Some Basic Determinants of Medical Care And Health Policy: An Overview of Trends and Issues

by Anne R. Somers

Long-term trends in our economy and social structure are radically affecting the supply and demand for health services. Population increases, both generally and in the over-65-years-of-age bracket, growing ratio of nonwhites to whites, increasing proportion of women, increasing urbanization, industrialization, educational levels and per capita income are only some of the major factors affecting the demand for health services. Major developments in the science, technology and organization of medical care are and will continue breaking traditional patterns in rendering such care, and definitely point in the direction of multidisciplinary and institutional makeup in the delivery of health services. Changes in the financing of medical care are bringing in a foray of public programs sponsored by all levels of the government, contributing to the unique American pluralistic health care economy with its "mix" of public and private activities. Questions, intended to point up some of the more far-reaching issues, are appended to each section of the paper.

Major Socioeconomic Developments

Significant long-run social and economic trends in the United States over the past half century have already greatly enlarged the demand for medical services and altered the character of that demand. Most of these trends will probably continue, and demand can be expected to grow at an accelerated rate. Among these trends are:

1) *The great overall increase in population,* from 76 million in 1900, to 195 million in 1965, with projections of 206 to 211 million by 1970, and 248 to 276 by 1985[1]. Projected figures for 1985 indicate a rise of 27 to 42 percent over 1965.

2) *The continuing increase in the over-65 population.* Assuming only a slightly declining mortality rate over the next 20 years, and based almost entirely on past increases in the number of births, the Census Bureau anticipates 25 million in this age group by 1985 compared to 18 million in 1965, a rise of 39 percent[1].

3) *The rising proportion of nonwhites in the population accompanied by their improved socioeconomic status.* The proportion of nonwhites rose from 10.2 percent in 1940 to 11.9 percent in 1965[2]. Although the white-nonwhite income differential has shown little improvement in recent years—in 1947, the median income of nonwhite families was 51 percent that of white families;

Adapted from a paper presented at the Seminar on Health Policy, Institute for Policy Studies, Washington, D.C., January 25, 1966.

in 1963, it was 53 percent[3][1]—the incomes of both groups had risen dramatically.

4) *The increasing proportion of women in the population resulting from the ever increasing differential between male and female longevity.* Between 1949-51 and 1960, life expectancy for white males at 65 rose only by .2 of a year to 12.9 years. For white females, the rise was from 15.0 to 15.9 years[4]. The excess of women over men in this age group is now startling. In 1940, there were 105 females per 100 males; by 1970, the ratio is expected to be 132 per 100[5].

5) *The steady increase in urbanization and industrialization.* In the single decade, 1950 to 1960, the proportion of the population living in urban areas increased from 63 to 70 percent.

6) *The steady increase in educational levels.* In 1953-54, there were 60 high school graduates for every 100 17-year olds[6]. In 1963-64, the proportion had increased to 77 percent. In 1953-54, 291,000 bachelor and other first degrees were awarded; in 1963-64, the number rose to 499,000. During the same period, the number of doctorate degrees granted rose from 9,000 to 14,000.

7) *Rise in income levels.* In 1947, the median income of families (in constant 1963 dollars) was $4,165; in 1963, it was $6,249. At the earlier date, 32 percent of families in the United States had incomes less than $3,000 and only seven percent $10,000 or more. In 1963, the proportions were 19 percent and 20 percent.

8) *Rise in national income.* As late as 1940, the gross national product was only $101 billion. In 1950, it was $285 billion; in 1960, $503; and in 1965, $673. Professor Walter Heller, former chairman of the Council of Economic Advisors, has predicted a gross national product of $723 billion for 1966[7].

All these socioeconomic developments affect the demand for health services. The population increase alone dictates a significant absolute rise. For example, the best known effort to assess the nation's future need for physicians —the 1959 report of the Surgeon General's Consultant Group on Medical Education—concluded that merely to maintain the existing ratio of physicians to population our medical and osteopathic schools would have to increase the number of their graduates from a base line of 7,400 in 1959 to some 11,000 in 1975, or nearly by 50 percent[8]. Similarly, to keep the ratio of dentists to population at its present level of 70 per 100,000, the number of dental graduates would have to double by 1975.

The proportionate rise in the nonwhite population suggests an increase in a group particularly vulnerable to the health hazards associated with a low standard of living. This, along with the large-scale migration of southern

[1]All subsequent statistics in this section are from this source unless otherwise indicated.

Negroes to northern cities, is undoubtedly one factor in the significant recent rise in infant mortality in these cities. Fortunately, however, the increase in the Negro population has been accompanied by rising income and educational levels that, in turn, have made possible a marked narrowing in the differential life expectancy. The total effect, therefore, would appear to be a significant enlargement of effective demand as well as basic need for medical care.

The increasing proportion of women also presages greater demand. The average American woman has considerably more days of disability and uses more physician services per year than the average man. (The same does not apply to hospitalization.) The urban man uses more medical care than the rural; the industrial worker more than the farmer. The influence of rising income and educational levels on demand is less clear than it used to be in the days before health insurance. But the relation between these two variables and insurance enrollment, and its clear effect on demand create a sizeable impact.

The influences of the growing numbers of the elderly on the quantitative aspects of demand are too well known to need further proof. The irony of our declining mortality rates has frequently been noted: the fact that a large proportion of the population survives into middle and old age means more illness and disability per capita. It also involves a marked change in the nature of illness and disability. Morbidity studies confirm that in a youthful population acute illness predominates, whereas, in an aging population, chronic and mental illnesses inevitably become more prevalent.

The corollary of this shift is increasing need for long-term preventive, rehabilitative, semicustodial, and medical-social health services. Most chronic diseases take months or years to develop and require early diagnosis to be treated effectively. The period of treatment is, by definition, extensive. If cure is achieved, a long period of subsequent rehabilitation often is required. Generally, the most optimistic solution is stabilization—for example, in diabetes or glaucoma—under continuous life-time medical supervision. With such changes in morbidity and disability patterns, the distinction between health and illness becomes blurred, and the concept of medical need increasingly difficult to pinpoint in space or time. Rather, there is a continuous spectrum with varying degrees of emphasis. It begins before actual illness; it does not cease with a hospital discharge. Continuity and comprehensiveness have become indispensable aspects of effective medical care.

These developments already have created a veritable explosion of demand for medical care that is likely to increase rather than decrease in the years immediately ahead as former economic barriers are removed or minimized. Malutilization and maldistribution are almost certain to be widespread. How effectively such aberrations can be brought under control and the new dimensions of demand restrained and directed into equitable and truly health-producing channels will depend both on the evolving nature of the doctor-

patient relationship as it develops in the new socioeconomic and scientific-technological climate and on institutional health and medical care policies.

Are the health professions being adequately enlarged to cope with the predictable rise in demand for health services? Are educational and training programs likewise being adapted to the new demand? If not, how can these adjustments be hastened?

Are the professions adapting sufficiently to the changed nature of demand, especially the change in emphasis from acute to chronic illness, including mental, and to the growing need for preventive services? If not, what can be done?

In view of the decline in infectious diseases and the ever-growing importance of chronic illness, and in light of the general importance of preventive care, does the traditional dichotomy between public health services and private medical services still make sense? If not, how and to what extent can they be effectively coordinated?

What specific steps can be taken to attack the problem of the relatively higher mortality rates among older men than women?

What can be done, in terms of health policies, to help older women make more productive and creative use of their new-found years?

How can the new Negro demand for health services be effectively channeled into the mainstream of U.S. medical care? What implications does this have for county and city public health programs? For medical schools and teaching hospitals?

What changes in health and medical care policies are desirable to meet the probable shift from underutilization, associated with traditional financial barriers, to the kind of pressures that may be expected with near-universal access?

Major Developments in the Science, Technology, and Organization of Medical Care

"I don't believe that I am being melodramatic," said Dr. David Krech, professor of psychology at the University of California, opening a session on the science of the mind at the recent meetings of the American Association for the Advancement of Science, "in suggesting that what our research may discover may carry with it even more serious implications than the awful—in both senses of the word—achievements of the atomic physicists. Let us not find ourselves in their position of being caught foolishly surprised . . . and touchingly full of public guilt at what they had wrought"[9].

In the session that followed, reports were made on certain drugs that erased memory in goldfish and others that enhanced memory and learning

in rats. With this evidence that science is coming to grips with the biochemical basis of memory and learning, the challenge—or spectre—of mind control is clearly on the horizon. It was the awesome ethical, social, and political implications of such control that Dr. Krech had primarily in mind. The implications for the practice of medicine, the organization and financing of medical care, and national health policy are no less revolutionary.

Other portentous scientific developments include potential control of the reproductive process, qualitative as well as quantitative, through embryology, "molecular genetic engineering," and other spectacular new developments; and potential control of the current major adult killers—heart disease, cancer, and stroke.

The optimistic report of the recent presidential commission[10] suggests that the prediction made in a 1965 Rand Corporation report[11], that the life span will be extended beyond 100 years within the next 50, is not as unrealistic as it might first appear. Thus far, however, progress in this direction appears to be confined entirely to women. Clearly, there is a glaring gap in this area betwen scientific progress and actual achievement.

Moreover, there are some who wonder if the effort is worthwhile, who question the value, on both economic and humane grounds, of such "medicated survival." This appears to be a minority view, however. Aside from the overwhelming evidence that the majority wants to live longer, it is increasingly clear that science and technology can provide not only the gift of life but make it distinctly worth living. Witness recent progress in physical rehabilitation, ophthalmology, otology, and other areas.

Such scientific advances have resulted in a new and enlarged technology—in equipment, institutional facilities, technical procedures, medical and paramedical relationships—which is steadily transforming a highly individualized profession into a vast and intricately interdependent industry. Today it is no longer possible, in terms of either knowledge or cost, for a single doctor to deliver a total medical product. Medical practice has become, inescapably, an organizational process.

Consider, for example, the impact of the computer. Already this instrument is being used to screen diagnostic records, scan X-rays, monitor the condition of patients during surgical procedures, and test new drugs. It is employed in studying brain waves and electrical patterns of the heart, investigating obscure correlations in a long list of diseases, scoring psychological tests, and in keeping track of the fetal heartbeat while the mother is in labor so that it can be determined immediately whether the infant is in distress.

Although the computer is associated primarily with large medical centers and hospitals, its potential for improving clinical medicine generally is just beginning to be realized. For example, a portable ECG machine, now being tested by the U.S. Public Health Service, enables nurses to take electrocardio-

grams routinely in patients' homes and have them immediately analyzed by a computer in Washington—all for one dollar per use. Electrocardiograms taken in a doctor's office, or a hospital, usually cost 10 to 15 dollars[12].

As to the quality of the computer's work, the dean of the Harvard Medical School has said that, in differential diagnosis, the computer is almost always better than the individual doctor[13]. It could also, he said, read all the electrocardiograms in Massachusetts in a few minutes and do it better than any physician.

Against this technological background, the following major trends in the organization of medical care would seem to be inevitable:

1) *The growth of specialization among physicians.* In 1950, only about 36 percent of physicians in private practice regarded themselves as specialists[14]. Ten years later, the figure had increased to 56 percent. By April-May 1965, it was reported that 65 percent of all self-employed medical doctors under 65 were specializing, thus outnumbering the general practitioners by two to one[15]. If the comparison were applied to all active physicians, including those employed in hospitals, research, and full-time teaching, the proportion would probably be closer to three to one.

2) *The steady decline of solo private practice.* For a number of years there was tendency to classify types of practice according to two major categories: solo and group. While solo practice has clearly been declining for several decades, group practice—especially as defined by the U.S. Public Health Service (three or more full-time physicians providing multidisciplined services, and with income divided according to some prearranged plan)—has not shown anything like the growth anticipated for it by many medical care experts[16].

The explanation lies in the definition of what is not solo practice. In the book, *Doctors, Patient, and Health Insurance*[17], the catchall term "combined practice" was used to encompass all forms of nonsolo practice. Even though the term is unfortunately vague, the authors have not been able to find anything better to designate the multitude of salaried arrangements in hospitals, clinics, and elsewhere, the two- and three-man partnerships, and the various group organizations that do not meet the U.S. Public Health Service definition. If the most important factor is not the particular form of organization but the fact that physicians are practicing together on some form of organized, institutional basis, then the broader term is the more significant one.

One measure of the trend is the proportional rise in the number of hospital interns and residents: from 10 percent of all medical doctors in 1950 to 14 percent in 1963[14]. Similarly, salaried employment of physicians in government, hospitals, teaching, preventive medicine, and research, which accounted for 13 percent of all doctors in 1950, rose to 17 percent in 1963. The result has

been not only a decline in private practice, as defined by the American Medical Association, but also in solo practice.

According to the latest U.S. Public Health Service survey in 1959, about seven percent of physicians practiced in groups that met its definition; another three percent were in single-specialty organizations or organizations made up largely of part-time men[18].

If one adds to these categories the unknown but growing number in partnerships, it would appear that only about half the nation's doctors are still in solo practice. This does not take into account the important and growing phenomenon of solo practitioners' offices located in a single building in, or adjacent to, a hospital. In some hospitals, the emphasis on "balanced tenancy" and the degree of informal cooperation between the doctors results in an elementary form of "combined practice."

3) *The steady growth of the health services industry.* Just as medical specialism has forced doctors into various forms of combined practice, so it is forcing them into even broader health teams and cooperative arrangements with a multiplicity of other health professions—some of which did not even exist a few years ago. Clearly, the services of the physician and even the traditional hospital team—doctor, nurse, and technician—have to be supplemented by dozens of other professions and occupations. In 1960, there were about 80 occupations, as defined by the Census Bureau, in the health field[14].

The extensive complex, known to the U.S. Census Bureau as the health services industry, is now the nation's third largest, exceeded only by agriculture and construction, and one of the two fastest growing. Projections indicate that either health services or education will be the nation's largest consumer of manpower by 1970.

Today, some three to four million people are engaged in the many aspects of health services[14]. Even under the restricted definition of the U.S. Census Bureau, the industry employed, in 1960, about 2.6 million. Not included is another million or so employed in the manufacture and distribution of drugs.

Within the great overall growth, perhaps the most striking single fact is the declining ratio of doctors to all health personnel: now less than 1 to 10. This development reflects not only the growth of the other health professions but also a relative decline in the number of doctors. During the past half century, the percentage increase in doctors was far short of the increase in population, or of the total labor force, or of total employment in health services.

The relative decline is expected to continue. Already at the midpoint of the Surgeon General's Consultant Group's timetable for increasing the number of medical school graduates to a point that existing physician-population ratios could be maintained, we are falling far short of that goal. In the words of Dr. Ward Darley, former director of the Association of American Medical Colleges, "Fifty percent of the alloted time has passed and less than 20

percent of the goal has been reached, and we are steadily falling behind in the creation of the new, first-year places necessary to maintain a graduation rate proportionate with the increasing size of our population"[19].

PHS projections have now been scaled down and altered by changes in definitions, the inclusion of doctors of osteopathy, and other measures[14]. It is assumed that we will continue to import about 1600 foreign-trained physicians each year. Despite these statistical maneuvers, the physician-population ratio will almost surely decline, at least for the next decade—this in the face of rising demand. In this juncture, it is fortunate that the other health professions are growing rapidly, although the cry of "shortage!" is heard in almost all of these too.

Within this new and enlarged industry, the possibilities for productivity increases and otherwise enlarging supply, despite the declining proportions of doctors, are just beginning to be appreciated. Still dominated by the one-doctor-to-one-patient mythology, the industry is just awakening to the fact that adequacy of supply is not simply a question of numbers. It is related to changing technology, the development of new skills and professions, substitutability of varying skills with different "mixes," methods of organizing services, pay, hours, and other personnel practices, and so on.

As is often the case, more progress has been made in this respect than we are willing to acknowledge. Although the very word "productivity" is anathema to many physicians and hospital officials (who fear that it implies excessive depersonalization or quality deterioration), productivity increases have in fact been effected in many aspects of health care. But the unfinished business in this respect is still enormous, especially in the hospital field.

4) *Increasing institutionalization of medical care.* All of the aforementioned trends have inevitably contributed to the advancement of what—for lack of a better word—may be called the "institutionalization" of medical care. This is a world-wide phenomenon, growing out of scientific-technological progress and the rising tide of demand, and proceeding with little or no regard for differing economic or political systems.

The most dramatic single example of such institutionalization is the modern hospital. In the words of Ray E. Brown, President of the Association of University Programs in Hospital Administration, the very concept of the modern hospital "is one of institutional synthesis, of bringing together all the components of medical care which cannot be provided by the individual physician or patient." In the last few years, it has become the center of the medical world—a vast complex of expensive buildings, specialized equipment, and interdisciplinary skills brought together for inpatient and outpatient treatment, research, professional and general health education.

Professional and public response to the development of this new type of hospital has been overwhelmingly favorable. Between 1931 and 1962, the

annual rate of admissions to general hospitals (all except mental and tuberculosis) per 1,000 population went up steadily from 56 to 140, or 150 percent[20]. Owing to a continuing decline in the average length of stay, however, from 15.3 days to 9.3, the total number of patient days per year per 1,000 population moved up at a much slower pace, from 860 to 1295, or 51 percent.

In recent years, Blue Cross and other third-party payers for medical care have tried to cut the rise in hospital use through such means as review of extended stays and promotion of utilization control committees. Despite these efforts, admissions and patient-day rates continued to rise, although at a slower pace than before. The American Hospital Association reports that the admissions rate for nonfederal short-term hospitals rose 23 percent from 1950-64, the patient-day rate, 17 percent[21]. The patient-day rate for all hospitals, which fell 10 percent, is primarily attributable to the decline in the patient-day rate in mental hospitals.

The hospital's increasingly dominant role in medical care has, not surprisingly, made it the target for a great deal of criticism as well as praise. The staggering rises in hospital costs—in September 1965, the average *per diem* cost in short-term hospitals was nearly $48[22], compared to less than $10 in 1946[21]—and prices, the effect of these rises on Blue Cross and other health insurance rates, the difficulties that the hospitals are having in maintaining adequate nursing and other services, the unresolved internal conflicts between medical staffs and lay administrators, and conflicts between the expansionist plans of individual hospitals and the restraints being urged by Blue Cross, planning councils, and others—all these and other issues have contributed to the controversy that now centers about this complex institution.

The evolution of individual hospitals into medical centers, generally affiliated with a medical school, has carried the process of institutionalization even further. So, in the broadest sense, has hospital planning. And the regional programs for integrated patient care, research and education, encompassing community hospitals and individual physicians as well as teaching hospitals, envisioned in the 1965 legislation growing out of the President's Commission on Heart Disease, Cancer and Stroke, represent still a more advanced stage of institutionalization. Some in the medical profession welcome this latest development; others are aghast. Dr. F. J. L. Blasingame, Executive Vice President of the American Medical Association, concluded his report to the House of Delegates last November with these words:

"As the conference[2] unfolded, it became increasingly apparent that a triumvirate of forces is agglutinating to mold and shape the pattern of health care in this country. This triad includes the federal government, the university-medical school complex, and the hospital system. It is a powerful combination, gaining strength from the millions of dollars of federal funds available to these institutions . . . and given impetus by new laws that have been enacted . . .

[2]White House Conference on Health.

This coalescence of forces has enormous potential for drastically altering the pattern of medical education, research and service.

"I make this observation in the nature of a presumptive diagnosis. No specific treatment is offered. However, assuming the diagnosis is correct, it is obvious that we must apply our best thoughts and energies toward devising appropriate therapy"[23].

The chief criticisms of the trend to institutionalism, as generally presented by its opponents, are impersonalization and bureaucratic control, with injurious consequences to the quality of medical care. Although such dangers are present, most of the evidence is to the contrary. Institutionalization facilitates organized quality controls[17] as well as greater access to first-rate care for more people. Consider, for example, the previously cited illustration of a nurse being able to provide an accurate ECG reading, within seconds, in the patient's own home for $1.00. Such a service could not be accomplished without the computer, a highly organized communications system, and an equally well-organized system of institutional relations within the hospital-medical-public health nursing complex.

Are United States physicians, and the medical institutions they head, adequately in contact with the principal biomedical research centers so as to take full advantage of the current rapid production of new medical knowledge?

In view of the probable continued progress in control of the major degenerative diseases and in average life expectancy, it appears essential for both consumers and providers of medical care to alter the emphasis in caring for older patients from merely deferring death to the achievement of more years of healthy creative activity. How can this change of emphasis be encouraged?

How can preventive medicine as well as rehabilitation be brought more fully into the mainstream of medical practice?

Who, or what, should replace the disappearing general practitioner as "personal physician" or the initial patient-professional contact? What changes in medical education would be necessary?

If, as now seems probable, hospital-based practice, salaried and otherwise, is likely to evolve as the most viable alternative to solo practice, should this be encouraged by public policy? If so, how?

What additional steps can be taken to increase the supply of medical doctors, nurses, and other professional health services personnel?

Should the trend to institutionalization deliberately be promoted by government policies? If so, how can this be combined with effective quality controls? How much preservation of noninstitutional care is desirable?

Can hospital planning be carried out effectively on a purely voluntary basis? If not, what statutory authority is best?

Major Developments in the Financing of Medical Care

Not surprisingly, the trends discussed in the previous sections have contributed to a vast increase in annual expenditures—both national and personal —for health services. Between 1950 and 1964, total national expenditures for health care (exclusive of medical education and community public health services) almost trebled, rising from $12.9 billion to $36.8 billion[24]. In proportion to the gross national product, they rose from 4.5 percent to 5.8 percent, or 29 percent in only 14 years.

Even more significantly, the rate of increase has been accelerating. During the years 1929 to 1940, the proportion of gross national product covering health services rose only from 3.6 to 4.0. But during the last decade, it advanced about two and a half times as rapidly. Annual dollar expenditures have been increasing inexorably, in recession and in prosperity, between 6.5 to 8 percent a year. Between 1963 and 1964, the rise was 9.1 percent. At this rate, the dollar volume expended for health services probably exceeded $40 billion in 1965, and will be close to $50 billion in 1967. Its proportion of the gross national product will continue to increase. There is little doubt among specialists that the ratio will eventually move to eight to ten percent; the range perhaps representing the difference between a rise uninhibited by considerations of cost efficiency and one in which some skillfully applied restraints are exercised.

Per capita consumer expenditures for medical care have risen only a little less dramatically than national expenditures. Between 1948 and 1963, they more than doubled to a 1963 figure of $126.93[25]. In the past five years, the rise has averaged about five percent a year, considerably higher than the increase in per capita income.

Within the overall rises, there have been important changes in the distribution of expenditures for the various health services. The most dramatic has been the shift in first place from physicians to hospitals, with the latter now accounting for more than 30 percent of private consumer expenditures[24].

The rise in expenditures is attributable to many factors: the increase in population and other demand considerations, the scientific-technological advances, and to rising unit prices. In June 1965, the medical care component of the consumer price index stood at 122.2, compared to 110.1 for all items and 117.6 for all services (1957-59 = 100). By far the most spectacular rise was registered by hospitals whose daily service charge (basic room and board rate) had reached 152.5 on that date. Physicians' fees were reported at 121.1 and dental fees at 117.4. Drugs and prescriptions reported a slight decline to 98.1.

The probably conservative nature of the consumer price index reports is suggested by a recent survey of physician earnings—clearly not the same as prices but still relevant. According to the survey, the typical private practitioner, in 1964, netted before federal income tax 13.3 percent more than in 1963[15]. The average sum was $28,380.

Almost inevitably, the rising costs of medical care have resulted in the development of new mechanisms and institutions—especially private health insurance, social insurance and other government programs—to help people meet these costs. The new mechanisms, in turn, have helped to accelerate the rises.

1) *The development and limits of private health insurance.* The phenomenal growth of private health insurance since World War II often has been praised as an example of private enterpries at its most ingenious. Approximately 75 percent of the civilian, noninstitutional population now has some form of hospital expense coverage, the most prevalent form of health insurance[26].[3] About 70 percent also have surgical insurance.

The variation in health insurance enrollment among different population groups is very great, however, ranging (in 1963) from 34 percent for persons with a family income less than $2,000 a year up to 88 percent for those with incomes of $10,000 or more[26]. Seventy-two percent of the population under 65 years of age had hospital insurance coverage, but only 54 percent of those over 65 had such protection. The white population had a coverage rate of 74 percent, and the nonwhite, 46 percent.

The value of insurance, in terms of the protection provided, is on average less impressive. The proportion of medical expenses met by insurance has advanced at a very slow pace and appears to be approaching a plateau. In 1963, private insurance met 31 percent of all consumer medical care expenditures[25]. During the past 10 years, the increase has averaged slightly more than one percentage point a year, a rate that would require another 20 years before more than half of consumer expenditures would be covered. In the last two years, the increase has averaged only .8 of a point.

One factor holding down the benefit-expenditure ratio is the prevalence of various money limitations on benefit payments: the ubiquitous deductibles, coinsurance, and dollar maxima, and, of course, the fact that most benefits are

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[3]The Health Insurance Council of the industry estimates 79 percent enrollment for 1964. These estimates are based on industry reports with adjustment for duplicate coverage. Six household surveys made between 1953 and 1963 by the National Center for Health Statistics and others have reported 6 to 10 percent lower enrollment for comparable years. For comparison of the two techniques, see L. S. Reed, *The Extent of Health Insurance Coverage in the U.S.*, U.S. Dept. of H.E.W., Social Security Administration, Research Report No. 10, 1965. Washington: U.S. Government Printing Office.

on an indemnity basis. Then there are the large categories of medical expenses that are generally omitted altogether, such as drugs, dental care, mental illness, and to a lesser degree, non-hospital physicians' services. In fact, about 85 percent of all insurance related benefits are now going for acute illness and for hospital and hospital related expenses. Attempts are being made to extend insurance to the various noncovered areas, especially mental illness. But in the main, there has been very little progress in this respect. Preventive care and long-term chronic illness are almost completely neglected.

The rising cost of insurance is largely a reflection of the rising costs of medical care, especially hospital services. Overhead for the industry as a whole—operating expenses, additions to reserves, and profits—as a proportion of premium income has dropped steadily from 23 percent in 1950 to 13 percent in 1963[25]. This "retention rate" has been even better in group policies—only five percent for Blue Cross and eight percent for commercial groups, as distinguished from 46 percent for individual commercial policies.

The new "Medicare" program relieves insurance carriers of the almost prohibitive task of insuring the aged, an undertaking that has proved burdensome and unprofitable. Already some groups are pressing for extension of the plan to the total population[27]. Undoubtedly, the majority of Americans hope, however, that the industry now can and will be more effective in covering the normally insurable population, mainly employed persons and their dependents. This implies extension of enrollment to a substantial portion of the remaining "have-nots," including low-income persons who are self-employed or in small establishments, non-whites, rural dwellers, and short-term unemployed, etc.; and more comprehensive coverage of family medical costs. The future of private health insurance and the nature of the public-private "mix" in our pluralistic health economy will be largely determined by the industry's abilty to cope with these two problems. This, in turn, means coming to grips with the costs of medical care.

2) *The expansion of public medical care programs.* Throughout most of the postwar period, the government's share of total health expenditures remained relatively constant, fluctuating around 25 percent. A marked departure from that pattern is imminent. The "Medicare" provisions of the Social Security Amendments of 1965 will, in the first full year of operation, 1967, account for about $3.2 billion[28]. Other, frequently overlooked health programs in the same law appear likely to add over $500 million to government expenditures. Still other new and pending programs, including the Appalachian regional development program, the economic opportunity program, and, of course, the large and ever-growing medical research programs, will also provide substantial new funds for the health services industry.

Although private expenditures will also continue to rise, it seems clear that the government's contribution will soon approach one third of the total. Its

influence on the large private sector will be even greater than these ratios suggest.

All levels of government are involved in the increase, but the federal government more so than the state and local governments. In 1964, for the first time since World War II, more than half, 51 percent, of public funds came from federal sources[29]. Recent legislative enactments will result in a proportionate growth in Washington's share. But the federal-state character of much of the legislation and a long tradition of state and local responsibility for certain key problems, such as mental health, assure continued substantial enlargement of state and local financial participation. In New York City, it is estimated that government—in this case mostly municipal government—already is paying about one third of all medical costs[30].

The range and variety of public programs is now so great that it is virtually impossible to encompass all the segments into a whole meaningful picture. It may be helpful, however, to classify the programs according to a few basic distinctions:

a. *By sources and methods of financing.* Payroll taxes (workmen's compensation; Medicare, Part A) *vs.* general taxes (public assistance); levels of government (federal, state, local, various combinations); grants-in-aid *vs.* direct financing.

b. *By eligibility requirements.* Qualified by "premium payments" or individualized contributions (Medicare, federal employees program); by "means test" (public assistance); by personal status (veteran, Indians); universal access (U.S. Public Health Service chest x-rays); various combinations of these.

c. *By method of providing services.* Purchase of care by government directly from a private vendor (public assistance vendor payment programs) or through fiscal intermediary (armed forces dependents' medical care program); direct provision of care through government institutions or instrumentalities (VA hospitals, municipal and state hospitals).

The overriding issue in health care financing is no longer public *vs.* private enterprise. That issue is settled in favor of the unique American pluralistic health care economy with its pragmatic "mix" of public and private activities. But as the ratios of this "mix" begin to change radically in favor of the public sector, as the federal portion increases *vis-à-vis* the state and local, and as various public programs compete against each other for public and professional favor, the time has clearly arrived for some sophisticated thinking with respect to the most desirable forms of public enterprise in the health field. In undertaking such analysis and evaluation, it is essential that the basic socio-economic and scientific-technological-organizational trends be considered as well as the more obvious questions of relative costs and administrative feasibility.

In an affluent and rapidly expanding economy, is there reason for concern over the rapidly increasing proportion of the gross national product devoted to health services? Can we separate the portion of the increase which is attributable to provision of additional needed services from that associated primarily with price inflation and other forms of waste? It is possible to devise methods of promoting the former and discouraging the latter?

The relation between quantitative increases in medical care expenditures and qualitative improvements is highly complex and far from obvious. How can a more sophisticated approach to this problem be promoted on the part of consumers, providers, and third parties?

Can the private health insurance industry hope to survive merely by small, piecemeal extensions of enrollment and benefits, or should it be undertaking a basic restructuring of its role and opportunity in the future? Is it actuarially possible for it to give more emphasis to preventive care and chronic illness?

Presumably, we are committed to a pluralistic approach to governmental medical care programs, as well as to a public-private "mix." Granting the desirability for continuing many types of programs, is it possible to devise some policy guidelines suggesting that certain approaches are more effective for certain purposes than others? For example, can the relation between Titles 18 and 19 of the new Social Security Amendments be kept complementary, as contemplated in the legislation, or are we likely to witness a bitter struggle between advocates of the two approaches? If one believes that there is an appropriate role for each, how can such policy be effectively implemented?

How can greater coordination of public programs be promoted—at the federal, state, and local levels?

Is there any way of determining the most effective public-private financial "mix?" the most effective public-private administrative relationships?

Conclusion

The potential for continued scientific progress in medicine, for rational and efficient organization of health services, and for full removal of the financial barrier to such services, is excellent. The results of such continued progress, if realized, could exceed man's fondest dreams for a longer, healthier life and even place within his reach the potentiality for permanent physical and mental improvement of future generations.

Whether these exciting possibilities will, in fact, be realized depends on many unknown factors. The use of the term "determinant" in the title of this paper should not be construed to imply automatic development. Some of the unknown factors, such as the avoidance of mass suicide through another

world war, are largely beyond the control of those responsible for health policies. But many are subject to a considerable degree of conscious decision making on the part of both individuals and institutions. Not all the magic of modern science can save the consumer-patient from the effects of overeating, under-exercising, cigarette smoking, automobile accidents, and other possible threats to life and health associated with an increasingly affluent society. Nor can it save the policy makers and providers of care from the often difficult adjustments necessary to effect the assimilation of the scientific revolution into day-to-day health services.

If we are successful in these respects, it will be because those who have a concern and a stake in medical care take the trouble to understand the great historical forces involved and deliberately seek to adapt themselves and their institutions to the new imperatives.

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