per cent of the \$3,000,000,000 now invested in the 7,000 hospitals of the United States with their 900,000 bed capacity. Consequently the financing of hospital care, and the adequate utilization of existing and future plant and equipment, are problems facing every American community. In some places, the problem is one of providing new facilities, but more often the task is to finance the hospital service which the needs of the people require and the existing equipment makes possible.

More than 4,000 of the existing hospitals contain clinical laboratories for the diagnosis of disease and 4,400 have X-ray apparatus for photography and treatment. Over 2,000 of the institutions maintain more or less elaborate out-patient departments for the care of patients who do not require bed care. In 2,000 of the institutions dental chairs are established, and 2,000 hospitals conduct nurses' training schools.

Within the hospitals there are maintained continuously 346,000 employees, of whom 14,000 are physicians serving in the capacities of medical directors, resident physicians, or interns; 77,000 are graduate registered nurses employed in administrative, teaching, or supervisory capacities, or general staff nurses giving bedside care and serving in operating rooms and other special departments; 80,000 are student nurses assisting in the care of patients and engaged in training for the independent practice of their profession; 6,000 are social service workers and dietitians; and 169,000 are employees engaged in administrative work, office procedures, and skilled or unskilled manual labor. The distribution of the personnel among various institutions varies greatly with the nature and quality of the services offered, as well as with the particular types of patients admitted for treatment.

The 5,000 hospitals for acute-as distinguished from chronic - cases, with an average capacity of 80 patients each, contain

about 400,000 beds and represent a capital investment of approximately \$5,000 per bed. The patient-turnover in these hospitals is rapid, and such hospitals receive 97 per cent of the total of 8,000,000 admissions each year. Most of these hospitals and about three-fourths of their bed capacity are under non-government control.

The comparatively small hospitals for the care of patients afflicted with acute diseases are to be sharply contrasted with large institutions for persons with chronic conditions, such as nervous and mental derangement or tuberculosis, which require long-term hospitalization. Although the latter institutions have a total capacity of 500,000 beds, they admit annually only 3 per cent of the total 8,000,000 hospital admissions for illnesses of all types. Most patients in these hospitals are treated for long periods of time. Nearly all the bed capacity of institutions for the care of chronic illness are under government auspices; 95 per cent of the total beds for nervous and mental patients and 75 per cent of those for tuberculous patients are in hospitals under federal, state, county, or municipal control.

The Growth of Clinics.-The care of ambulatory patients has from time immemorial been provided in the home or in the physician's office, but concentration of equipment and personnel in hospitals and the advantages of coordinated professional services have led to the treatment of large numbers of patients - particularly those who are indigent or very poor - in hospital out-patient departments or in organized clinics.

It was estimated that in the year 1931 there were 2,042 out-patient departments in American hospitals, and 4,535 public clinics not attached to hospitals. These institutions (private group clinics and industrial clinics are not included in this count) received between thirty-five and fifty million patient-visits during 1931. Out-patient departments and clinics are for the most part located in metropolitan areas. They are served by physicians who work on a part-time basis with a limited salary or no direct remuneration. Of the total number of clinics, more than 1,500 offer dental care.

Public Health Work and the Private Purchase of Preventive Medicine.-Public health services are primarily governmental. The unit of organization is the local health department of a

city or a county, since state or federal health agencies in the main serve in a supervisory capacity. National and local voluntary health associations also render important service in promoting new activities and in supplementing government agencies. At least 42,000 persons are engaged in public health work in the United States.

The expanding powers of medicine to prevent disease have been inadequately utilized. The protection of water, milk, and food supplies, the control of infectious diseases, the application of educational and preventive measures for the benefit of children, expectant mothers, and other groups depend upon the existence of organized public health services. These agencies, however, are lacking in most rural areas and in many small towns of the country. Only about one-fifth of the counties of the United States have organized public health departments. The average expenditure for public health work is about \$1 per capita, whereas \$2.50 per capita is regarded as necessary for effective preventive work. It has been adequately demonstrated not only that public health work prevents many cases of illness and death, but also that expenditures for this purpose result in direct financial savings which may be worth many times the outlay. Considering the enormous value of our vital resources and the inroads which morbidity makes, the investment of an inadequate sum to conserve the public health indicates not only extraordinary ignorance of social opportunity but even poor business sense.

The deficiencies in existing preventive services may be illustrated by the findings in a special study made for the White House Conference on Child Health and Protection. Only 51 per cent of city children and 37 per cent of rural children have had one or more health examinations prior to their sixth birthday; only 13 per cent of children in both urban and rural districts have received a dental "health" examination by their sixth year; 21 per cent of city children and but 7 per cent of rural children have been vaccinated by the time they are six; and only 21 per cent of urban and 18 per cent of rural children have been immunized against diphtheria.

There appear to be comparatively few persons, though the number is growing, who will pay fees to physicians for annual health examinations, for inoculation against diphtheria, for

prophylactic dentistry for children, or for other preventive services. The efforts to induce people to undergo periodic health examinations or to obtain preventive dental care have had very meager results. Most persons postpone paying for health until they face the threat of losing it. Ignorance and inertia when combined with economic deterrents form almost insuperable obstacles. Although it is now the fashion to predict or urge that the golden opportunity of the private general practitioner lies in the practice of preventive medicine, it does not appear that the opportunity can be realized as long as a fee-for-service arrangement exists between the physician and his patient. Certainly a vast program of public education would be required to convince people of the value of preventive care before they could be induced to purchase at their private cost any substantial amount of preventive service.

The Costs of Medicines.-The American people spend annually about \$665,000,000 for drugs and medicines (in addition to the \$50,000,000 spent for these commodities by physicians and hospitals). This amount is of the same general magnitude as the total expenditures for the services of physicians or for the maintenance of hospitals, and greatly exceeds the annual expenditures for dentistry, private duty nursing, or public health.

Less than 30 per cent of the drugs and medicines consumed annually represents the amount used on the express order of physicians, and approximately one-half the expenditure for medicines (\$360,000,000) is made for commodities which have secret formulae and which are purchased by the patient direct from a retail merchant.

Manufacturers and venders of drugs and medicines are not always restricted in their business relationships with the public to the codes of ethics traditionally followed by physicians in professional practice. As a consequence, their selling methods tend to exaggerate the therapeutic value of their products and to encourage the lay public in attempts to diagnose their own ailments and to practice self-treatment.

Public control of the manufacture and distribution of medicines has been exercised through the statutes of legislative bodies, through the rulings of public administrators, and

through such voluntary procedures as the codes of ethics of the medical, dental, and pharmacal professions. The Federal Government has exercised control primarily over the manufacture and sale of medicines as such, and has shown only incidental interest in professional relationships. Much of the regulatory action of state and local governments, on the other hand, has been concerned with the handling of medicines by practitioners and institutions, and has dealt with such problems as the rights and privileges of physicians, pharmacists, nurses, and sectarian healers to compound, dispense, sell, or administer medicines.

The federal and state food and drug laws do not require disclosure of the formulae for medicines, unless they are of such a nature as to be regulated by the laws governing the sale of alcohol, narcotics, or poisons. A manufacturer may make and sell or offer for sale any secret or non-secret medicinal preparation without supervision or control, except as previously stated, provided that he does not fraudulently misrepresent his product by false statement on the label concerning its ingredients or its therapeutic activity.

The expenditures for medicines have not aroused the same complaints as have the costs of physicians' services and of hospitalization. The reason appears to rest in the fact that the expenditures for medicines are more fully predictable as to time and amount, are relatively uniform among individuals and fiscal periods, and are frequently avoidable in part or *in toto*. Moreover, the cost of medicines is seldom large enough to be a serious item in a family budget, although a few diseases (such as diabetes) require large total expenditures. These costs, however, fall rather regularly and can be anticipated and budgeted from year to year.

The sales of medicines have increased without regard to the needs for drugs as dictated by current standards of medical practice. They have also grown with only negative influence upon the professional activities of the pharmacists of the country—a group of 140,000 men trained and authorized to compound the medicines prescribed by licensed practitioners. Pharmacists have come to rely upon their capacities as retail merchants in the 60,000 drug stores of the United States, rather than upon their scientific knowledge and skill in the

preparation of medicines. The decreased demand for the services of pharmacists - they use, on the average, but 10 per cent of their time in compounding prescriptions - has come about concurrently with increased educational requirements for entry to the profession. Approximately 2,700 pharmacists are graduated annually, but most of them look forward to careers as managers or proprietors of retail drug stores, rather than to strictly professional activities.

The evolution of the pharmacy into a department store for many commodities has made the services of pharmacists readily available to the physicians and the people of the country, but has not retarded the increasing volume of sales of secret-formula medicines for self-medication. If "patent medicines" were inherently dangerous or immediately destructive of health they would be stamped out in response to public indignation and legislation. The real danger in the enormous annual sales of "patent medicines" lies in the dubious therapeutic value of their use for a particular ailment. Self-medication under competent guidance may be both scientific and economical, but the use of medicines without or contrary to the advice of informed medical opinion may do actual harm or may delay necessary treatment of a different and more useful nature.

It would be of only passing interest to demonstrate that the usual retail prices of drugs and medicines are greatly in excess of their costs of production. It is more important to emphasize the principle that drugs and medicines should be distributed in a manner to yield the greatest medical benefit to sick persons rather than the greatest financial profit to business promoters. Hence the essential problem in the costs of medicines is not so much to reduce prices to levels commensurate with the costs of production and distribution, as to make the sale of medicines subordinate and helpful to - rather than in competition with the professional ministrations of licensed medical practitioners. The accomplishment of such a result involves a reconsideration of the entire present organization of the medicine industry. If medicines are to be of greatest use to the public, they must be regarded and distributed as professional commodities rather than merely as articles of commerce.

CHAPTER XXXVI

GENERAL CONCLUSIONS

It will be recalled that the inquiries summarized in this volume were designed to provide a diagnosis of the ills in the present economic organization of medicine. Ample evidences testify to the accomplishments and the failures of the functional arrangements within which medical care is now provided for the people of the United States. To review all or even many of the virtues were too large a task, not pertinent to the immediate purpose. The dictates of need as well as of convenience require that here consideration be given only to the maladjustments which have been discovered and that in the proposals for structural or functional change we hold fast to the good in the old.

If details are disregarded, four major groups of problems emerge from the inquiry. These revolve around:

1. *The effective and economical provision of medical care for the sick.*
2. *The payment for medical care.*
3. *The application of existing knowledge to the prevention of sickness.*
4. *The interrelation or coordination of medical agencies.*

The training of professional personnel is also involved, especially in the first and third groups. But, since the problems of medical education have just been under review by an authoritative national commission which has just rendered its report,* and since dental education and nursing education have also been studied recently by appropriate and competent agencies, the Committee has not specifically directed its inquiries into this field. The subject of professional education therefore receives attention only incidentally.

THE PROVISION OF MEDICAL CARE

Most physicians and dentists are independent practitioners, licensed by the state, and dealing directly with their individual patients or families. The individual responsibility of the practitioner, defined by law and made more effective by the codes

* The Commission of Medical Education, organized by the Association of American Medical Colleges.

of the professions themselves, must be retained, for this responsibility is essential and inherent in good professional service. Fifty years of amazing advances in the science and art of medicine have compelled division of labor in the study of disease and in the practice of medicine, even as similar progress has operated in other fields of activity. Not only have many specialties developed within medicine itself, but numerous related professions and technical groups have now become necessary in medical service. The capital investment required for the diagnosis, treatment, and study of disease has greatly increased. Approximately one-half of all physicians now practice as individual specialists. Any patient may go to them; many do. The patient himself makes the primary diagnosis that his ailment falls within the province of the specialist of his choice. This is one of the important elements contributing to the complexity and the magnitude of the cost of medical care. Perhaps of even greater significance is the fact that increasing specialization has tended to relegate the general practitioner or family physician to a secondary place.

The independent general practitioner, working by himself, is often unable to afford the costly and varied equipment necessary for diagnosis and treatment of all illnesses; ordinarily he has neither the time nor the special skill to become proficient in the use of such equipment. Moreover, no one practitioner can acquire all the knowledge and technique which render certain individuals peculiarly suited for special phases of medical practice. The well-qualified general practitioner can care satisfactorily for a large proportion of all illnesses, but he needs association with specialists and with hospital facilities in order that he may remain conversant with the newer knowledge of the times and that he may make the most adequate use of available facilities in the care of his patients. A system of many specialists, each working independently, involves economic wastes and professional inadequacies. Mechanized service and a viewpoint narrowly focussed upon an anatomical fraction of the body or a particular group of diseases are among the dangers of uncoordinated specialization. In fact, the services of uncoordinated specialists may be not only more expensive but may even be less satisfactory than the services of a general practitioner working entirely alone.

For ultimate effectiveness, specialization requires organization - the organization of general practitioners and specialists into groups or agencies designed to reap the benefits of close professional relationships and of the joint use of equipment and assistant personnel. Group practice, more or less developed, is already found in the staffs of all well-organized hospitals and clinics. It appears to some extent among many physicians and dentists who arrange to use offices or certain professional facilities in common, and private clinics have been specifically organized on the group practice principle. In a considerable proportion of the private group clinics, service has been developed chiefly in the specialties, for the clinics have been established primarily for cases referred from general practitioners and other physicians. In a measure, the staffs of most hospitals and clinics have also been built up of specialists. Indeed one of the deficiencies of our present hospital and clinic system is the lack of sufficient relation between the active staffs of the institutions and the body of general practitioners in the locality. Both in private group clinics and in community hospitals and out-patient departments, however, there exist a considerable and a growing number of instances in which general practitioners are active participating members of the group, and in which general medical service is rendered.

The Committee's studies have described examples of group practice which demonstrate that certain notable advantages can be realized. Modern medical practice requires hospital facilities and costly scientific equipment. It is obviously more economical to provide such equipment to a group of physicians or dentists who practice cooperatively than to the same number of practitioners who work independently. Competent management, of both the business and the professional aspects of practice, and adequate organization and direction of subsidiary personnel can be assured more readily to a group.

Association with a group can stimulate improvement in professional practice through the provision of adequate equipment and of sufficient time for study and postgraduate work; through the mutual criticisms of colleagues; and, for younger men, through knowledge that advancement depends upon the sober judgment of professional seniors rather than upon the reputation established among the relatively uninformed laity.

Through the stimulus of daily cooperation, group practice ends to break down the separate habits of thought and action which beset the specialist, and also to create a form of organization which assigns a place, but no more than its due place, to each specialty. Group practice can contribute largely toward a proper relationship between one specialist and another and between specialists and general practitioners.

The form in which group practice is organized is important. No organization can rise above the level of the men and women who participate in it, but it may fall below. Group practice does not counteract all the deficiencies of individual practice. and, if there are faults in organization and limitations of the personnel, it may introduce defects which are not so common in individual practice. In a large group, the average patient and also the physician members who do not occupy important positions may be treated as cogs in the machine. Independent practice provides a stimulus which is necessary and beneficial to some practitioners and which may be lost to them through practice in a group. The desires of older men to keep their grip upon power and the ambitions of younger men to attain it, may have a more destructive effect within an organization than among independent competitors. But extensive experience indicates that able and conscientious physicians can develop a higher average level of service through group than through independent work.

It is sometimes contended that group practice sounds the death knell for the personal relation between physician and patient. If this were so, it were sufficient of itself to condemn group practice. Many who advance this allegation sometimes overlook the fact that the particular developments in medical science and in medical art which have made group practice imperative have themselves restricted the field of usefulness of the traditional personal relation. There are branches of surgery and of narrower medical specialties in which the personal relation is neither essential nor even especially advantageous to either physician or patient. Furthermore, it is common knowledge that in some of these sectors of medical practice it does not remain for group practice to destroy personal relations. This has already been effected by other circumstances especially in the relations between the patient of mod-

est means and the busy urban specialist. Experience testifies that practicing groups which have placed value upon the retention of the personal relationship have successfully designed their administrative schemes so that the desirable and necessary personal relation between doctor and patient has been maintained.*

Group practice in one form or another seems essential if the mode in which medical service is rendered is to be consonant with the demands of modern medical science and technology. Accordingly, the first major conclusion to be drawn from this study is:

Medical service should be more largely furnished by groups of physicians and related practitioners, so organized as to maintain high standards of care and to retain the personal relations between patients and physician.

THE PAYMENT FOR MEDICAL CARE

The Committee on the Costs of Medical Care and cooperating agencies have made extensive studies of the incidence of sickness and the expenditures for medical care among many thousands of families, residing in many parts of the country and of all economic groups. No conclusion has emerged more frequently or consistently from these studies than that the costs of medical care are felt as a burden more because they are so unevenly distributed among the people than because of their actual amount. The uncertain and uneven incidence of sickness is part of its very nature. The uneven incidence of sickness entails an uncertain need for medical care. And this in turn entails an uncertain financial load. This sequence of uncertainty prevents the individual family from budgeting the costs of sickness in advance to a degree that is practicable in connection with almost all other items of family expendi-

* A subcommittee of the Committee on the Costs of Medical Care (Dr. N. B. Van Etten, Chairman), has defined "personal relationship" as follows: "The personal relationship between physician and patient is that relationship which includes not only the privileged confidential communications of patient to physician which are recognized as inviolate by law, but also the relationship involved in the communication of his medical history to any physician chosen by the patient, and the continuing mutual responsibility between patient and physician. This in no way inhibits the patient from giving his confidence to different physicians or to the medical integrator of a group of physicians.

The business relation between physician and patient is not considered to be a necessary part of the personal relationship as above defined nor does the definition carry a commitment for or against any scheme or organization of medicine."

ture. Many families of moderate income who are unable to pay for their medical care in time of sickness are frequently criticized for the fact that they spend relatively large amount for articles which may be considered luxuries; but families of the same income who deny themselves such luxuries find it just as difficult to plan ahead for the costs of illness. The amount of money which these families can save is usually inadequate for any unexpected and expensive medical needs.

Expensive illnesses may fall unexpectedly on small purses. The Committee's studies show that medical charges of \$100 to \$200 a year fall upon about one in nine families with incomes of \$1,200 to \$2,000 and that charges of \$200 or over fall upon about one family in every sixteen. Families with incomes of \$2,000 or less constitute one-half of the population. To budget against a possible but uncertain expenditure which exceeds 10 per cent and major amount to 25 per cent or an even larger fraction of a small annual income is neither humanly likely nor financially practicable in most instances.

Recognition that sickness falls unevenly and that individuals cannot predict its onset nor easily budget its costs in advance compels the conclusion that the costs of medical care should be distributed over groups of people and over periods of time, rather than permitted to descend upon individuals or families at the time when sickness occurs. This principle of distributing the costs of medical care is already applied in limited measure, partly through taxation, partly through insurance. The prevalent "sliding scale" of professional and hospital charges, whereby the physician or the hospital administration adjusts these costs more or less to the financial resources of the patient, is also, in a measure, a means of distributing costs.

The adjustment of charges by the family physician to the means of the patients with whose circumstances he is closely acquainted has long been an expression of intimate medical relationship. The recent tendency of the sliding scale to expand into a general system of fixing charges for medical care has taken place in a time when many physicians, particularly specialists, and most hospital officers, have no intimate current knowledge of the means of their patients and must undertake the difficult and often invidious task of a special inquiry into their ability to pay. While the sliding scale is an attempt to

distribute costs, the method is a source of widespread complaint from all concerned. It is essential to devise methods which will be more satisfactory to patients, physicians, and hospitals.

The principle of distributing costs may require a special geographical application for areas in many states which are too poor or too sparsely settled to provide adequate service entirely out of local resources.

Methods of Distributing Costs.- The two major methods of distributing the costs of medical care, previously referred to, are (1) insurance, (2) taxation.

Both of these methods are in use at the present time, but not extensively enough to prevent medical costs from being burdensome to a great majority of our people. Both of these methods can be and are utilized to meet the costs of certain forms of medical care, or to meet the cost of care for certain groups of persons. Further application of both principles may be accomplished by increasing the scope of the medical services supported or by enlarging the population group covered; or by a combination of these two procedures.

Mutual and commercial insurance companies have become highly developed in the United States. Individual "health and accident" policies are purchasable by individuals from well-established companies, but at rates too high to be within the reach of many wage-earners or other persons of small means. Insurance is, however, within the means of persons with small incomes when purchased by organized groups, such as the employees of a business - and some 2,000,000 persons now have such protection procured for the most part through commercial insurance companies. This "group sickness insurance," as it is usually called, provides a cash benefit which partially replaces the loss of wages during sickness, but does not include provision for medical care.

Participation of commercial companies in sickness insurance has two inherent disadvantages: under their administration the costs of medical care are apt to be increased and the quality of care may decline. When patients and practitioners deal with a representative of an impersonal, intermediary business agency, they have little incentive to prevent malingering, to reduce costs, or to render care of high quality, for all financial

responsibility is shifted to the insurance company. When, however, homogeneous groups of insured persons contribute to a common fund jointly administered to meet the costs of medical care, the group as a whole benefits from measures which promote efficiency, economy, and high quality of service. Medical and dental practitioners also find it advantageous to deal directly with patients or their elected representatives, rather than with a commercial intermediary. Group sickness insurance when subject to group supervision and cooperation and safeguarded by community legislation seems to offer advantages as a means of providing protection against the costs of illness.

Wage Loss and Cash Benefit.- Extensive experience in this country and abroad has shown that the wage-earning population takes a more active interest in financial protection against the loss of income due to sickness than in procuring medical care. It is obvious that complete loss of income because of the illness of the wage-earner immediately threatens the whole family with destitution if there are no savings, and that the need for protection against this calamity is keenly felt. All foreign systems of sickness insurance which have been developed on a large scale have met this widespread demand by including provision not only for medical care, but also a cash benefit to reimburse the insured person for a share of the wage lost during sickness. The provision of cash benefits has been a primary element in these systems.

The studies of the Committee's collaborating agencies have made clear that serious difficulties arise when the administration of cash benefits is united with the provision of medical care. The amount of cash benefit to be paid in any case necessarily depends upon medical certification of the existence and the degree of disability. It is to the interest of the insured *group* as a whole to keep cash benefits down, whereas the injured *individual* may naturally wish a generous payment in particular case. Physicians who are placed in the position of endeavoring to serve these divergent interests find it difficult to do so and also to fulfill their primary professional responsibility for adequate diagnosis and treatment of the patient. Here has been a major source of controversy, ineffectiveness, and sometimes of increased costs in several foreign systems

of sickness insurance. The demand for income protection during sickness, however, must be met for large numbers of wage-earners, and the problem of medical certification is inherent and must be dealt with. Its difficulties cannot be abolished, but must be minimized.

Taxation.-Tax funds are already extensively utilized as a means of distributing the costs of some forms of medical service for all people and complete medical care for certain groups of the population. At the present time nearly all hospital care for persons afflicted with mental disease, most hospital care of those suffering with tuberculosis, and all the work of health departments are financed by local, state, or federal governments in this country. The same is true of the medical care of military and naval personnel, of inmates of prisons, and of other wards of the state, and is quite usually the case with the general medical care of persons unable to pay its full cost. These are existing and accepted forms of "State medicine," that is, of the provision of medical care by government.

Stated in another way, the present major expenditure of taxes for medical care is for hospital service. The capital investment in government hospitals was estimated in 1928 at over \$1,400,000,000; the operating costs of 1930 as about \$304,000,000. This was about 46 per cent of the total operating costs of all hospitals in the United States, as estimated for that year. Of the 304 millions of dollars, \$185,000,000 was spent for hospital care of patients with mental diseases or tuberculosis, and the remainder, or \$119,000,000 for patients with acute illnesses. Much more than one-half of the provision of general hospital service is made by cities and counties for the maintenance of local hospitals. A few states provide some general hospital service directly and some furnish subsidy to local institutions. Such general hospital service as is furnished by the Federal Government is for special groups only - veterans, soldiers, sailors, and inmates of institutions.

There is no substantial difference of opinion that it is appropriate and proper to use tax funds for the organized prevention of disease or for the care of diseases which, because of their communicable nature, such as tuberculosis, or of their frequency and long duration, such as mental disease, can be adequately paid for in no other way than by spreading the

cost over the community. As existing public policy shows, the use of tax funds is particularly important with reference to hospital, most types of which are relatively so expensive as to be beyond the means of large numbers of persons who pay for other medical service.

Taxation as a means of meeting the cost of medical care is also peculiarly applicable when there is wide divergence in the financial resources of different localities. Medical needs arise, roughly speaking, in proportion to the size of the population, whereas the ability to pay for medical care is in proportion to financial resources. In many of our states there are areas wherein the population because of inadequate resources does not and cannot meet the cost of sufficient medical care. Occasional "demonstrations" by private foundations have aided such areas to establish or improve hospital or health services, but only tax funds, usually from the state, are a sufficiently large and stable source of support to supplement the local resources and to enable their residents to obtain the basic necessities of medical care and health protection. If the provision of medical care is to be extended to accord more nearly with the people's need than is now the practice, and if the costs are to be met, a broader use of tax funds seems inevitable.

The principle of distributing the costs of medical care through one form or another of group payment should be so applied as to cover the full costs of the services received by the major economic and geographical groups and should provide, so far as possible, that persons shall contribute within their means for the services which they receive. Thus, the second major conclusion to be derived is as follows:

The costs of medical care should be distributed over groups of people and over periods of time.

THE APPLICATION OF PREVENTIVE MEDICINE

As a people, we of the United States spend \$30 per capita each year for medical care; but of this sum only \$1 is spent for the organized prevention of illness. If only those methods of preventing disease which have been thoroughly tested by demonstrable results were fully applied, about \$2.50 per capita would be necessary. Even then the ratio between money spent for prevention and that expended for cure would be only one

to twelve or thirteen. Some of the existing deficiencies in public health services and the limited sums of money spent for it have already been described in the volume.

Of the sums expended by the family in the direct purchase of medical care, a very inadequate fraction - 1.4 per cent - is spent for preventive medicine. To expand preventive measures requires public education, as well as methods of paying for preventive work which shall furnish economic incentives to its extension. There appear to be comparatively few persons, though the number is slowly growing, who will pay fees to physicians for annual health examinations, or for inoculation against diphtheria, or for prophylactic dentistry for children, or for other preventive services. As has been remarked before, most persons postpone paying for health until they face the threat of losing it. An unusual degree of imagination and courage seems needed for an individual to make expenditures for preventive measures, the benefits of which will be felt only in the future, when a dozen immediate demands press daily upon every dollar he possesses. Efforts to induce people to undergo periodic health examinations, or to obtain preventive dental care have had very meager results. Ignorance and inertia, as well as real economic deterrents, are almost insuperable obstacles. Nor can individual physicians and dentists properly press these services upon their patients.

Group payment on an annual basis may largely remove the economic deterrents to preventive work and may supply both the organized group and the individual with an incentive to keep the annual payment to a minimum by spending as much money for prevention as can be shown to yield adequate results. Group payment, furthermore, would make it easier to compensate physicians and dentists adequately for preventive service rendered to their patients, whereas under the current fee system, preventive work such as conscientious professional men give, is often rendered without compensation and sometimes even against their own economic interest.

Hence, the third basic conclusion is:

Methods of preventing disease should be more extensively and more effectively applied, as measures both of service and of economy; and should be so financed as to minimize the economic deterrents to their extension.

COORDINATION OF MEDICAL AGENCIES

In all but very small communities the complexity of present-day medical service is often baffling to the public and also to the agents and practitioners of medical services themselves. The number and variety of specialists, and the uneven geographical distribution of practitioners have been presented in studies by the Committee and by other agencies. Our hospital system has developed from the initiative of local groups and of religious, racial, industrial, and fraternal agencies and interests; and has brought about the investment of more than three billion dollars without expectation of financial return. Even when each individual hospital in a locality is efficiently administered, wastes and inefficiencies may and often do exist in the hospital system of the community as a whole. These are largely due to the failure to coordinate institutions, and to the lack of any planned development whereby the amount of investment and the location and distribution of hospitals are determined in view of known present and estimated future needs.

Obviously there should be an agency in each community, and in states or larger geographical divisions with similar problems and interests, whereby the lay and the professional groups concerned in providing and financing medical services shall be able to consult, plan, and act in behalf of the best provision of medical resources which the community can maintain. To a limited extent and as yet in only a few communities, local bodies such as health and hospital councils have studied these questions and acted in an advisory capacity concerning some of them. These councils mark a beginning in meeting this need. Sometimes the physicians and other professional groups especially concerned have not been as adequately represented in these councils as they should be, and sometimes those concerned with the financial aspect have been unrepresented or have paid too little attention to the needs of planning and coordination.

To a certain extent the county or city health department is the representative of the public in dealing with problems of medical coordination within its area. But no health officer or board of health can deal wisely with the broad questions which

arise in connection with medical care, without the cooperation of a community organization. Whether the health department should take leadership in forming or directing an organization dealing with the broad problems of medical care must be determined by local conditions, but the participation of the department in some degree is essential.

The need of coordinating medical facilities and agencies is perhaps most obvious in the sparsely settled rural areas. Only as their small financial resources can be supplemented by those of more prosperous sections, only as their limited professional personnel can be stimulated or increased by linkage with physicians and hospitals of other communities, can these sections acquire or retain the needed physicians, dentists, hospitals, and public health officials. Policies must be worked out whereby these sections shall be assisted through advice, funds, or both, to furnish a necessary minimum of service to their inhabitants. This geographical coordination and regional planning may be assisted by the local groups just referred to, but it is primarily the responsibility of a larger area, usually the state.

Coordination is equally needed in every metropolis. Here some of the problems are also regional. Every city contains poor or inconveniently located sections where location and poverty combine to render medical services inadequate or inaccessible. In the large city as a whole, however, facilities and personnel abound. The problem is to break down the institutionalism of agencies and the sectionalism of groups which waste effort and money and leave some areas unprovided and others with overlapping and duplicated services. The major problem in the large city is the coordination of the *functions* of different agencies. Functional more than geographical coordination is required.

A benevolent dictator could achieve coordination by the strong hand, but that will not be the method in the United States. Coordinating agencies must be educative and persuasive rather than authoritative. They are less significant in their official functioning than in their by-products. When public officials, or members of boards of trustees, or professional staffs think in terms of their institutions rather than of the community, a direct attack will rarely promote broader vision.

The major strategy of coordination operates through systematic conferences nourished by a steady supply of facts. To collect and assemble the facts about facilities and needs furnishes a sound basis for joint thinking and ultimate cooperative action. Coordinating agencies will flourish more by shedding light than by coercion.

One of the frequently encountered obstacles which coordinating agencies meet in their attempts to enlist support or to obtain continued interest is the result of the inherent vagueness of their program as compared with the concrete services of a hospital or health organization. For this reason many influential men and women devote their energies exclusively to particular institutions, and it is often difficult to procure sufficient support to make a coordinating agency effective. Yet as the experience of community chests, of public health associations, and of councils of social agencies has shown in many cities, persistent efforts gradually become effective, and men and women with the needed qualities of leadership are attracted from business, public life, and the professions.

Better mutual understanding and methods of practical cooperation between the professional bodies that furnish service and the lay groups that receive and finance it are the goals of coordination. These results may often arise as the indirect outcome of coordinative effort, but they must usually be planned for their own sake. There are countless examples of the effective participation of medical and lay groups in the hospitals and clinics of this country; of dentists, physicians, and lay groups in many local health programs; and of nurses and lay bodies in the public health nursing associations. There are also examples of systematic cooperation between state or county, medical societies and -public or semi-public bodies in matters involving professional interests. Any broad plan of coordination will encourage these measures and will particularly emphasize the responsibility of the professional groups which are in a position to give continuous attention to the problems of medical care.

The fourth basic conclusion is:

The facilities and Services for medical care should be coordinated by appropriate agencies on a community basis.

IN CONCLUSION

No one can predict the possibilities of preventing and controlling diseases which now take a heavy toll in lives and dollars. The savings actually achieved through scientific research will depend not only upon new discoveries, but upon the degree to which they are applied. It is certainly desirable to encourage and support research, but a balance must be kept between the energy and funds devoted to the acquisition of knowledge and those expended in its application.

In the nation's annual bill of over three and a half billion dollars for the care of sickness, the Committee's studies have discovered much waste. More than a third of a billion dollars is spent annually for worthless or harmful drugs and medicines. At least one hundred and twenty-five millions pay for the services of blatant quacks and charlatans and of unscientific or inefficiently trained practitioners. The "overhead" or difference between the gross and net income of physicians and dentists averages 40 per cent. There is evidence that this can be halved or greatly reduced in well-organized group practice. The consequent saving might be as large as two hundred million dollars a year. There are wastes in the conduct of hospitals due in some measure to administrative deficiencies and in a much larger measure to the low utilization of hospital plants and the consequent waste of capital, increased overhead, and high unit costs. By administrative improvements and, still more, by coordinative measures which would maintain hospitals at a high percentage of occupancy, certainly \$100,000,000 could be saved each year.

The total savings in these items would amount to over \$750,000,000 annually, or a little more than 20 per cent of the nation's annual sickness bill. To save this amount each year would be an achievement, but savings of this kind can be effected only slowly. Habits of buying drugs and "patent medicines" over the counter are deeply rooted in millions of people and could not be altered suddenly even if the effective advertising and other incentives to the purchase of these articles were discontinued. The same may be said of those who patronize cultists or irregular practitioners. Reducing the high overhead expenses of private practice would be of advantage to

physicians and patients alike, but the remedy requires a type of organization which will take time to develop, and which must wait upon the training of experienced personnel to manage efficiently the various aspects of group practice. The wastes in hospital service depend partly on the same factors; the curtailment of the major wastes in our hospital system must be achieved by the gradual scrapping of unnecessary or badly designed plants and the concentration of hospital service within well-located and well-managed institutions which can be maintained without a large percentage of empty beds on each day of the year.

In conclusion, no large reduction in the costs of medical care through eliminating wastes can be achieved by any quick-acting remedy. Yet, in view of the wide-spread lack of needed medical care, all possible elimination of waste should receive immediate attention, in order that the savings may be utilized in supplying this need. Since the nation's bill for medical care is not large in proportion to the size of the national income or to the immense values of preserving and promoting health, attention should be focussed on providing more adequate medical service for more people. To this end, the people of this nation must be prepared -if necessary-to spend more rather than less for the advantages of beneficent science.