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# *Understanding the Persistence of Human Resource Problems in Health*

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THE EDUCATION, GROWTH, DISTRIBUTION, AND PRODUCTIVITY of human resources in society's health sector have engaged the attention of scholars, advocates, policy makers, and critics in a never-ceasing stream of publications (*c.f.*, Butter, 1967; Carnegie Commission on Higher Education, 1970; Carnegie Council on Policy Studies in Higher Education, 1976; Ewing, 1948; Kissick, 1968; Lave, Lave, and Leinhardt, 1975; Surgeon General's Consultant Group on Medical Education, 1959).

There are four themes that appear repeatedly in these documents which can be summarized as follows:

1. There has traditionally been an undersupply of health personnel, particularly physicians. During the Depression years, however, nurses were deemed to be in oversupply. Today, in some quarters, we hear more and more about a potential oversupply of physicians. Whether too many or too few, the problem seems to be a recurring inability to match supply with demand.
2. The supply available, whether constituting an abundance or a shortage, is poorly distributed according to specialty and geography.
3. Too few of most health personnel, but particularly physicians, are trained in the precepts of preventive medicine or primary care medicine. Further, too few clinicians are aware of the organizational and administrative issues surrounding the delivery of good care.
4. Not enough advantage is taken of the possibilities of increasing productivity of the most skilled health professionals through the use of allied health personnel.

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These issues, surfacing as early as 1932 in the Committee on the Cost of Medical Care's (CCMC) Final Report, *Medical Care for the American People* (hereinafter referred to as the *Final Report*), have traditionally been approached through educational solutions. For example, the *Final Report's* "Recommendation V" focused nearly all of its human resource proposals on change in didactic and practical curriculum content of medical education. Either through alterations in favor of precepts of primary care medicine or increasing the number of physicians, the locus of change has usually centered in the medical schools. Whether this has been a wise policy is a question this essay addresses.

As part of the analysis, I examine what enduring forces there have been (and are) that have resisted the reasoned and sober recommendations of the CCMC's *Final Report* and of subsequent studies. The purpose of this paper is to develop a hypothesis to account for this resistance. It is grounded in the observation that the health sector of society displays a rigidity to change—not in numbers but in the relationships among groups within it. Further, the behavior of this sector of society is not that much different from any other of society's sectors, be they industrial, commercial, military, or religious. If anything, the health sector, in its rigidity, is an accentuated subsystem of the general society. Rigidity to change is due to the skewed distribution of power possessed by key groups. The control of the supply and distribution of human resources is one of the central means by which powerful groups within the sector maintain their hegemony and privilege. As such, attempts to change who controls human resource allocation will be resisted if it interferes with that control.

The key to understanding this perspective is to realize that human resources *are* resources, and great power accrues to those groups that can control their distribution, particularly under conditions of scarcity. The greater or lesser the degree of control over these human resources, the greater or lesser is the power of groups and their organizations in relation to other groups and organizations. Loss of the ability to control them is tantamount to loss of power.

We see this daily in hospital administrators' continual struggle against unionization (Chaney and Beech, 1976). Loss of the responsibility to determine task definitions, staffing patterns, scheduling, wage rates, hiring and firing, is a loss of power, and every adminis-

trator and union organizer knows this fact of life. What is true at this specific, microscopic, or organizational level is true at the macroscopic or national level. The tough talk, the pamphleteering, the propaganda at the level of the administrator-organizer struggle for the allegiance of employees is, of course, replaced by lofty rhetoric interlaced with appeals to professionalism, to good patient care, to the common good. But, the issue is the same: Who is going to gain or lose control over human resources?

The assumption, that control of human resources is a manifest way power is exercised in society, generally, and in health, specifically, is central to this entire essay. Another assumption is that the service side of the health sector dominates the need side. Economists, among others, may take exception to this emphasis; however, in my view the influence of consumer choice in determining resource allocation in health care is extremely problematic and secondary to the influence of providers. At the very least, it is still an empirical question, and as I have noted, this paper offers a hypothesis that is intended to add to the policy debate about reorganization of the health sector.

## Efforts at Change Through Educational Solutions: An Assessment

Most approaches to alter the problems of human resources have been centered on the health sector's educational institutions, especially medical schools. The *Final Report* offered a clear example of this and outlined a specific set of tactics. In its "Recommendation V," emphasis was placed on medical education, itself divided into five sections: preventive medicine, training of health officers, social medicine, specialism, and postgraduate education (Committee on the Costs of Medical Care, 1932:138). Using the *Final Report's* recommendation as a rough guide, I shall briefly examine the fate of various educational efforts to ameliorate human resource imbalances.

### *Preventive and Primary Care Medicine*

The *Final Report* and other groups since the days of the CCMC almost always call for changes in the curriculum of medical education leading to a solid appreciation of preventive and primary care.

In general, preventive medicine in medical schools is a subject that produces little interest. Large state-supported schools, where one might most expect to find it, prove not to devote much time to it. For example, at the University of Michigan, courses in preventive medicine from 1929 to 1975 have never constituted more than 2% of all formal requirements (University of Michigan *General Registers,* 1929–30 to 1974–75).

By the 1970s, preventive medicine had established itself within the departmental structure of medical schools. This does not mean that medical students undertook courses as requirements or as carefully integrated sequential programs. Nor are primary care clerkships required by a majority of medical schools (Association of American Medical Colleges, 1976:288).

Assessments of preventive medicine's impact in medical schools have been dismal (Shepard and Roney, 1964: Vuori, 1973). As measured by the large numbers of these courses that are elective rather than required and by the tendency of the courses to be allocated few hours and credits (Association of American Medical Colleges, 1976), preventive medicine remains a marginal exercise.

Second, there is little standardization in the way the subject is taught. Vuori (1973) identified 13 variables descriptive of the subject, such as the names of the departments, the level of clinical responsibilities, the existence of externships, the amount of importance accorded to research. Few departments resembled one another. On the one hand, a department might be mainly an adjunct to the science and clinical departments offering epidemiological, biostatistical, and methodological backup for basic medical research. On the other hand, a department of preventive medicine might be a locus of teaching and research about the organization of health delivery.

Third, the idea that preventive medicine not only be taught in specific course material but also "permeate all courses" involving a "reorientation of the entire curriculum" has simply not occurred on the scale called for in recommendations, such as those in the *Final Report* (1932:139).

## *Selection of Students*

What about efforts to select medical school applicants who might have interests in preventive medicine? Although not specifically

recommended, the *Final Report* expressed concern with the "type of students attracted into the medical professions" (CCMC: 1932:137). Without a doubt, the individual and social characteristics of the entering classes of medical students over the years have had an effect on the kinds of products the schools turn out. It is exceedingly difficult, however, to know whether the self-selection into medical education is more or less important than the educational and professional indoctrination that occurs once inside the walls of the institution. Rosemary Stevens (1975:30) summarized the problem in the following way:

> Efforts of medical school selection committees in the last few years to choose classes with more variety appear to have had little impact on these patterns (students as white, middle-class males, who are high academic achievers, especially in the scientific and quantitative skills). The most notable changes in the past decade have been the rising number of women and minority medical students, but these still represent a small part of total medical school admissions.

There is even evidence that, after some initial gains, enrollments of minority students are leveling off, remaining well below their representation in the general population (American Medical Association, 1976a). Moreover, changes in certain demographic characteristics of the student body do not necessarily lead to changes in the spirit and philosophy of medical education. The students have their role models to emulate, are ensconced in some of the most scientifically advanced institutions of any society, and quite naturally internalize and value what they see about them. At the graduate medical education level, this process is also partially responsible for the strong tendency of foreign medical graduates (FMGs) to remain in the United States where the resources and technologies commensurate with their skills are available (Stevens, Goodman, and Mick, 1978).[1]

Thus, despite claims by medical educators that changes in medical schools may be significantly altering some of these past patterns, the jury is still out. DuVal (1974:13) wrote that:

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[1]With the passage of the Health Professions Educational Assistance Act of 1976 (P.L. 94-484), the migration of FMGs may finally be slowed. However, many FMGs are in the United States on immigrant visas or are naturalized citizens, and are unaffected by this legislation.

> We have shortened our undergraduate curriculum, diminished our emphasis on the basic sciences as bodies of knowledge independent of clinical relevance, introduced the students to clinical medicine early, offered opportunities for selective study, and introduced selective educational tracts leading to intensive study that is more consistent with ultimate career choices.

Counter to this, however, we find that sponsored research in medical schools has more than doubled in the last decade (American Medical Association, 1976a) and that a strong science orientation in medical schools is flourishing.

Stevens's opinion (1975:32) was that:

> The curriculum, while becoming more flexible and, in many schools, shortened in duration, continues to have a strong academic-intellectual caste which has been both the strength of post-Flexner American medical education and the cause of many current complaints. Students have been selected to fill the role of scientific graduate students as if the M.D. degree were rather akin to the Ph.D.

## *Family Practice in Graduate Medical Education*

One potentially promising trend might be found in graduate medical education. The popularity of family practice residencies has increased dramatically over the period 1969–1977. In 1969, there were 15 approved residency programs; in 1977, 325. In 1970, there were 290 residents; in 1977, 5421 (Geyman, 1978). Also, the vacancy rate, *i.e.*, the number of unfilled residency slots, has progressively decreased (American Medical Association, 1976a). Thus, these three measures indicate an apparent rise in interest among medical graduates for the kind of physician envisaged by decades of primary-care-oriented reports.

Why these family practice programs have gained such rapid acceptance is as yet unanswered. Perhaps it can be argued that family practice has had to become a specialty in its own right. It is a 3-year program, is almost entirely based on inpatient practice, and is mostly concentrated in university-affiliated settings (195 programs out of 321, in 1977) (Geyman, 1978). Whether there is much preventive content in family practice is itself unclear. The curriculum content of family practice residencies, and the formulae for approval as

contained in the "Essentials" in recent *Directories of Accredited Residencies* (American Medical Association, Liaison Committee on Graduate Medical Education, 1976b) still contain heavy emphasis on episodic, symptomatic, disease-oriented medicine, whereas, the fundamental precepts of preventive medicine remain at the margin.

In brief, although the development of university-based community and family medicine may be the fundamental reform that has occurred in medical education since the days of CCMC, serious questions are still present. Although there is evidence that family practice physicians lean toward rural settings (Geyman, 1978), other work casts doubt about the enduring effect of primary care training on later practice locations in underserved areas (Wechsler, Dorsey, and Bovey, 1978). Furthermore, the populations served by the programs tend to be small, and the facilities devoted to teaching appear to be fragmented and poorly planned (King, 1977; LaPensee, 1977). One observer is harsh in his assessment:

> The spector of a 1000-bed teaching hospital conducting its outreach program for populations of five, ten, or 15 thousand people, the usual pattern, defies understanding . . . They seem no more than a symbolic gesture, for they accomplish nothing in terms of real needs of society, as a model for development of a rationalized system, or even as an effective teaching laboratory for students. (Lathem, 1976)

## *Continuing Medical Eduation*

Finally, there is no evidence that continuing medical education, another potential mechanism to effect manpower policies, has succeeded in ameliorating human resource issues. In the first place, it is doubtful that these issues were encompassed in the objectives of continuing medical education. Rather, the scientific upgrading of physicians in practice is the central concern. Second, as the programs expand (1105 in 1961–62; 5800 in 1976–77), they have been increasingly concentrated in medical schools (American Medical Association, 1976a). This movement toward university-based instruction may not be consistent with the goals of decentralized, community-oriented preventive medicine. Third, continuing medical education may actually be an effort by medical people to avoid mandatory relicensure, in which case there is no real reason for it to be directed toward prevention. Finally, unlike medical education and

graduate medical education, continuing medical education still remains voluntary in most states. This seriously weakens it as a sensible tool with which to institute changes in medical manpower.

In sum, recommendations as early as those in the *Final Report* to those of Coggeshall (1965) have invariably looked for educational solutions to human resource problems. They have not done the job, and we are faced with the remarkable fact that this nation's public and private efforts have increased the supply but done very little to change distribution. Researchers (Lewis, Fein, and Mechanic, 1976), the U.S. Congress in the Health Professions Educational Assistance Act of 1976 (P.L. 94-484), and the foundations (Carnegie Council, 1976) all agree that increasing aggregate supply bears little relationship to improving distribution, to name but one of the enduring manpower issues. What is it about educational institutions that offers so much promise for change but ends up producing such disappointing gains? The answer, I believe, lies in the relationship of these institutions to the larger system of social stratification. Control of human resources begins in society's places of learning. Let us examine this further.

## Social Stratification Outside and Inside the Health Sector

This section highlights the stability of both the health sector and the wider society, and draws attention to the accentuation of disparities of wealth and power in the former. It compares and contrasts the stability of wealth and power in the health sector with its occupational changes and shifts. Mobility outside and inside the health sector is then examined and is hypothesized as less extensive than prevailing ideology suggests. The third step in my analysis is to suggest that educational institutions have been the critical agents of stability over the last 50 years, and that concentrating efforts for change through them has almost paradoxically buttressed, rather than changed, the existing system of relationships (Kleinbach, 1974). Finally, I examine and hypothesize a relationship between the stratification system, poor mobility prospects, and the four general problems of human resources. It must be stated that much empirical work remains to be done to determine the accuracy of this analysis.

## *Income and Social Hierarchy*

"Most recent studies of American society," wrote Gabriel Kolko in 1962, "assume that since the end of the Great Depression, in 1939, the nation's wealth has been redistributed and prosperity has been extended to the vast majority of the population." Kolko continued:

> [T]his assumption [of economic equality] is nonetheless fallacious, for despite the obvious increase in prosperity since the abysmal years of the Great Depression, the basic distribution of income and wealth in the United States is essentially the same now as it was in 1939, or even 1910. Most low-income groups live substantially better today, but even though their real wages have mounted, their percentage of the national income has not changed. (Kolko, 1962:3)

This stark view was sharply at odds with more optimistic appraisals from researchers like Galbraith (1958), which emphasized a "flattening" trend in the distribution of wealth and income in this country. As Kolko and others noted, changes in income size in a population tell us nearly nothing about the proportionate distribution of income. Milner (1972:36) stated:

> The concept of inequality deals with relative differences. Consequently, change in the absolute level of resources does not necessarily have any effect on the degree or type of inequality . . . [T]he degree of inequality can be the same in a society that has an average annual per capita income of a hundred dollars as in one where it is ten thousand dollars.

Evidence that there has not been much shifting or redistribution of income is portrayed in Table 1. The overall picture is one of enormous stability in the before-tax income structure of our society through most of this century.

An objection might be raised that, since the New Deal and World War II, taxation rates have changed the after-tax income distribution. Although the issue is hotly debated (Pechman, 1969), the data tend to support the view that "U.S. taxes are not very progressive for most of the income scale" (Pechman, 1972:189).

The health sector appears to reflect this societal pattern. Although there is a lack of longitudinal data contrasting income levels of all the health occupations and professions, there are some suggestive hints. Navarro (1976) showed for 1949–50 to 1970 that

TABLE 1
Percentage of National Personal Income Before Taxes, Received by Income-Fifth, for Selected Years*

| Year | Highest Fifth | Fourth Fifth | Third Fifth | Second Fifth | Lowest Fifth | Total |
|---|---|---|---|---|---|---|
| 1910 | 46.2 | 19.0 | 15.0 | 11.5 | 8.3 | 100.0 |
| 1921 | 51.0 | 19.4 | 13.9 | 10.5 | 5.2 | 100.0 |
| 1929 | 51.3 | 18.8 | 14.4 | 10.1 | 5.4 | 100.0 |
| 1934 | 46.7 | 20.4 | 15.5 | 11.5 | 5.9 | 100.0 |
| 1941 | 50.0 | 22.0 | 16.0 | 9.0 | 3.0 | 100.0 |
| 1945 | 45.0 | 24.0 | 16.0 | 11.0 | 4.0 | 100.0 |
| 1950 | 44.1 | 23.5 | 17.1 | 11.2 | 4.1 | 100.0 |
| 1955 | 45.4 | 23.5 | 16.8 | 10.6 | 3.7 | 100.0 |
| 1959 | 44.7 | 23.4 | 17.0 | 10.9 | 4.0 | 100.0 |
| 1966 | 45.1 | 23.8 | 17.0 | 10.7 | 3.4 | 100.0 |

**Sources:* For years 1910 through 1959: Kolko, G. 1962. *Wealth and Power in America. An Analysis of Social Class and Income Distribution.* p. 14. New York: Frederick A. Praeger. For the year 1966: Pechman, G. 1969. *The Rich, the Poor, and the Taxes They Pay.* p. 182. Washington, D.C.: The Brookings Institution.

there had been no reduction in the disparity in income distribution of selected health workers in the United States. For example, general surgeons' median income rose from approximately $17,500 in 1949 to about $44,000 in 1970, a 151% increase. Respective figures for internists are $12,500 and $40,000, a 220% increase; dentists, $7,000 and $38,000, a 328% rise. On the other hand, respective figures for pharmacists are $4,000 to $10,000, a 150% rise; registered nurses, $2,000 to $5,500, a 175% rise.

That the income distributions for health occupations may be even more skewed than those of the general population is suggested by Fuchs, Rand, and Garrett (1970). By examining annual earnings of full-time personnel in 20 different industries such as apparel manufacturing, textiles, finance and insurance, construction, electrical machinery, education, and public administration, Fuchs and his associates determined that the amount of income inequality in health occupations was more extreme than in any of the other sectors examined:

> Mean earnings in the health industry are very much like those of other industries. The standard deviation of earnings in health, however, is very high—almost double that of the median industry. The coefficient of variation, which measures the relative variance of inequality in earnings, is higher for health than for any other industry. (Fuchs, Rand, and Garrett, 1970:386)

They noted a much larger percentage of health workers at the low end of the earnings distribution, that there are few people who have earnings between the mean and two times the mean (the distribution is bimodal due to the large number of physicians with high earnings), and that the percentage of people earning more than twice the mean is " . . . much higher than in any other industry." In other words, the health sector around the 1950–1960s was probably *more* attenuated than the nation as a whole: inequality within the sector was extreme.

### *Mobility*

A frequent reply to arguments that the social hierarchy both in and outside health has not changed is that opportunity for movement or advancement upward has greatly increased over the last several decades. Two general notions exist. First, the belief that opportunity exists in U.S. society is a hallmark of our ideology. Second, evidence of movement usually consists of comparisons of numbers of people entering into white-collar positions as opposed to blue-collar ones.

In the first case, empirical studies contradict the notion of an "open society" in which high levels of mobility exist. Upward social mobility in the United States is not significantly different from industrialized countries in Western Europe (Lipset and Bendix, 1967). Occupational mobility of the United States since the early part of the century has been remarkably limited (Blau and Duncan, 1967). Briefly, movement away from the status level of one's father is not likely to be particularly great, if it happens at all.

The work of sociologists like Hauser and Featherman (1974) and White (1970) have demonstrated how changes in the occupation structure itself expand or restrict individual mobility. Individual movement takes place within a determinant structure: this is one of the hardest notions for people to accept perhaps because it flouts notions of freedom of opportunity.

However, let us consider the logical possibilities for upward mobility. First, it can happen through the development of new positions higher on the social scale. That is, the profile of the entire

structure changes. This has occurred somewhat in health with the birth of new occupations such as physicians' assistants, nurse practitioners, and with the increases in positions in medical schools. Second, retirement of incumbents in higher positions opens opportunities. Third, promotion vacates positions. Fourth, death of incumbents also creates opportunities. Fifth, and what is commonly overlooked, incumbent's *demotion* or downward mobility produces slots (a much more common occurrence than is generally recognized).

In brief, to the extent that any of these logical possibilities for upward mobility do not exist, the smaller is the probability that individual social mobility will occur. Comparative studies of social mobility in various sectors in society need to be carried out before definitive conclusions can be drawn, but it appears that, by any standard, vertical mobility in the health sector is highly restrictive. As Greenfield (1969), Smith (1958), Stewart and Siddayao (1973), and Goldstein and Horowitz (1977) have remarked, the extent of "blocked" mobility in health is extreme.[2] On this subject, Kissick (1968:82) wrote:

> [T]he student who chooses one health career bars himself from all others, unless he chooses to go back and begin at the beginning in a new course of study that may well repeat what his previous training and experience have already taught him.

The plethora of educational requirements in health would indicate that mobility is even more difficult for individuals to achieve than it is for men and women in the military. Not only is vertical mobility restricted in health, but horizontal mobility, *i.e.*, moving from one technician's specialty to another, is blocked, again, by the educational requirements each specialty prescribes and, further, by the organizations representing each group that are bent upon protecting an often hard-earned place within the health hierarchy. In short, health may be one of society's only sectors where experience and merit performance are not rewarded through any significant promotion.

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[2]Some states have changed laws to permit groups like LPNs to become RNs. However, much progress needs to be made.

## *Educational Institutions*

The keystone of this hierarchized and rigid system is its educational institutions. As the initial entry portals to health occupations, these organizations—medical, nursing, allied health, and other schools—select, train, and deploy human resources to the various strata in the health sector. Except for the least prestigious positions in the sector, there is, as noted, no other way entry can be sought and gained. The influence that these institutions play in health, therefore, did not go unnoticed in the recommendations of the *Final Report* or in more recent analyses such as Coggeshall's (1965). In short, it was, and still is, perfectly logical to direct reform of human resource issues through educational means located mostly in the medical schools.

It appears that too much hope has been placed on educational institutions for: 1) changing individual attitudes and philosophy; 2) opening up of opportunity for merit entrance and advancement; and 3) improving the broad knowledge of the multifactorial basis of disease and health. Too little recognition has been given to the conservative roles of educational institutions in the health sector, namely: 1) the socialization process that these institutions perform (Becker, Geer, Hughes et al., 1961; Merton, Reader, Kendall et al., 1957; Mumford, 1970); 2) the strict control of entry into the sector they provide; and 3) their explicit way of differentiating one stratum from another through transmission of specialized knowledge. More broadly, educational institutions are not the only, but nevertheless a major, organizational mechanism through which control of human resources is exercised.

Furthermore, large amounts of society's resources have been spent to underwrite these privileged institutions in medicine. Giving funds to these schools with very little, if any, strings attached has been tantamount to subsidizing the most politically and economically powerful groups in health, to the relative detriment of all others.

The role of federal funding for research in medical schools is an important component of their post-war flowering into *the* central institutional complex for medical and health sciences. The effect this has had on subspecialty development and on the demise of general practice and preventive medicine has probably been substantial, even if unmeasured. Even the American Medical Association's Council

on Medical Education and Hospitals, in an undated but pre-1965 document, expressed misgivings about national research expenditures focused in medical schools:

> The Council is concerned with the present financial dependence of the schools on research funds to help conduct their general educational programs. It is also concerned that research techniques may be overemphasized at the expense of the other important segments of student training. (Council on Medical Education and Hospitals, n.d., 40)

TABLE 2
Sources of Medical School Financial Support, Selected Years (in $1000)*

| Source of Funds | 1950-51 | 1956-57 | 1959-60 | 1965-66 | 1969-70 | 1974-75 |
|---|---|---|---|---|---|---|
| 1. Federal contracts, gifts, grants for research | n.a. | 45,646 | 93,349 | 307,402 | 381,788 | 612,373 |
| 2. Non-federal contracts, gifts, grants for research | n.a. | 29,040 | 42,727 | 67,715 | 107,819 | 156,979 |
| 3. Total research (1 + 2) | 26,250 | 74,686 | 136,076 | 375,117 | 489,607 | 769,352 |
| 4. Federal as % of total (1/3) | n.a. | 61.1% | 68.6% | 81.9% | 78.0% | 79.6% |
| 5. Total support for sponsored programs | n.a. | 93,194 | 178,722 | 514,206 | 879,355 | 1,515,775 |
| 6. Total research as % of total sponsored programs (3/5) | n.a. | 80.1% | 76.1% | 73.0% | 55.7% | 50.8% |
| 7. Total support for regular operating programs | 67,500 | 146,415 | 192,158 | 367,978 | 670,159 | 1,489,517 |
| 8. Total support (5 + 7) | 93,750 | 239,609 | 370,880 | 882,184 | 1,549,514 | 3,005,292 |
| 9. Federal research as % of total support (1/8) | n.a. | 19.1% | 25.2% | 34.8% | 24.6% | 20.4% |
| 10. Total research as % of total support (3/8) | 28.0% | 31.2% | 36.7% | 42.5% | 31.6% | 25.6% |

**Source:* Various editions of the American Medical Association's Medical Education Numbers, published in the *Journal of the American Medical Association,* 1950 to 1976.

The increasing expenditures for federal and non-federal research from 1950–51 to 1974–75 is evident in Table 2. It is also clear that the bulk of the research is federally funded: 61.1% in 1956–57, roughly 80% most recently. The heyday of research spending in medical schools, peaking at four-fifths to three-fourths of all sponsored programs, took place between the mid-1950s to the mid-1960s. In 1965–66, total research support of medical schools accounted for 42.5% of all sources of support.

As the data also demonstrate, the mid-1960s witnessed the beginning of a decline in the proportion of research funds both as part of all sponsored programs and as part of all sources of medical school support. This undoubtedly reflects the contribution of direct federal capitation funds established in the manpower acts, which began to take noticeable effect in the mid-1960s. But, federal and non-federal research support still accounts for fully one-fourth (federal, 20.4%) of the medical school budgets, a sum in excess of three-quarters of a billion dollars.

The infusion of these monies and its effect are topics that require study in themselves. Here it can only be noted that research emphasizes the development of physician-scientists and specialists. Although the federal role is slackening proportionately, and there is renewed interest in primary care education and family practice residencies, the critical issue is that medical schools have been encouraged by public expenditures in precisely the opposite direction called for in the CCMC's *Final Report.*

Individuals and groups trained in these institutions will attempt to maintain their hegemony and privileged position (Lenski, 1966), and can do this through various means. This can be done through professional lobbying efforts (Harris, 1966), through controlled entry, training, and graduation from medical schools (Kessel, 1972), and through licensing procedures (Stevens, 1973). Another way is to keep roles undefined, to shroud task performance in secrecy (Smith and Kaluzny, 1975). It is remarkable how precise we are in the job descriptions of allied health personnel or professional nurses, yet how vague we are about what physicians, other than interns, really do (Rutstein, 1974). What is more, groups lower in the hierarchy will frequently protect their own territory by demanding explicit and unique job descriptions.

As a general rule, the higher a group moves on the hierarchy of health occupations, the more it will want to say about what is or is

not legitimate at lower levels. The highest position is exercised by the representatives of the physicians themselves, the American Medical Association, which plays a major role in accrediting educational programs for at least 24 allied health occupations (Wilson and Neuhauser, 1976).

In sum, I am arguing that educational institutions, and medical schools in particular, have played a critical role in maintaining the stability of the health sector's human resources. Each of the four human resource issues is related both to the system as it has been described above and to the role of medical schools, among others, in maintaining it. If the aggregate number of physicians, or nurses, or whatever level of personnel one wishes to examine, is imbalanced in relation to "need" or "demand," policies of educators to train more or less of a supply are curiously shortsighted, although the rhetoric of planning and forecasting would make one believe otherwise. If the maldistribution of health personnel continues to persist despite numerous efforts (Eisenberg and Cantwell, 1976) to alter locational and specialty choice, the belief remains that medical schools still offer a viable way to effect changes in individuals' choices toward understaffed specialties and areas. Despite our recognition that specialization trends begin in medical school, solutions in the form of non-specialized medicine (primary care) are continually offered within these same settings. Although one might counter that medicine, no matter what kind, should be taught in medical schools, the arguer would fail to consider that a complex organization, in which highly differentiated skills are taught, may be no place for the teaching of broad, general, eclectic knowledge. Further, where high levels of differentiated skills exist and are taught, there is invariably stratification according to the degree of difficulty involved. Fields of primary care medicine, because they have no hold on complex medical technology or esoteric knowledge and capacities, will tend to be relegated to the lower levels of prestige and importance in medical schools. Finally, knowing that the productivity of personnel, especially physicians, can be estimated only by crude and indirect measures, we persist in believing in the substitution of non-physician personnel for physicians and in hoping that training the former will somehow lead to their acceptance. Without knowledge of productivity and definitions of tasks, there are severe constraints to substitution. Let us examine each of these four issues of health manpower more closely, with respect to physicians.

*1. Aggregate Supply of Physicians.* In the first place, under- and oversupply, or even the "correct" supply of physicians is a judgment so fraught with methodological and subjective elements that paring away the fictional from the factual has eluded most researchers at least since the days of the CCMC (Donabedian, 1973; Fein, 1967; Lave, Lave, and Leinhardt, 1975; Bureau of Health Planning and Resource Development, 1976). Briefly, supply requirements tend to be functions of normative evaluations based on clinical opinions. The CCMC's report by Lee and Jones (1932) and the recent Schonfeld, Heston, and Falk work (1975) reflect this perspective. Or, requirements are based on some balance between available supply and effective demand, at given prices, which is the classical economic determination. During the Depression, as the *Final Report* implied, there was the view that there were too many physicians, largely because at prevailing prices physicians were unemployed and underemployed. This view, especially stressed in one of the CCMC minority reports, is in stark contrast to the Lee-Jones study, which asserted, through its matching of the then current epidemiological evidence of prevalence and incidence of disease with sound clinical attention needed for diagnosis, therapeutics, and prophylaxis, that there was an *undersupply* of physicians. Which view was correct? The debate within the CCMC is still reflected in current ambiguities.

From World War II until the early 1970s, we were increasingly warned that there was an aggregate undersupply of MDs in this country. Accordingly, medical schools were built and enrollments increased. Protective policies by professional medical groups relaxed, as is attested by the increasing numbers of foreign medical graduates (FMGs) admitted to practice. Now, within a short period, beginning around 1970, responsible people (*e.g.*, former Assistant Secretary of HEW, Charles Edwards) have asserted that there is a physician "surplus," and this belief is reflected by efforts in P.L. 94-484 to cut the numbers of foreign medical graduates in American medicine and to disconnect capitation for medical schools from increasing enrollments.

The persistent disjunction between the supply of health personnel and demand for their services has propelled groups, such as the Graduate Medical Education National Advisory Committee (GMENAC), to propose planning guidelines. However, planning at this level would require the relinquishing of power by precisely those groups currently exercising control over the production of these re-

sources. In the meantime, undersupplies mean unmet need, unmet demand, unavailable services; oversupplies mean unnecessary treatment, supplier-induced demand, excessive surgery.

*2. Distribution of Physicians.* Maldistribution is probably the most commonly decried shortcoming on the supply side of human resources. Moreover, data indicate that specialty maldistribution has grown worse since the CCMC (Wechsler, Dorsey, and Bovey, 1976). With regard to spatial or geographic distribution, we also continue to be plagued by imbalances.

How does the theory of stratification and blocked mobility explain this? Rushing (1975) demonstrated empirically that geographical distribution of physicians recapitulates general imbalances in community wealth; he based his analysis on the Association of American Medical Colleges' Longitudinal Study, which followed a cohort of 1960 medical graduates (D'Costa and Yancik, 1974). Rushing (1975) concluded that:

> [M]any of the causes of the distribution of physicians have a base in general non-medical differences between communities so that the maldistribution of physicians is in large part the result of the processes that lie outside the field of medicine itself. . . . [Thus], the effects of such changes [in the medical characteristics of communities] are constrained by more general community characteristics as . . . wealth and population base.

In the language of this present paper, stratification within the health sector resembles and is caused by stratification in the larger society.

Within the health sector, another dynamic operates. Specialization can be visualized along a prestige-influence-power scale. Some medical specialties have considerably more prestige than others. For example, neurosurgery and internal medicine rate highly, whereas dermatology, allergy, and, not surprisingly, preventive medicine rate at the bottom of the prestige scale (Smith and Kaluzny, 1975). Furthermore, these specialities' rankings tend to be stable over time.

It is no wonder, then, that people gravitate toward a specialty that maximizes occupational opportunity, freedom, power, and in-

come. This occurs to the detriment of the delivery of ambulatory, primary, and preventive care, all of which have been low status activities.

*3. Paucity of Primary Care Physicians.* Too few men and women are imbued with the precepts of preventive, social, and community medicine—and this is part of the problem of specialty maldistribution. The discouraging story of community medicine and public health in medical school curricula has contributed to this. Specialization (or differentiation) is an essential precondition of stratification; it is a process noted by many sociologists (Svalastoga, 1965). It is true among physicians, as noted above, and other occupational groups in health. For example, among physician assistants, a group specially developed to meet primary-care, non-specialized health care delivery (Sadler, Sadler, and Bliss, 1972), there is specialization. In one survey of physician assistants, 43.8% (300 of 685) were in some form of practice other than family medicine. Further, specialization was correlated with the increasing size of community of practice (Fisher, 1976).

No group seems immune to it. In the face of increasing numbers of people working in the health sector, of mushrooming technological complexity, and of organizational sprawl, the ideology of primary care has not fared well. It cannot withstand high levels of stratification; it must be delivered in circumstances where there is a general balance of status and responsibility. This is why true team delivery of care is such an important priority (Andrus, 1975), but also why it is so difficult to achieve on a massive scale.

*4. Use of Allied Health Personnel.* Productivity gains of physicians, wrapped up as they are in the practice of free substitution of lesser-trained individuals, are not experiencing nearly their theoretical potential (Reinhardt, 1975). As long as strict control exists, usually in formal organizational settings, some substitution occurs. However, status, power, and prestige distinctions maintain artificial barriers to the full possibilities. Further, maintenance of these distinctions enhances differential association, which in turn provokes in-group solidarity, thus completing the vicious circle. (See Wessen, 1958, for a classical example of this.) None of this aids the team approach of health care delivery.

## Potential for Change

### *Substitution and Productivity*

Until now I have argued that the health sector is a highly stratified and rigid system. But, despite this pessimistic picture, the potential for a different system of medical care organization has been pointed out in numerous ways. With respect to human resources, two stand out: productivity and substitution. In the area of productivity, for example, there is a lengthy literature on the excess supply of surgeons. Nickerson, Colton, Peterson et al. (1976), in a two-part article, suggested plans that would reallocate the services of surgical specialists and, in addition to reallocation, would call for reductions in their numbers. Work loads of surgeons observed in the study would increase from 79.1% to 91.5% of the total work observed. Productivity is an enormous potential vehicle for change in the system.

Reinhardt's work further confirmed this point. As a conservative estimate, he suggested that:

> . . . if the average American physician currently employed as many as two aides per physician and expanded his auxiliary staff to double that number, physician productivity . . . would be expected to increase by about 26 percent to 40 percent, depending on the specialty being considered. (Reinhardt, 1975:194–196)

Furthermore, he showed that theoretically possible productivity gains mean a great saving in the number of physicians necessary to meet projections of effective demand. To quote the author:

> . . . 122 MDs per 100,000 with the productivity gains contemplated (in 1965) . . . is the effective equivalent of about 141 MDs per 100,000 population in the absence of productivity gains. (Reinhardt, 1975:201)

In short, alterations in productivity offer considerable potential savings of physician personnel.

A related issue is whether there will be a loss in the quality of services due to changes in staffing patterns, of which substitution of physician services is one option. There may be in health services

research a no more thoroughly researched topic than this, and there appears a fair degree of unanimity (Appel and Lowin, 1975). Those persons, such as nurse practitioners, physicians' assistants, and the like, perform the routine clinical duties of physicians almost always as well as, if not better than, the physicians themselves (Spitzer, Sackett, Sibley et al., 1974). What has hindered the acceptance of these people are restrictive state laws and legal barriers (Roemer, 1971), physicians' fear of malpractice claims (Kehrer and Intriligator, 1975), conflicts of role and responsibility (Lewis, 1974), poor information among health administrators (Fottler and Pinchoff, 1976), problems of team building and participation (Golladay, Smith, Davenport et al. 1976), and lack of enthusiasm by individuals seeking care (Cohen, 1974). None of these are issues of quality of care *per se,* although they may be couched as such.

Thus, on two counts, productivity and substitution, the health care system possesses a reservoir of wide flexibility. But, although there is potential flexibility, the stratification system stands as a major barrier for its effective flowering. A general "flattening" of the health hierarchy would, in my opinion, be a primary area for change.

## *A "Middle Class" in Health*

This may not be as quixotic a vision as it appears. Analysis by Fuchs, Rand, and Garrett (1970) suggested two things: first, that income is more dispersed or unequal in health than in any other sector of society. As a starter, research directed at how the health sector may be brought minimally in line with the rest of society is called for. Second, there is the unusual bimodal distribution of health incomes, one very low, the other very high. In short, there is a dearth of income-producing occupations in the middle, or what we commonly call in other sectors, the "middle class." It is possible that a vigorous effort at promoting income-producing occupations at the middle range could mitigate some of the more pronounced imbalances in health care delivery.

Within the sector it may be even more promising to conduct research in ways to "derigidify" the mobility process, both vertically and hierarchically. In my view, anything that enhances the free movement of people within a general occupational area is bene-

ficial, although certain dysfunctional outcomes are also possible.[3] It goes without saying that such movement should occur based only on merit and whatever clinical and non-clinical criteria are justified.

Change would have to occur in several areas: legal restraints, particularly those based on state laws and statutes; informal constraints, such as the loss of membership of professional and occupational groups; and those parts of educational programs that function to socialize people into roles of submission, deference, and other attributes largely irrelevant to health care delivery.

Perhaps, first and foremost, we need clear, unequivocal information on the process of social mobility in the health sector. Extensive literature, both quantitative and qualitative, exists on mobility processes in the wider society; however, little work is currently available concerning the health sector. This gap is recognized by agencies such as the National Center for Health Services Research, and with baseline data from which to work, some measure of the effectiveness of programs to encourage and promote greater mobility may be possible.

In sum, it is my thesis that human resource problems are linked to a rigidly stratified system and that this system should therefore be made less attenuated at the extremes and offer greater opportunity for mobility. A larger corps of middle income positions may be more responsive to the needs and demands of the populations, and the chance for mobility may decrease the demoralizing prospect that positions in the sector are basically "dead end." For most primary care requirements, health care providers need not be specialized, hierarchized, and status-ridden. Roughly equal levels of responsibility among providers as well as teamwork may be the keys to effective delivery of most health care. A rigid and stratified system stands as the major impediment to this.

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[3]High mobility can lead to unfortunate outcomes for clients, users, or patients of services through the disruptive influence of high personnel turnover. However, it is hard to imagine any scheme that contributes to higher turnover than the current one, say, in the nursing profession and its deleterious consequences for both nurses and patients (Croog and Ver Steeg, 1972:296–297).

## Catalysts for Change

Although my argument has stressed the stability and rigidity of the health sector, it is apparent that forces have been building over the last several decades that might portend change. Change in social organization occurs more slowly than many might wish, but change can and does occur. I am suggesting that there exists a continual tension between forces arrayed in favor of and in opposition to change, and that the forces in its favor may be in a position to override some of the historical strengths of stability.

### *Numerical Changes*

Over the past half-century, most power has resided in the hands of what Alford has called the "professional monopolizers" (Alford, 1975) and their institutions. He and others like Elling (1968) have documented the gradual encroachment upon this power by other interests: government and legal authority, lay leaders, consumer groups, third-party payers, and various health occupations.

I assume that conflict of interests is a necessary ingredient of social change, and that positive social innovations grow out of this (Coser, 1956). From before the years of the CCMC until recently, too often the conflict "games" in human resources have tended to be zero sum, winner take all. This is the result of large imbalances of power and lopsided control of resources. Now, we may be witnessing the growth of multiple power-centers: through shifts in control of resources from non-organizational to organizational settings; application of the Wagner Act to health occupations; the continual demand for decision-making by consumers; and, finally, and perhaps at this moment most importantly, the federal government.

Among these power centers, I venture a guess that three will be critical. First, the growth both absolutely and relatively of mid- to lower-level health occupations portends a major shift in power. Since 1910, the number of persons working in the health sector has been steadily increasing (Table 3). According to the U.S. Bureau of Cen-

TABLE 3
Health Occupations: Proportion of All Employed Persons, by Decade, 1910-1970*

| Employment | 1910 | 1920 | 1930 | 1940 | 1950 | 1960 | 1970 |
|---|---|---|---|---|---|---|---|
| Total employed in health sector | 479,318 | 624,438 | 859,514 | 972,284 | 1,393,836 | 1,965,722 | 2,929,464 |
| Total number persons employed | 38,167,336 | 41,614,248 | 48,829,920 | 44,888,083 | 56,225,340 | 64,639,256 | 77,308,792 |
| Health sector as proportion of all occupations | 1.3% | 1.5% | 1.8% | 2.2% | 2.5% | 3.0% | 3.8% |
| Total U.S. population (1000s) | 92,407 | 106,466 | 123,077 | 132,594 | 152,271 | 180,671 | 204,878 |
| Rate of health personnel per 100,000 population | 518.7 | 586.5 | 698.4 | 733.3 | 915.7 | 1,088.0 | 1,429.9 |

*Figures from 1940 on include employed persons *14 years old* and over; earlier data are based on persons *10 years* of age and over. *Source:* Table 1; U.S. Bureau of the Census. 1975. *Statistical Abstract of the United States, 1975.* Washington, D.C.: U.S. Government Printing Office.

sus,[4] less than ½ million people were employed in health occupations in 1910. By 1970, the Census reported a nearly sixfold increase, with nearly 3 million employees of all categories. As a proportion of the work force, the increase is from 1.3% in 1910 to 3.0% in 1970 (Table 3). At the time of the CCMC, less than 2% of all employed persons worked in health.

Another major change is found in the ratio of people employed in health occupations to the general population (Table 3). The rate of all professions grew from 518.7 per 100,000 population in 1910 to nearly three times that number in 1970 (1,429.9 per 100,000). Decade-to-decade change (1910 to 1970) in the numbers of people in health grew at an average rate of 26%. The largest jump took place between 1960 and 1970 when a 49% gain was registered. The smallest occurred during the Depression decade, 1930–1940, with a 13.1% increase. Thus, there has been an enormous decennial growth of people working within the health field.

There have also been large shifts in the composition of the health sector. From 1910 to 1970 there was a dramatic decline in the proportion of physicians, surgeons, and osteopaths relative to the even more dramatic increase of allied health personnel over the same period (Table 4). In 1920, 10 years before the formation of the CCMC, physicians, professional nurses, and allied health personnel (practical nurses, technicians, and aides) were at near numerical parity, each holding about a quarter of the total. By 1930, professional nurses (34.2%) had moved toward an apex achieved in 1940 (36.3%). Physicians slipped to less than 20%, and allied health personnel leveled off at 25.9%. By 1940, the trends were set: increases in allied health workers, declining proportions in professional nurses, and the continued decline of physicians and osteopaths. Meanwhile, dentists, pharmacists, optometrists, and others such as chiropractors and podiatrists were in a mild decline or at levels that hovered around 1% of the total.

For most of this century, the health sector has grown from a tiny percent of the work force to a rapidly growing proportion of it and is outstripping population growth. Within the sector, numerical

[4]Aggregate figures from each health group reported by the U.S. Census are invariably smaller than those reported by private, professional groups and by other federal agencies, such as the National Center for Health Statistics. I have chosen U.S. Census data because of their historical continuity, inclusiveness, and comparability.

TABLE 4

Health Occupations: Absolute and Proportional Growth and Decline, 1910-1970*

| Occupation | 1910 | | 1920 | | 1930 | | 1940 | | 1950 | | 1960 | | 1970 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Physicians and surgeons, including osteopaths | 144,977 | 30.2 | 156,162 | 25.0 | 159,920 | 18.6 | 171,996 | 17.7 | 197,096 | 14.1 | 232,152 | 11.8 | 281,007 | 9.6 |
| Dentists | 39,997 | 8.3 | 56,152 | 8.9 | 71,055 | 8.3 | 69,921 | 7.2 | 74,855 | 5.4 | 83,003 | 4.2 | 90,829 | 3.1 |
| Professional nurses (RNs) | 82,327 | 17.2 | 149,128 | 23.9 | 294,189 | 34.2 | 352,486 | 36.3 | 474,680 | 34.1 | 618,113 | 31.4 | 830,269 | 28.3 |
| Healers and practitioners, including chiropracters, podiatrists, others | 6,834 | 1.4 | 14,774 | 2.4 | 29,556 | 3.4 | 27,684 | 2.8 | 37,327 | 2.7 | 46,410 | 2.4 | 95,961 | 3.3 |
| Practical nurses or equivalent, midwives | 133,043 | 27.8 | 156,769 | 25.0 | 157,009 | 18.3 | 91,107 | 9.4 | 137,579 | 9.8 | 166,805 | 8.5 | 238,021 | 8.1 |
| Veterinarians | 11,652 | 2.4 | 13,494 | 2.2 | 11,863 | 1.4 | 10,717 | 1.1 | 13,379 | 1.0 | 14,819 | .8 | 19,465 | .7 |
| Pharmacists | 54,300 | 11.3 | 64,200 | 10.3 | 83,800 | 9.7 | 77,779 | 8.0 | 88,116 | 6.3 | 95,564 | 4.9 | 109,686 | 3.7 |
| Allied health, technologists, aides, etc. | 6,188 | 1.3 | 13,759 | 2.2 | 43,745 | 5.1 | 160,357 | 16.5 | 356,208 | 25.6 | 666,693 | 35.2 | 1,206,785 | 42.6 |
| Optometrists | - | - | - | - | 8,377 | 1.0 | 10.237 | 1.1 | 14.596 | 1.0 | 16,044 | .8 | 17,223 | .6 |
| TOTAL | 479,318 | 100.0 | 624,438 | 100.0 | 859,514 | 100.0 | 972,284 | 100.0 | 1,393,836 | 100.0 | 1,965,722 | 100.0 | 2,929,464 | 100.0 |

**Source:* Various editions of U.S. Bureau of the Census, 1910-1970.

superiority of physicians has been reversed by the gains of other health employees. In short, all traditional health professionals—physicians, surgeons, osteopaths, nurses, dentists, pharmacists, veterinarians—have lost ground relative to allied health employees. Thus, sheer numerical shifts and the right to organize and to withhold services, *i.e., to strike,* guaranteed by the National Labor Relations Act, have produced the prerequisites for change in the traditional dominance of the physicians and managers in health.

## *Federal Role*

Second, Alford (1975) seems to be correct in his prediction that the "corporate rationalizers," of whom the federal government is one component, will engage in conflict with the professionals. Whether it will continue depends upon the extent to which it can divest itself of the influences of lobbyists, of its own elected members' self-interests, of its own administrators, and of its own organizational bureaucracies that are as much affected by self-serving policies and "goal displacement" as are private ones.

It appears that with the passage of two major health bills, the federal government is at long last consolidating its efforts to concentrate power in its own and consumers' authority (P.L. 93-641) and to require a greater *quid pro quo* from the medical schools (P.L. 94-484). In the latter, the elimination of increases in the sizes of student bodies in the medical schools as a requirement for capitation is an important first step toward a federal role in slowing the growth of the physician pool. Second, stiff requirements that university-affiliated residency programs devote more and more of their resources for the training of primary care physicians mark a new and aggressive federal initiative into a domain rarely touched before. Also, restrictions on the numbers of foreign medical graduates, if they work, is a third important effort in this direction. In short, the federal government appears more willing than in the past to join in large-scale conflict between itself and the medical profession.

## *Physician Abundance*

A third source for social change, suggested by Starr (1977), resides in the current and projected increases in physicians. There is a possibility in the reversal of the often-noted tendency of high concentra-

tions of physicians to charge higher prices in opposition to what a supply and demand market model would predict. That is, a threshold, as yet unmeasured and unknown, may exist wherein the ability of underemployed physicians to induce demand simply no longer works.

A hypothetical consequence of the glut of physicians that may exist by the turn of the century is that they might constitute a labor market large enough to spill into organized forms of health care delivery. As fee-for-service and private practice slowly decline as the major mode of ambulatory care, physicians will more and more come under the influence of organizational control and a physician abundance would only hasten the process. The rise in the numbers of graduates with degrees in health and hospital administration, those who will surely take their places in these organized delivery systems, may mean a rise in their authority and power *vis-à-vis* the physicians who deliver the care. The over-production and possible absorption of physicians into organized settings may well set the stage for confrontations which we have barely tasted in the forms of strikes and other job actions.

Whatever the overall outcome of producing the numbers that we have, Starr (1977) argues that the potential for change may be enhanced:

> At that point, it will be extremely useful to have more doctors than we need, instead of needing more doctors than we have. An expanding supply of physicians will not solve our problems, but it may create favorable objective conditions for the success of future efforts.

## *An Uncertain Future*

None of these three sources of change is immune from the problems of self-interest, territoriality, goal displacement, or other subverting influences that have existed since the days of the CCMC. One assumption that contributes to a subversion of even our brightest ideals is that society and its organizations are goal-directed. Let me explain.

Hamilton's incisive minority statement in the *Final Report* (CCMC, 1932) made a conceptual separation of the technologies of medical care from its social organization. The social organization of medical care—fee-for-service reimbursement, private, office-based practice, provider-clinician dominated decision-making—which

Hamilton accused the majority report of treating too tenderly in its analysis and recommendations, this social organization was but one of potentially numerous systems superimposed upon the core technology of medical practice.

The fallacy in Hamilton's statement is that the social organization of medical care—and by extension, its institutions of training—is a mere instrument for the achievement of society's health goals.

The majority report of the Committee made the same assumption (CCMC, 1932:105; emphasis mine):

> Goals are more important than institutions, since service is the only purpose of organizations. None of the recommendations proposed subsequently is of value . . . except insofar as it contributes to providing the people with satisfactory medical service or assists them in meeting the costs for such service. *Institutions demand careful study, however, since faculty institutions may retard or prevent attainment of goals.*

Modern organization theory, or parts of it, would dispute this assertion. As Scott (1964) has pointed out, organizations may be looked at in three theoretical ways: first, as mere instrumentalities to meet certain ends or goals; second, as ends in themselves, wherein the procedures and operations of the organization itself take precedence over some stated goals; and three, as social systems, themselves versions in miniature of the larger social system, containing all the functional processes necessary to enhance their existence and to meet the needs of their overseers. That health organizations *act* only as means to ends is by no means clear. Second, some would argue that "faulty" organizations may be those that precisely fail to retard goal attainment for the reason that if they did so, they would neglect certain "system" attributes that need resources and attention, thus making their failure a certainty (Etzioni, 1964).

The operation of medical schools illustrates how health organizations engage in behavior not necessarily enhancing the public's health. Without question, part of their existence has been devoted to the stated or "manifest" goals (Merton, 1968) pertaining to the training of human resources. Simultaneously, one can identify less clear or "latent" functions of these institutions, and I have suggested that they are integral to the maintenance of an attenuated, stratified, internally rigid social structure. For example, increasing

educational requirements, however clinically justifiable, also enhances the key role of large organizations in the system and concentrates the power at their disposal. The elevation of the act of production of human resources to an end in itself is central to the theory of stratification I have presented. It is in need of further study, but it is my belief that it is at the heart of our problem.

It is also becoming apparent that organizations are becoming more and more common in health. Employment opportunities for most health personnel are increasingly found in organizational settings, a point illustrated earlier. The occupational exception is physicians, although, even here, there is evidence of change (Mechanic, 1976). Even while physicians enjoy the greatest amount of personal and professional freedom and have the rest of the sector at their disposal, they may find, as I have discussed, that control of these complex systems is slipping from their grasp.

In assuming that I am correct that the rise of health care organizations as employers will spawn rival centers of control over human resources, including physicians themselves (Stevens, 1977), it is by no means clear that these organizations will do any better in solving human resource problems than any other group. The conflict and change stemming from and contributing to power shifts do not necessarily mean innovative, constructive, and progressive outcomes. All I am arguing is that little will change without conflict, and that it is already here and promises to increase. Our attempt should be to make the best of it with a positive vision of the future tempered by a humility for our own weaknesses, both of which the CCMC *Final Report* has revealed to us.

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