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ABSTRACT

Intended for researchers in the health manpower field, this booklet contains abstracts of books and journal articles on health manpower published over the past eighteen months and a report of a study of the Center for Medical Manpower Studies. The booklet begins with two pages that list ten health manpower indicators involving costs, patient admissions, and numbers of health personnel. The next section, "The Market for Middle Echelon Health Care Administrators" (MEHCAs), describes a study conducted to assess the potential employment opportunities of MEHCAs in hospitals, long-term facilities, and ambulatory facilities in the Boston-Cambridge area. It includes projections of demand for MEHCAs and the impact of national health insurance on these projections. The abstracts section includes two-page abstracts of five books ("The Union Epidemic," "Health Manpower Information for Policy Guidance," "The Manpower Problem in Mental Hospitals," "A Spy in the House of Medicine," and "Physician Productivity and the Demand for Health Manpower") and one- to two-page abstracts of fourteen articles. Some representative titles are "An Overview of Primary Health Care," "Productivity of Women Physicians," and "The Role of New Health Practitioners in a Prepaid Group Practice." A list of the seventy-seven journals searched for the abstracts is included. (EM)

HEALTH MANPOWER LITERATURE

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Department of Economics
Northeastern University
Boston, Mass.. 02115

The Center For Medical Manpower Studies

Harold M. Goldstein
Morris A. Horowitz
Gustav Schachter
Irwin L. Herrnstadt
Robert A. Hankin

SPONSORED BY

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EDITOR'S NOTE

This experimental issue abstracts books, general articles and technical papers in the field of health manpower. All abstracts included are of published materials over the last (18) eighteen months. Also, we have included one original study of the Center for Medical Manpower Studies. The abstracts are a true representation of views by the author(s); a strong attempt has been made not to introduce our own views or opinions. This publication is intended for researchers in the health manpower field and we welcome comments and suggestions for adjusting further issues.

We are indebted to Dr. Howard Rosen, Director, Office of Research and Development, Employment and Training Administration, U.S. Department of Labor and Mr. William Throckmorton, Project Monitor of this same office, for their ideas, encouragement and support.

CONTENTS

HEALTH MANPOWER INDICATORS

1. In 1975, the Consumer Price Index (CPI) rose 7.7 percent (less medical services) while the medical care services of the CPI rose 10.3 percent, hospital service charges by 13 percent, and physician fees by 11.8 percent.

2. In 1965 health care expenditures represented 5.9 percent of Gross National Product (GNP). By 1975 health care expenditures increased 41 percent to represent 8.3 percent of GNP.

3. Through the first three months of 1976 costs of medical care services rose at a 14.0 percent annual rate, physician fees at a 14.2 percent rate, and hospital service charges at a 20.1 percent rate. During this period the CPI (less medical services) rose at a 2.4 percent rate.

4. From 1970 to 1975 total outpatient admissions increased from 181,370,000 to 254,844,343 - an increase of 40.5 percent.

5. From 1970 to 1975 total inpatient admissions increased from 31,750,000 to 36,156,516 - an increase of 13.8 percent.

6. From 1970 to 1975 total full-time equivalent (FTE) hospital personnel increased from 2,537,000 to 3,022,597 representing an increase of 19.2 percent.

7. From 1970 to 1975 the number of physicians and dentists in hospitals (FTE) increased from 45,966 to 54,712 representing an increase of 19.0 percent.

8. From 1970 to 1975 the number of registered nurses in hospitals (FTE) increased from 393,410 to 510,118 representing an increase of 29.7 percent.

9. From 1970 to 1975 the number of licensed practical nurses in hospitals (FTE) increased from 195,757 to 239,949 representing an increase of 22.6 percent.

10. The physician rate per 100,000 population was 163 in 1970 and 166 in 1974.

THE MARKET FOR MIDDLE ECHELON HEALTH CARE ADMINISTRATORS*

1. *Health Administration as an Occupational Category*

The term "health administrator" is extremely broad, representing a very large number of health related managerial, technical, service and clerical occupations. Actually, this term has gradually become more generic as the health care industry has grown both in absolute size and complexity. The growth of this sector has in fact been so rapid that occupational terminology necessary to identify and differentiate new functions has not kept pace. The *Report of the Commission on Education for Health Administration* (hereafter cited as the Kellogg study) defines health administrators as:

> *...those who are directors of public and private institutions, agencies, and programs involved in the planning and delivery of personal or community health and medical care service, and other personnel in such organizations who aspire to become executives.*

As recently as the 1950's, the health care system in the United States could be described as consisting primarily of private general practitioners serving patients on a one-to-one basis, in a sole-proprietorship setting. Hospitals were essentially non-profit, and the number of specialists relative to general practi-

*Staff Report, Center for Medical Manpower Studies, Northeastern University, Boston, MA.

tioners was quite small. Perhaps a symbol of the simplicity of the system in those times was the fact that it was not uncommon for the family doctor to make a home visit to treat a patient who was having a minor bout with the flu. In such a system, the need for well trained administrators was limited. Rising costs had not yet put pressure on the hospital system to seek efficient managerial talent and individual practitioners could act as their own managers, perhaps with the help of a part-time bookkeeper or the physicians' nurse who served as the office clerk and bookkeeper as well as a medical aid.

The health system has since lost much of this simplicity. The individual practitioner is now likely a specialist, practicing in a partnership arrangement with other physicians. The hospital system has grown to the point where the complexity of individual departments within a hospital now rivals that of the entire hospital twenty years ago. Paralleling the growth of specialized medical functions within hospitals has been the development of new delivery mechanisms such as community health planning agencies, comprehensive medical care delivery organizations, and ambulatory facilities in general. The public health sector has also grown, and the kinds and number of government review agencies continues to expand at local, state, and federal levels. As the system has expanded, so has the number and kinds of third party carriers. It is significant to note that the growth of health related activities such as these has been so rapid that the demand for health administrators in general has exhibited a shift in composition away from the classic hospital scene towards these new areas.

Because of the rapid expansion of this sector and its consequent impact on job complexity, categories of job opportunities and duties that correspond to them have been expanding also.

Appendix A presents an occupation/task matrix of personnel who are likely candidates for health care administrators. The variety of areas included indicates the generic nature of the concept.

2. *Coverage*

This study is an attempt to assess the potential employment opportunities of middle-echelon health care administrators. Specifically, local undergraduate and graduate health care administration programs are examined with reference to national trends. On the other hand, analysis of demand allows us to evaluate the short and long run possibilities of accomodating either a shortage or oversupply of middle-echelon health care administrators. In this paper we limit our estimates to employment opportunities in the Boston-Cambridge area for hospitals, long-term care facilities, and ambulatory facilities only, omitting public health and government agency employment, as well as third party employment.

Our concern here is only with middle-echelon health care administrators (MEHCAs). Excluded from the study are top-echelon hospital administrators such as executive directors, chiefs of service, or associate and assistant administrators of fairly large hospitals (over 200 beds). This study aims to evaluate a broad range of positions, both in the traditional hospital setting and in newer settings. Moreover, the federal government has been considering a national health insurance program (NHI). Should such a program materialize, specialists of a middle-echelon variety would be required to deal with the enormously complicated variety of required interaction between third-party payer, the federal government and the consumer public. Such positions could be filled by new categories of MEHCA.

3. *Demand for MEHCA*

Historically, the principal source of demand for health administrators has been in hospitals, long-term facilities, and public health agencies. Hospitals have been the major source of employment and still are. However, there are three concurrent changes taking place in the health sector which are affecting health manpower demand.

First, there is the absolute growth in the demand for health administrators that has developed along with the demand for health services in general. Second, the ever increasing complexity of health care has led to a change in the nature and types of job categories. Third, even though hospitals remain the principal source of employment for health administrators, the rate of growth of demand in other areas has been far greater, and we can therefore expect the leading role of the hospital to diminish.

The growth in the absolute level of demand for administrators will in and of itself have no effect on the kinds of administrators required (and thus the kinds of educational programs needed). In terms of educational planning, the second and third characteristics of the demand are crucial. They imply that the current educational programs are becoming outmoded. In recognition of these changes, new programs are developing.

Existing educational opportunities, in stressing the inter-disciplinary approach to training (usually with or within the business program) are directed primarily at those sources of employment we will label as "conventional," i.e., hospitals and long-term care facilities. These programs emphasize the fact that in such a setting, the functions of lower and middle-echelon administrative personnel do not really require

a great deal of specialized training beyond basic managerial skills. Discussions with hospital personnel administrators revealed that unique skills are not required for many of the positions being filled. A typical response from a personnel administrator would be that "an accounts receivable clerk is an accounts receivable clerk, whether employed in a hospital or a department store." This notion is probably true for a wide variety of conventional positions in the conventional employment sources, and existing interdisciplinary programs seem to be serving this group in providing essentially business-oriented training, with a small input of descriptive health systems courses.

The areas which are not being served by these programs are those we will identify as the high growth areas: managerial functions in ambulatory health centers, government agencies, etc. In short, the health system is currently undergoing a change in its institutional structure, and this change calls for the creation of new educational programs which will provide the broader skills necessary in the newer settings.

As mentioned above, the health system is undergoing a fundamental change in its delivery mechanisms which is creating a rapid growth in the ambulatory area. In particular, health maintenance organizations, neighborhood health centers, public and privately owned clinics, etc., are experiencing rapid growth. Table 1 presents data on the number and types of such facilities in the Boston-Cambridge area for the years 1968, 1971, and 1973. Of special importance is the neighborhood health centers (NHC), which have grown some fourfold during the period.

It is obvious from the data in Table 1 that the ambulatory centers are experiencing rapid growth by comparison to conventional facilities, and as a result we expect health administrator opportunities to be strongest in the ambulatory

TABLE 1: TYPES OF AMBULATORY FACILITIES IN BOSTON-CAMBRIDGE, 1968, 1971, AND 1973

TYPE OF FACULTY	NUMBER OF FACILITIES			PERCENT CHANGE		
	1968	1971	1973	1968-1971	1971-1973	1968-1973
Clinics	11	12	16	9.0	33.3	45.4
Neighborhood Health Centers	7	30	38	328.5	26.6	442.8
Mental Health Centers	13	14	16	7.1	14.2	23.1
College Infirmaries	5	5	5	0	0	0
Dental Schools and Clinics	7	7	7	0	0	0
Other	12	12	14	0	40.0	40.0
TOTAL	55	80	96	45.4	20.0	74.5

Source: The Center for Medical Manpower Studies, Northeastern University, *Survey of Hospitals, Nursing and Rest Homes, and Ambulatory Facilities in Boston and Cambridge, 1976.*

areas. Table 2 provides employment data for health workers for the same periods. Employment in the ambulatory sector has approximately doubled over this period, while it has grown only about 25 percent in hospitals. Thus, although hospitals are providing increasing employment opportunities, they are doing so at a slower rate than the ambulatory group.

4. *The Market for MEHCA*

At the present time, the market for health administrators is extremely disorganized, representing a breakdown in the link between the demand for administrators and the supply for individuals with the proper educational credentials. In effect, the system has developed so rapidly that a disequilibrium has resulted in the market. This is indicated by the lack of specific descriptions of necessary qualifications within personnel departments in hospitals, and in the haphazard nature by which many positions are now filled. Occupational ladders are not clearly defined, and many positions are filled by physicians and others who are not trained for managerial functions. According to the Kellogg study, only one in four health administrators has had any formal training in the field [13/p. 16].

Demand for health care administrators both in the United States and in eastern Massachusetts depends on the overall demand for health-connected services. There is not a single or homogeneous market for health manpower; therefore, a simple analysis of job vacancies or applications does not reveal the nature of a potential shortage or surplus. Locally, the depth of the recession in the Massachusetts area over the past few years has been so severe that all openings that develop lead to very large responses from the unemployed. However, the

TABLE 2: DISTRIBUTION OF ALL HEALTH WORKERS WITHIN BOSTON-CAMBRIDGE SURVEY BY TYPE OF EMPLOYER

TYPE OF EMPLOYER	1968		1971		1973		PERCENTAGE CHANGE		
	NUMBER OF HEALTH WORKERS	PERCENTAGE DISTRIBUTION	NUMBER OF HEALTH WORKERS	PERCENTAGE DISTRIBUTION	NUMBER OF HEALTH WORKERS	PERCENTAGE DISTRIBUTION	1968-1971	1971-1973	1968-1973
HOSPITALS	15,761	79.8	18,634	79.4	19,759	80.2	18.2	6.0	25.4
NURSING & REST HOMES	3,027	15	3,245	13.8	2,976	12.1	7.2	-8.3	-1.7
AMBULATORY FACILITIES	954	4.8	1,596	6.8	1,892	7.7	67.3	18.5	98.2
TOTAL	19,742	100.0	23,475	100.0	24,627	100.0	18.9	4.9	24.7

Source: The Center for Medical Manpower Studies, Northeastern University, *Survey of Hospitals, Nursing and Rest Homes, and Ambulatory Facilities in Boston and Cambridge, 1976.*

BUTION OF ALL HEALTH WORKERS WITHIN BOSTON-CAMBRIDGE SURVEY BY TYPE OF EMPLOYER /

TAGE UTION	1971		1973		PERCENTAGE CHANGE		
	NUMBER OF HEALTH WORKERS	PERCENTAGE DISTRIBUTION	NUMBER OF HEALTH WORKERS	PERCENTAGE DISTRIBUTION	1968-1971	1971-1973	1968-1973
8	18,634	79.4	19,759	80.2	18.2	6.0	25.4
4	3,245	13.8	2,976	12.1	7.2	-8.3	-1.7
8	1,596	6.8	1,892	7.7	67.3	18.5	98.2
0	23,475	100.0	24,627	100.0	18.9	4.9	24.7

r Medical Manpower Studies, Northeastern University, *Survey of Hospitals, Nursing*
, and Ambulatory Facilities in Boston and Cambridge, 1973.

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MEHCA occupational category is so broad and poorly defined that applicants for these positions often do not possess the particular skills required by the jobs.

In addition to these problems, the market itself is distorted by imperfections. Moreover, nonprofit occupations have little incentive to operate efficiently. If the market for health manpower operated efficiently with no artificial barriers such as license requirements and aiming to efficiency, supply and demand would ultimately correct shortages. Institutions would act to retain or attract employees, restructure hiring standards and pay scales, institute training programs, and explore new sources of recruitment. However, hospitals have not moved adequately to correct high turnover rates, job dissatisfaction, relatively low wage levels, or limited upward mobility.

The actions of employers have been matched by the attitudes of some groups of health workers. As health workers become more specialized, they tend to seek a higher professional status and to mimic exclusionary guild practices of the representative model - the physician. As health occupations form their own interest groups, they further limit the mobility of workers without professional credentials.

Since 1970 the greater Boston area has been characterized by a buyer's market, and it has been experiencing the highest unemployment rate since the depression years. Under these conditions it is very difficult to assess short-term perspectives for a holder of a Bachelor degree in Health Administration that can be substituted easily in the market by eager individuals ready to be trained on-the-job. Whether or not this is efficient from the assessment point of view is not relevant here.

If the labor market in general continues to be soft, the demand for professional middle-echelon health care administrators with a specialized undergraduate college education will be very meager. These professionals will have to compete with other college graduates willing to work for going wages while receiving limited vocational training on the job. However, if the commitment to health care of the Carter administration is translated into active implementation, then even in the short run (the next five years or so), shortages of professionals may develop. In that case, the management of health institutions and the archaic mentality will be revamped because of three factors: (1) the need for increased efficiency; (2) the draining of the market of marginal substitution (those who are qualified in other fields but are willing to receive training on the job); and (3) the increased demand for health care, due to the adoption of a partial or comprehensive national health insurance plan.

5. *Projections of Demand for MEHCA*

It has been estimated that health expenditures represented approximately 8 percent of GNP in 1975, and that it will grow to approximately 10 percent by 1980 [10, p. 58]. This would be a substantial rise, and it does not include the potential of national health insurance. It has been further estimated that a given percentage increase in health care spending as a fraction of GNP expands employment in the health sector by 50 percent of the change [11]. This means a 25 percent growth in spending will lead to a 12.5 percent growth in health sector employment, and this figure forms the basis for our projection in Boston-Cambridge facilities.

Current employment levels in this area were

obtained by direct survey of a sample of institutions. Each survey participant was asked to provide us with the total number of personnel employed at the institution, and either the number or percentage classified as administrative. We define "administrative" by describing job categories that would be relevant. From our sample results, we projected totals for the entire population. Our results are detailed in Table 3A.

Our statistical projection indicates that in the Boston-Cambridge area alone, there will be 645 new MEHCA slots developing in the period through 1980. Note that the public sector has been omitted, and the potential impact of national health insurance is ignored. It is also significant that ambulatory facilities are considerably more intensive in their use of administrators than are hospitals (17.93 percent vs. 8.57 percent). Considering that these are the facilities experiencing the most rapid growth of employment (98.2 percent in 1968-73), the number of administrative slots will probably grow more because of the new emphasis on these facilities.

6. *Impact of National Health Insurance*

The near certainty of the passage of some form of national health insurance in the foreseeable future, and the fact that it will have a significant impact on manpower needs, requires that we consider these factors in making any projections. Studies of national health insurance usually measure its impact by examining the consumer's response to the change in their insurance coverage. This response is measured in terms of demand elasticities for health care, and elasticities are measured using a variety of assumptions about the degree of coverage.

TABLE 3A: PROJECTED EMPLOYMENT OPPORTUNITIES IN BOSTON AND CAMBRIDGE HOSPITALS, LONG TERM CARE FACILITIES, AND AMBULATORY FACILITIES THROUGH 1980

	Hospitals	Long Term Care Facilities	Ambulatory Facilities
Population Size (1975)	45	121	105
Sample Size	16	10	11
Estimated Total Personnel	39,111	6,655	5,145
Estimated Percentage of Personnel in Administrative Roles	8.56	13.35	17.93
Total MEHCAs	3,358	888	922
Growth of Employment	12.5	12.5	12.5
Projected New Slots	419	111	115

Source: Center for Medical Manpower Studies, Northeastern University, November, 1976.

A. *First Estimate:* Davis and Russell [3] and Feldstein [4] have estimated demand elasticities for health care, assuming the introduction of a comprehensive national health insurance program. These are summarized in Table 3B.

Projections of the percentage rise in MEHCA needs, assuming that a unit increment in health care demand induces a 50 percent increment in health manpower needs, are presented in Table 3C.

Applying these percentages to Boston-Cambridge, we find the following additional potential demand for MEHCAs as tabulated in Table 3D.

B. *Second Estimate:* Another group of elasticity estimates developed by Huang and Shomo for the National Institutes of Health [7] takes into consideration both comprehensive and less-than-comprehensive national health insurance programs. Ten-year projections of the increase in demand for MEHCAs under low, medium and high elasticities, and the introduction of national health insurance plans with low, moderate, and comprehensive coverage, are tabulated in Table 5. Based on these assumed elasticities, we have projected the demand for MEHCAs in the Boston-Cambridge area for 1986 (Table 4).

Our earlier "status quo" projection calls for a modest average increase of 8.7 percent in the Boston-Cambridge area through 1980. As can be seen in Table 4, this is similar to our projection for 1986, assuming a high co-insurance health plan. This confirms that the weakest form of insurance will not substantially effect the demand for health care.

By and large, the three projected estimates for hospitals (Davis-Russell, Feldstein, Huang-Shomo) under a comprehensive health plan are

TABLE 3B: ESTIMATED DEMAND ELASTICITIES

	Davis & Russell (aggregate data, 1969)	Feldstein (aggregate Time-Series, 1955-67)
Hospital days	-.5	-.67
Outpatient visits	-1.0	NA

TABLE 3B: ESTIMATED DEMAND ELASTICITIES

Davis & Russell (aggregate data, 1969)	Feldstein (aggregate Time-Series, 1955-67)
- .5	-.67
-1.0	NA

TABLE 3C: INCREASES IN MEHCA DEMAND, AS IMPLIED BY ELASTICITY ESTIMATES

	Davis-Russell	Feldstein
Hospitals	25%	33.5%
Outpatient Visits	50%	NA

CREASES IN MEHCA DEMAND, AS IMPLIED BY ELASTICITY ESTIMATES

	Davis-Russell	Feldstein
	25%	33.5%
its	50%	NA

TABLE 3D: IMPLIED NEW MEHCA SLOTS, 1986

Facilities	Actual 1976	Assumed Elasticities by: Davis-Russell Total	Change	%Change	Feldstein Total	Change	%Change
Hospitals*	4246	5307	1061	25.00	5668	1422	33.5
Outpatient	922	1383	461	50.00	NA	NA	NA

*This category combines hospital and long-term care facility data in Table 2..

TABLE 3D: IMPLIED NEW MEHCA SLOTS, 1986

ual 76	Assumed Elasticities by: Davis-Russell Total	Change	%Change	Feldstein Total	Change	%Change
46	5307	1061	25.00	5668	1422	33.5
22	1383	461	50.00	NA	NA	NA

ory combines hospital and long-term care facility
ble 2.

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TABLE 4: IMPLIED NEW MEHCA SLOTS THROUGH 1986 UNDER VARYING DEGREES OF NATIONAL HEALTH INSURANCE COVERAGE

	Projection for 1986 Type of Elasticity					
High Coinsurance	High	Medium	Low	1986 Average	1976 Actual	Percent Change
Hospitals	3761	3627	3459	3649	3358	
Ambulatory	1033	1023	950	1002	922	
Long-Term	995	986	915	965	888	
Total	5789	5736	5324	5616	5168	8.67
Moderate Coinsurance						
Hospitals	4332	3862	3559	3918	3358	
Ambulatory	1189	1060	977	1075	922	
Long-Term	1145	1021	941	1036	888	
Total	6666	5943	5477	6029	5168	16.66
Comprehensive						
Hospitals	5171	4299	3778	4399	3358	
Ambulatory	1420	1180	1023	1207	922	
Long-Term	1368	1136	986	1163	888	
Total	7959	6615	5737	6769	5168	30.98

Source: Center for Medical Manpower Studies, Northeastern University, November, 1976.

TABLE 5: PERCENTAGE INCREASE THROUGH 1986 IN MEHCA SLOTS, GIVEN VARIOUS ELASTICITY AND INSURANCE-COVERAGE ASSUMPTIONS

	Assumed Elasticity		
	High	Medium	Low
High Coinsurance	12	11	3
Moderate Coinsurance	29	15	6
Comprehensive	54	28	11

TAGE INCREASE THROUGH 1986 IN MEHCA SLOTS, GIVEN VARIOUS ELASTICITY AND INSURANCE-COVERAGE ASSUMPTIONS

	Assumed Elasticity		
	High	Medium	Low
nce	12	11	3
surance	29	15	6
	54	28	11

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very close: 29.5 percent, 33.5 percent, and 31.0 percent. Table 6 summarizes potential new openings for MEHCAs in the Boston-Cambridge area. They range from 324 to 645 for 1980, and from 448 to 1522 for 1986.

By employer groups demand sources can be summarized as follows:

A. Hospitals: Always the principal employer of health administrators, hospital demand for them will probably continue to grow in the aggregate, but at a slower rate than in other areas.

1. Short-term General Non-Profit Hospitals: A very large percentage of beds in this category are in teaching hospitals. Because of their role in medical education, their importance will grow with the increased medical school enrollments that are expected to accompany national health insurance legislation, which will include incentives to expand medical education.

2. Short-term General Government Hospitals: Although of small relative importance, hospitals administered at the local level are growing in number, and will therefore contribute to the growth of demand for MEHCAs.

3. Long-Term Non-Profit Hospitals: No growth is anticipated in this sub-sector beyond that expected as part of the secular trend.

4. Long-Term Care Facilities: These are comprised primarily of VA hospitals at the federal level, and state psychiatric hospitals. Only secular growth is expected.

TABLE 6: SUMMARY OF ALTERNATIVE MEHCA FORECASTS FOR THE BOSTON-CAMBRIDGE AREA

	1976 Actual	Projected New Slots, Based on Assumed Health-Care Spending as a Percentage of GNP: 1980 9% of GNP	1980 10% of GNP	1986 Assumed Elasticities Health-Care Demand: Davis-Russell	Feldstein	CHMS High Coinsurance	CHMS Moderate Coinsurance	CHMS Comprehensive
Hospitals	3358	210	419	1061	1422	291	560	1041
Ambulatory	922	58	115	461	NA	80	153	285
Long Term	888	56	111	--	--	77	148	275
Total	5168	324	645	1522	NA	448	861	1601

Source: Center for Medical Manpower Studies (CHMS), Northeastern University, November, 1976.

SUMMARY OF ALTERNATIVE MEHCA FORECASTS FOR THE BOSTON-CAMBRIDGE AREA

Slots, Based on Assumed Spending as a Percentage	1986				
	Assumed Elasticities Health-Care Demand				
			CHMS		
980 10% of GNP	Davis-Russell	Feldstein	High Coinsurance	Moderate Coinsurance	Compre-hensive
419	1061	1422	291	560	1041
115	461	NA	80	153	285
111	--	--	77	148	275
645	1522	NA	448	861	1601

edical Manpower Studies (CHMS), Northeastern University,
76.

B. Long-Term Care Facilities: In terms of state licensing requirements, these facilities are classified according to allowable medical functions within them. Thus they run the gamut from retirement homes to facilities that operate essentially as hospitals. Growth in this sector will be modest, with a secular trend provided by the advancing age profile of the population.

C. Public Health: This sector will undoubtedly share in the overall growth in government activity that is anticipated. What specific role the public health sector will play in national health insurance is as yet unknown. State and local public health agencies will grow with or without national health insurance. This is the one conventional demand source that will keep pace with newer areas in growth over the next ten to twenty years.

D. "Hands-On" Facilities

1. Health-Maintenance Organizations: The growth of HMOs is expected to be significant over the next two decades. Prepaid comprehensive health-care organizations will play a major role in the nation's (and regions') health system, and all potential national health insurance proposals stipulate these as primary delivery devices. They will require competent administrative personnel at all levels. The Harvard Community Health Plan is a forerunner in this area, and already has over 35,000 members. Blue Cross/Blue Shield also has a similar plan in the development stage.

2. Neighborhood Health Centers: There has been an increase of over 90% of NHCs in the past decade. They will surely be a major national health insurance tool, funded and operated by the federal and state governments, undoubtedly with some local government input. Again, administrative personnel will be in demand at all levels.

3. Family Planning Clinics: Modest growth is anticipated here, as government becomes more involved in this kind of medical service.

E. Planning Facilities

1. Community and Regional Health Planning Agencies: Federal legislation (93-641) provides for federal funding of these agencies at the local level, and as a result there will be a very large number of employment slots developing here. Facilities of this nature are intensive users of administrative personnel, and will therefore provide significant employment opportunities.

2. Environmental Management: The health component of environmental planning and management is currently receiving a great deal of attention. Employment opportunities are thus developing in this area as well.

3. National Health Insurance: The adoption of federally financed health insurance will create a large federal, state, local, and medical infrastructure, with intensive use of administative personnel. This will be the largest source of demand in the area. Private carriers will also expand their needs as a result.

Appendix A

Primary Tasks Performed by Major MEHCA Categories

	RECORDS AND COMMUNICATION						
	1	2	3	4	5	6	7
	Record-ing System	Flow Charts	Stat-istical Reports	Task anal-ysis	Sched-uling Work	Census Compil-ing	EDP Coordin-ation
I MANAGEMENT							
1 Office Manager	x	x	x	x	x	x	x
2 Ward Assistant Mgr.		x	x	x	x	x	
3 Asst. Director		x	x	x	x	x	
4 Medical Office Asst.	x		x		x	x	x
5 Maintenance Supervisor		x	x	x	x		
6 Triage Supervisor	x	x	x	x	x	x	
7 Ambulatory Administrator	x	x		x	x	x	
8 Third Party Mgt. Officer				x	x	x	x
9 P.H. Agency Officer		x	x	x	x		
II RECORDS							
10 Admission Officer	x	x	x	x	x	x	x
11 Med. Records Officer	x	x	x	x	x	x	x
III PERSONNEL							
12 Personnel Administrator		x	x	x	x		
13 Labor Negotiator				x	x		
14 Payroll Officer				x	x		x
IV FINANCE							
15 Purchasing Agent			x				x
16 Cashier	x		x				x
17 Rate Setter			x	x			x
V OMBUDSMAN							
18 Third Party Payer	x		x				x
19 Consumer							
VI STATISTICS							
20 Statistician	x	x	x	x		x	x
21 Accountant	x		x				x
22 Auditor	x		x				x
23 Computer Programmer			x				x
24 Computer Analyst	x	x	x	x	x	x	x
VII PLANNING							
25 Systems Analyst	x	x	x	x	x	x	x
26 Planner		x	x	x	x	x	x
VIII PUBLIC RELATIONS							
27 PR Officer							
28 Health Legislative Asst.							
29 Medical Lobbyist							

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEHCA Categories

	QUANTITATIVE SKILLS		
	8	9	10
	Computer Programming	EDP Systems Analysis	Accounting
I MANAGEMENT			
1 Office Manager	x	x	
2 Ward Assistant Mgr.			
3 Asst. Director		x	
4 Medical Office Asst.			
5 Maintenance Supervisor			
6 Triage Supervisor			
7 Ambulatory Administrator			
8 Third Party Mgt. Officer			
9 P.H. Agency Officer		x	
II RECORDS			
10 Admission Officer	x	x	
11 Med. Records Officer	x		
III PERSONNEL			
12 Personnel Administrator			
13 Labor Negotiator			x
14 Payroll Officer			x
IV FINANCE			
15 Purchasing Agent			
16 Cashier			x
17 Rate Setter		x	
V OMBUDSMAN			
18 Third Party Payer			
19 Consumer			
VI STATISTICS			
20 Statistician	x	x	x
21 Accountant	x	x	x
22 Auditor		x	x
23 Computer Programmer	x	x	
24 Computer Analyst	x	x	x
VII PLANNING			
25 Systems Analyst	x	x	x
26 Planner		x	x
VIII PUBLIC RELATIONS			
27 PR Officer			
28 Health Legislative Asst.		x	x
29 Medical Lobbyist			

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEHCA Categories

	OPERATIONS ANALYSIS				
	11	12	13	14	15
	Systems Analysis	Operation Analysis	Analysis of Capacity	Cost Effectiveness	Productivity Analysis
I MANAGEMENT					
1 Office Manager	x	x	x	x	x
2 Ward Assistant Mgr.			x	x	x
3 Asst. Director			x	x	x
4 Medical Office Asst.			x	x	x
5 Maintenance Supervisor			x	x	x
6 Triage Supervisor			x	x	x
7 Ambulatory Administrator	x		x	x	x
8 Third Party Mgt. Officer			x	x	x
9 P.H. Agency Officer	x				
II RECORDS					
10 Admission Officer					
11 Med. Records Officer	x				
III PERSONNEL					
12 Personnel Administrator			x		x
13 Labor Negotiator				x	x
14 Payroll Officer					
IV FINANCE					
15 Purchasing Agent	x				
16 Cashier				x	
17 Rate Setter	x				
V OMBUDSMAN					
18 Third Party Payer			x		
19 Consumer					
VI STATISTICS					
20 Statistician	x	x	x	x	x
21 Accountant	x	x		x	x
22 Auditor	x	x		x	x
23 Computer Programmer					
24 Computer Analyst	x	x	x	x	x
VII PLANNING					
25 Systems Analyst	x	x	x	x	x
26 Planner	x	x	x	x	x
VIII PUBLIC RELATIONS					
27 PR Officer					
28 Health Legislative Asst.	x			x	
29 Medical Lobbyist	x		x	x	

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEDCA Categories

	ACCOUNTING						
	16	17	18	19	20	21	22
	Inventory Control	Cash Flow	Capital Accounts	Requisition	Billing	Budgeting	Auditing
I MANAGEMENT							
1 Office Manager	x		x	x	x	x	x
2 Ward Assistant Mgr.	x			x	x		x
3 Asst. Director	x		x	x		x	x
4 Medical Office Asst.	x				x		
5 Maintenance Supervisor	x			x			
6 Triage Supervisor	x			x	x		
7 Ambulatory Administrator	x	x	x	x		x	
8 Third Party Mgt. Officer	x	x	x	x	x	x	
9 P.H. Agency Officer				x		x	x
II RECORDS							
10 Admission Officer				x	x		
11 Med. Records Officer				x	x		
III PERSONNEL							
12 Personnel Administrator							
13 Labor Negotiator		x				x	
14 Payroll Officer		x				x	
IV FINANCE							
15 Purchasing Agent	x	x		x		x	
16 Cashier		x	x	x	x	x	
17 Rate Setter		x			x	x	
V OMBUDSMAN							
18 Third Party Payer		x			x	x	
19 Consumer							
VI STATISTICS							
20 Statistician	x	x	x			x	x
21 Accountant	x	x	x	x	x	x	x
22 Auditor	x	x	x	x	x	x	x
23 Computer Programmer							
24 Computer Analyst	x	x	x		x	x	x
VII PLANNING							
25 Systems Analyst	x	x	x			x	x
26 Planner	x	x	x	x	x	x	x
VIII PUBLIC RELATIONS							
27 PR Officer					x		
28 Health Legislative Asst.						x	
29 Medical Lobbyist			x			x	

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEHCA Categories

	PUBLIC AND CUSTOMER RELATIONS							
	23	24	25	26	27	28	29	30
	Public Relations	Patient Relations	Credit Evaluations	Estate Settlements	Patient Scheduling	Third Party Coord.	Accounts Collection	Legal Matter
I MANAGEMENT								
1 Office Manager	x	x	x	x	x	x	x	x
2 Ward Assistant Mgr.	x	x		x	x			x
3 Asst. Director	x	x		x	x		x	x
4 Medical Office Asst.	x					x		
5 Maintenance Supervisor					x			
6 Triage Supervisor	x	x	x		x	x		
7 Ambulatory Adminis.	x	x	x	x	x	x	x	x
8 Third Party Mgt. Of.	x	x	x	x	x	x	x	x
9 P.H. Agency Officer	x			x		x		x
II RECORDS								
10 Admission Officer	x	x	x	x	x	x		
11 Med. Records Officer			x	x		x	x	
III PERSONNEL								
12 Personnel Adminis.								x
13 Labor Negotiator	x							x
14 Payroll Officer								
IV FINANCE								
15 Purchasing Agent								
16 Cashier				x		x	x	x
17 Rate Setter		x	x	x	x	x	x	
V OMBUDSMAN								
18 Third Party Payer	x	x	x	x	x	x	x	x
19 Consumer	x		x	x	x	x	x	
VI STATISTICS								
20 Statistician				x				
21 Accountant			x	x		x	x	
22 Auditor			x	x		x	x	
23 Computer Programmer								
24 Computer Analyst			x	x	x	x	x	
VII PLANNING								
25 Systems Analyst					x	x		
26 Planner						x		
VIII PUBLIC RELATIONS								
27 PR Officer	x	x	x	x	x	x	x	
28 Health Legilative Asst.	x			x		x		x
29 Medical Lobbyist	x					x	x	x

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEHCA Category

	INDUSTRIAL ENGINEERING		
	31	32	33
	Time Motion Analysis	Auditing	Staff Organization
I MANAGEMENT			
1 Office Manager	x	x	x
2 Ward Assistant Mgr.	x	x	x
3 Asst. Director	x	x	x
4 Medical Office Asst.		x	x
5 Maintenance Supervisor	x		x
6 Triage Supervisor	x	x	x
7 Ambulatory Administrator	x	x	x
8 Third Party Mgt. Officer	x	x	x
9 P.H. Agency Officer			x
II RECORDS			
10 Admission Officer			
11 Med. Records Officer			
III PERSONNEL			
12 Personnel Administrator			
13 Labor Negotiator	x	x	x
14 Payroll Officer	x	x	x
IV FINANCE			
15 Purchasing Agent			
16 Cashier			
17 Rate Setter			
V OMBUDSMAN			
18 Third Party Payer			
19 Consumer			
VI STATISTICS			
20 Statistician	x		
21 Accountant		x	
22 Auditor		x	
23 Computer Programmer	x		
24 Computer Analyst			
VII PLANNING			
25 Systems Analyst	x	x	x
26 Planner	x	x	x
VIII PUBLIC RELATIONS			
27 PR Officer			
28 Health Legislative Asst.			
29 Medical Lobbyist			

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEHCA Categories

	HUMAN RELATIONS			
	34	35	36	37
	Counseling	Personnel	Employee Performance Evaluation	Inservice Training
I MANAGEMENT				
1 Office Manager		x	x	x
2 Ward Assistant Mgr.	x	x	x	x
3 Asst. Director	x	x	x	x
4 Medical Office Asst.	x	x	x	
5 Maintenance Supervisor	x	x	x	x
6 Triage Supervisor	x	x	x	x
7 Ambulatory Administrator	x	x	x	x
8 Third Party Mgt. Officer				
9 P.H. Agency Officer	x		x	x
II RECORDS				
10 Admission Officer				
11 Med. Records Officer				
III PERSONNEL				
12 Personnel Administrator	x	x	x	x
13 Labor Negotiator	x	x	x	x
14 Payroll Officer		x		x
IV FINANCE				
15 Purchasing Agent				
16 Cashier	x	x	x	x
17 Rate Setter				
V OMBUDSMAN				
18 Third Party Payer				
19 Consumer	x			
VI STATISTICS				
20 Statistician				
21 Accountant				
22 Auditor				
23 Computer Programmer				
24 Computer Analyst				
VII PLANNING				
25 Systems Analyst		x	x	
26 Planner		x	x	
VIII PUBLIC RELATIONS				
27 PR Officer	x	x		
28 Health Legislative Asst.	x			
29 Medical Lobbyist	x			

Source: Center for Medical Manpower Studies, November 1976

Primary Tasks Performed by Major MEHCA Categories

	CONTROL AND COORDINATIONS					RESEARCH
	38	39	40	41	42	43
	Quality Control	Supervision	Safety Control	Coordin. of Task	Traffic Control	Research
I MANAGEMENT						
1 Office Manager	x	x	x	x	x	
2 Ward Assistant Mgr.	x	x	x	x	x	
3 Asst. Director	x	x	x	x	x	
4 Medical Office Asst.		x	x	x	x	
5 Maintenance Supervisor	x		x	x	x	
6 Triage Supervisor	x	x	x	x	x	
7 Ambulatory Administrator		x	x	x	x	
8 Third Party Mgt. Officer	x	x	x	x	x	
9 P.H. Agency Officer						x
II RECORDS						
10 Admission Officer					x	
11 Med. Records Officer						
III PERSONNEL						
12 Personnel Administrator	x	x	x	x		x
13 Labor Negotiator	x			x		x
14 Payroll Officer						x
IV FINANCE						
15 Purchasing Agent						x
16 Cashier						
17 Rate Setter						
V OMBUDSMAN						
18 Third Party Payer						
19 Consumer	x					
VI STATISTICS						
20 Statistician	x					x
21 Accountant						
22 Auditor						
23 Computer Programmer						x
24 Computer Analyst						x
VII PLANNING						
25 Systems Analyst	x			x	x	x
26 Planner	x			x	x	x
VIII PUBLIC RELATIONS						
27 PR Officer						
28 Health Legislative Asst.						
29 Medical Lobbyist						

Source: Center for Medical Manpower Studies, November 1976

BIBLIOGRAPHY

1. Center for Health Policy Studies, *Chartbook of Federal Health Spending* (Washington, D.C.: National Planning Association, 1974).

2. Committee for Economic Development, *Building a National Health Care System* (New York: Committee for Economic Development, April 1973).

3. Davis, Karen, and Russell, Louise B., "The Substitution of Hospital Outpatient Care for Inpatient Care," *Review of Economics and Statistics*, Vol. 54, No. 2, May 1972.

4. Feldstein, Martin S., "A New Approach to National Insurance," *In Resolved: That the Federal Government Should Enact a Program of Comprehensive Medical Care for all United States Citizens*. Compiled by Congressional Research Service, Library of Congress. House Document No. 92-375. Washington, D.C.: Government Printing Office, 1972.

5. Goldstein, Harold M., and Horowitz, Morris A., *Health Manpower Employment*, Report to the Office of Research, Department of Labor, October 1976.

6. Goldstein, Harold M., and Horowitz, Morris A., *Entry Level Health Occupations: Development and Future* (Baltimore: The John Hopkins University Press, 1977).

7. Huang, Lien-fu, and Shomo, Elwood W., *Assessment and Evaluation of the Impact of Archetypal National Health Insurance Plans on U.S. Health Manpower Requirements*. Prepared for Division of Manpower Intelligence, Bureau of Health Manpower Educational Institutes of Health, February 1974. (Robert R. Nathan Associates, Inc., Washington, D.C.).

9. "The Advantages of Generic Education in Health Administration Planning," paper presented at the annual meeting of the *Association of University Programs in Health Administration*, Chicago, Illinois, May 9, 1976 by David E. Berry.

10. U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States*, 1974.

11. U.S. Department of Health, Education and Welfare, Social Security Administration, Research and Statistics, Note No. 18, "Projections of National Health Expenditures, 1975 and 1980," by Dorothy P. Rice and Mary F. McGee (Washington: Government Printing Office, October 30, 1970).

12. U.S. Department of Health, Education and Welfare, Social Security Administration, *Compendium of National Health Expenditure Data*, by Barbara S. Cooper, Nancy Worthington and Mary McGee (Washington, D.C.: Government Printing Office, 1972).

13. University of Michigan School of Public Health, *The Report of the Commission on Education for Health Administration, Volume 1* (Ann Arbor, Michigan: Health Administration Press), p. xv.

BOOKS ABSTRACTED

1. *The Union Epidemic* by Warren H. Chaney and Thomas R. Beech.
2. *Health Manpower Information for Policy Guidance* by Dale L. Hiestand and Miriam Ostow, ed.
3. *The Manpower Problem in Mental Hospitals* by Philip F. D. Seitz, Elizabeth Jacob, Harold Koenig, Ruth Koenig, Warren G. McPherson, Arthur A. Miller, Robert L. Stewart and Dorothy Stock Whitaker.
4. *A Spy in the House of Medicine* by George A. Silver.
5. *Physician Productivity and The Demand for Health Manpower* by Uwe E. Reinhardt.

The Union Epidemic, A Prescription for Supervisors, by Warren H. Chaney and Thomas R. Beech, Aspen Systems Corporation, Germantown, Maryland, 1976, pp. VIII, 144.

There should be no doubt that the authors of this book are aiming their written convictions directly at hospital administrators, department heads and front-line supervisors. They present very strong views and detail a methodology for permanently avoiding the spread of unionization within medical institutions.

The central theme of the book is for management to give employees those benefits usually promised by unions. The authors complain that hospital administrators waste a tremendous amount of time and effort on various legal tactics, which in their view can only forestall the eventual election of a union.

The tone of the book is set by the following quote, "We have often been asked, 'Don't some employees need a union?' Our answer is loud and clear - 'no.' But some employees deserve a union; i.e., if an employer and the supervisors do not care enough to try to understand, communicate with, and properly supervise others, then the union should win the election."

The specific recommendations of the authors are as follows. Special emphasis should be placed on developing a sound communications system. This system should provide the administration with review and feedback in order to reduce status awareness and social distance. A strong effort should be made to know all your employees as individuals. Continued efforts must be made to improve supervision by proper selection, training, evaluation and involvement. A proper grievance procedure must be developed in the institution. Heavy emphasis must be

placed on salary policies and job promotion. In order to accomplish many of these recommendations, a strong emphasis should be placed on restructuring the institution by the expansion of job enrichment programs and a reduction in the management hierarchy.

Health Manpower Information for Policy Guidance, Report of a Conference sponsored by Conservation of Human Resources, Columbia University, edited by Dale L. Hiestand and Miriam Ostow, Ballinger Publishing Company, Cambridge, Mass., 1976, pp. XIV, 149.

The specific aims of this conference were "to assess the available data on trends in the supply, demand, and utilization of health manpower and the possibilities of assembling and interpreting these data in the context of a longer framework for health manpower analysis."

The authors soon realized that health manpower data in the United States must be viewed with considerable skepticism. To a substantial degree, health manpower data is gathered by professional associations representing specific categories of health manpower and expansionary training at educational institutions. The authors found that health manpower data tends to follow policy, rather than the reverse. A typical illustration of suspect data is, in some significant measure, those gathered and published by the National Center for Health Statistics. The Center's publication "Health Resources Statistics" estimated radiologic technologists, technicians and assistants at 100,000 for each and every year from 1968 through 1975. Considering the substantial growth in the utilization of health facilities, beds and personnel during this period, the constant figure of 100,000 is difficult to swallow. Estimates of physicians in practice also seem to vary substantially. A recent questionnaire utilized in the State of New Jersey indicated a variance of approximately 20 percent among established estimates of the number of practicing physicians.

A strong point was made by the authors that national health manpower data, perhaps with the exception of physicians, are not particularly useful in analyzing supply-demand relationships, since the United States represents not a single market but a series of local and regional markets.

The recommendations of this conference concerning data and its collection and utilization seem to fall into several categories. There was some consensus that improved methodology and technology would be required to coordinate data collection efforts, to reduce the possibility of data gaps, and to encourage a regular exchange between consumers and producers of health manpower and the data associated with each respective field. Some of the conference participants saw a need for a more "rigorous analytic capability" rather than a strong effort to collect additional data.

There are a series of incentives and constraints for educating and training health manpower. The health educational system is fragmented with uneven job opportunities for various occupations. No rational relationships exists between the 3000 training institutions for registered nurses and the 115 medical schools. Furthermore, coordination between providers of health care and the educational system is weak. The lack of systematic integration is due to the belief that market forces will bring about equilibrium between supply and demand of various categories of health personnel. Market forces function in a positive fashion, but the time lag in achieving equilibrium creates bottlenecks of oversupply and/or regional shortages.

The Manpower Problem in Mental Hospitals, A Consultant Team Approach, by Philip F. D. Seitz, Elizabeth Jacob, Harold Koenig, Ruth Koenig, Warren G. McPherson, Arthur A. Miller, Robert L. Stewart, and Dorothy Stock Whitaker, International Universities Press, Inc., New York, 1976, pp. XIII, 253.

The overall central aim of the psychiatric consultant team is to raise the level of patient care. This book describes the strategy of the team approach with the aim of practicing better patient care by its emphasis upon understanding the individual patient. The psychiatric consulting team consists of psychiatrists, psychologists, neurologists, social workers and nurses. This teaching team joins together in an attempt to provide constructive training programs for the entire hospital staff, with the overall goal of improving the morale, skills, and efficiency of the existing staff. This teaching team deals with all levels of health workers from the executive director of the health providers to hospital aides.

The authors note that, "while consultants have all the vulnerabilities of any outsider they also have the stranger's most powerful weapon, independence." Almost all large public mental hospitals developed procedures which soon turn into hard and fast rules. "In such a situation, independent thought and action are apt to be considered the works of the rebel, so that the innovator very soon departs, leaving the field to the cautious, the fearful, or the helpless - in this case, the career administrators, the doctors without training, and the patients." The consultant team made a direct attack on the status quo of the entire environment of hospital life. Their efforts were aimed at casting traditional policies and

bureaucratic rules and regulations in order to provide some direct assistance for the patients.

The consultant team generally found a very low ratio of medical staff to patients. This ratio was generally in the area of about one to one hundred sixty. Further, many, if not most, medical staff were totally without psychiatric training.

The authors note that it was rather striking to all how "something" appeared to occur in all cases where the consultant team became involved directly with the patient. State psychiatric hospitals have traditionally provided custodial care. Any individual or team effort to provide concentrated individual attention to these patients receives a very positive response. Not only is a very positive response achieved from the patients, but this phenomen in turn provides evidence to the regular medical staff that positive steps as those provided by the psychiatric team can indeed make a significant impact on the entire negative atmosphere of the institution.

Finally, the psychiatric team, despite numerous problems, developed strong and worthwhile relationships with patients, performers and hospital administrators. At the conclusion of the psychiatric team effort and study, the regular hospital staff had taken over and were conducting the necessary training programs themselves.

A Spy In the House of Medicine by George A. Silver, Aspen Systems Corporation, Germantown, Maryland, 1976, pp. XI, 309.

The author believes that the existing system of medical care in the United States does function, although he points out the serious problems which have been allowed to develop and which tend to threaten its viability. Silver pinpoints the issues he perceives as problem areas and advances a number of suggestions which could lead to solutions. A strong emphasis is placed on the human as opposed to the technological side of medical care. There is a broad discussion of financing and reimbursement, hospital cost containment, the rise in medical care demand, the lack of access and availability, medical education, role expectations vs. the job, indicators of quality control, the organization of health services, federal involvement, and national health insurance.

For our purposes we will concentrate on the author's discussion of health manpower including the physician and non-physician health care personnel.

The author highlights the very substantial increases over the last fifty years in the use of allied health personnel. He makes the point that the staff-to-patient ratio has increased by over 50 percent in the past 25 years. Silver makes a strong point in noting that the substantial increases in allied health manpower in a rather haphazard fashion without regard to significant reform in either task distribution or job descriptions is very difficult to correct once the practice has gained a significant foothold. The author believes there is a definite need to move health manpower from inpatient facilities to outpatient services and

that this move could be most productive in providing better and more quality services in places where services are now in short or inadequate supply. One prime example used by the author is in the area of mental health. He believes that far too many individuals are in-patients in mental institutions. "Community ambulatory services, foster home care, cottage parent approaches, etc., would provide for more suitable, satisfactory, human treatment, as well as socially desirable and useful activities for those who are mentally and emotionally disturbed." The author forcefully makes the point that community mental health centers are not properly staffed with outreach capabilities sufficient to provide the assortment of mental health services required in the community. Patients who are released from in-patient mental facilities do not have the required amount of outpatient support. Far too often the result is mental patients "half dazed with drugs", roaming in the community without proper supervision, observation and the social services they require.

The author makes a similar analogy with respect to short-term general in-patient utilization. He believes far more emphasis should be placed on providing well staffed community services for ambulatory care.

Silver does emphasize the dangers in releasing inadequately trained "passionately active health workers" on the general public. "The so-called 'demystification' of medicine, whereby people are encouraged to take care of themselves without consulting a physician, is useful only if those people so encouraged have sufficient background and understanding of disease, diagnosis and treatment to be able to deal with the symptoms in a reasonable, truly beneficial way."

Physician Productivity and The Demand for Health Manpower, by Uwe E. Reinhardt, Ballinger Publishing Company, Cambridge, Mass., 1975, pp. XXII, 311.

The author supports the view that the perceived overall shortage of medical services appears to reflect inefficiencies in the production of these services much more than a lack of medical manpower. A great portion of the analysis is restricted to the physician only. The author shows that the physician-population ratio in the United States will increase over the next few decades if the capacity of our medical schools were restricted to their 1975 projected levels. The author suggests that even if there were a shortage of physicians it would amount to a short run problem. He would attempt to solve this short run problem by a continued liberal policy toward the immigration of foreign-trained physicians and increased efforts to increase the productivity of American physicians by the additional use of allied health manpower and a proper utilization of the physicians work effort.

Using production-function estimates the author shows how average physician productivity could be increased between 30 and 50 percent by increasing allied health manpower support staff from 1.75 aides per physician to an apparent optimum of four. Physician productivity was measured by rates of patient visits or patient billings.

The author discusses the policy implications of his analysis by outlining two extreme positions with respect to the formulation of health manpower policy. First, the economy could produce additional medical training facilities to increase the number of active health personnel, particularly physicians. The end

result would be more physicians, perhaps a surplus, and a tacit notification of the health industry's current policies on the utilization of facilities and manpower.

The extreme to this position would be the development of health care and health manpower policies "against the standard of some preconceived ideal health-delivery system and consciously seek to drive the health-care sector toward this ideal, if that sector cannot be expected to do so on its own volition." The attainment of this goal would probably lead to direct federal or state regulation of health care providers. The author mentions several areas where this regulation might be effective, i.e., mandating regional networks of health-care facilities, optimal staffing patterns for health care providers, and monetary incentives used to encourage health providers to adjust utilization and health manpower along lines consistent with national policy.

A central theme running throughout this study is to underplay the traditional emphasis on the supply of physicians or other health manpower and concentrate more on "the determinants of the demand for physician-support personnel." The author places strong emphasis on educating consumers on the benefits of task delegation and the elimination of the existing legal constraints on the utilization of allied-health manpower.

Finally, the author does stress the probable need to place economic and legislative pressure on physicians to organize their offices and the general delivery of health care in modes that will be more economically sound.

ARTICLES ABSTRACTED

1. "Career Origins, On-The-Job Training and Earnings," by Howard Birnbaum.

2. "The Law and The Expanding Nursing Role," by Bonnie Bullough.

3. "An Overview of Primary Health Care," by John Fry.

4. "A Evaluation of an Ambulatory Medical-Care Delivery System," by Sidney Garfield, Morris F. Collen, Robert Feldman, Krikor Soghikian, Robert H. Richart, and James H. Duncan.

5. "Productivity of Women Physicians," by Marilyn Heins, Sue Smock, Jennifer Jacobs, Margaret Stein.

6. "The Volume of Care Provided in Health Care Settings under Medicare," by Fred J. Hellinger.

7. "Contribution of a Nurse Clinician to Office Practice Productivity: Comparison of Two Sole Primary Care Practices," by Geraldine Holmes, George E. Livingston and Elizabeth Mills.

8. "Hospital Cost Inflation and Physician Payment," by Irving Leveson and Elizabeth Rodgers.

9. "Nurses and Trade Unions in Britain," by Susan Scott Lewis.

10. "Market Structure, Non-Pecuniary Factors, and Professional Salaries: Registered Nurses," by Charles R. Link and John H. Landon.

11. "U.S. Health Manpower Policy: Will the Benefits Justify the Costs?" by John H. Morrow and Arch B. Edwards.

12. "The Role of New Health Practitioners in a Prepaid Group Practice," by Donald M. Steinwach, Sam Shapiro, Richard Yaffe, David M. Levine, and Henry Seidel.

13. "Medical Market Performance and Health Maintenance Organizations," by Paul E. Sultan and Darryl Enos.

14. "Unions and Strikes in the National Health Service in Britain," by David Widgery.

Howard Birnbaum, "Career Origins, On-The-Job Training and Earnings," *Southern Economic Journal*, April 1976, pp. 587-599.

The author asserts that different "job experiences" obviously result in different types and amounts of on-the-job experiences, and this article is an attempt to clarify the nature of the differential effects of alternative job experiences by examining the effects of career origin on the acquisition of on-the-job training. A central hypothesis is that failure to standardize for career origin incorrectly attributes earnings differentials to differences in formal education, rather than differences in on-the-job training.

Appropriate evaluation of the effect of the job structure can occur only after the meaning of job experience is understood. As a first step this article develops an analysis of career origins as a measure of the effect of the job experience. Then a categorization of job experience is developed. And finally these categories are used to suggest the potential limits which the job experience may place on individual training and labor market experiences.

The specific hypothesis tested was that the position of the individual's first job with respect to four job-sectors affects his later earnings; and since earnings are assumed to be at least roughly related to skills, the individuals who have more of an opportunity to acquire and use these skills will receive higher earnings. Through regression analysis the economic significance of sector variables supports the argument that starting in the high and median skill sectors is positively associated with earnings, relative to starting in jobs with less opportunity for training and promotion.

In conclusion the article argues that failure to account for on-the-job training, for which career origins is a proxy, will tend to overstate the returns to education. The author notes that the econometric results support this argument by indicating that if an individual's career origins are in an occupation which provided access to generalizable skills, the individual's earnings in all later occupations will be higher for a given level of education, race, etc.

Bonnie Bullough, RN, Ph.D., "The Law and The Expanding Nursing Role," *American Journal of Public Health*, March 1976, pp. 249-254.

This article traces the legal stages of licensure of nurses, from the early 1900's to the present when the role of registered nurse is changing rapidly as many nurses take on expanded responsibilities in both acute and primary settings. As background the author notes the psychological barriers to the expanded role of nurses, resulting from the difficulties nurses experienced in seeing themselves as decision makers in the diagnostic and treatment process. Added to these psychological barriers were some very tangible barriers in the form of the state nurse practice acts.

The first phase of action occurred in the 20th century when nurses actively campaigned for state laws to register trained nurses in an effort to bring some order into a chaotic educational system and to differentiate the trained nurse from the untrained. State licensure seemed to be a reasonable mechanism for achieving these goals, following the pattern of physicians. All subsequent licensing acts for other health workers were essentially amendments to the medical practice acts.

The first nurse registration act was passed by North Carolina, in 1903, and three others were passed in the same year. By 1923 all states had enacted nurse licensure laws, but none of these acts included a definition of nursing in terms of the scope and practice of the profession.

The second phase of nursing licensure began in 1938 when the first mandatory practice act

was passed in New York. This law established two levels of nurses, registered and practical, and restricted nursing functions to members of these two groups. The American Nursing Association adopted a model definition of nursing, and this became the basis of many state laws. However, the clear prohibitions in the majority of the state nursing acts independent diagnosis and treatment were a signficant barrier to the development of expanded roles for nurses.

The third phase began recently, and during the past five years 30 states have enacted amendments to their nurse practice acts to facilitate nurses taking on diagnostic and treatment functions. There are still 13 jurisdictions which have statutory prohibitions against nurses diagnosing and treating patients.

There are at least four different approaches which states have taken in opening up the nursing role, but overall, they have acted as a stimulus to the development of nurse practitioners. Despite the many gains, numerous legal issues and problems remain to be confronted.

John Fry, "An Overview of Primary Health Care," *International Journal of Health Services*, Vol. 6, No. 2, 1976, pp. 309-314.

The main hypothesis is that most hospital care is not necessary and can be replaced by private health care. First, primary health care may take the form of self-care, if indeed the public knows how to take care of it. Secondly, wider use should be made of vertical or horizontal primary professional care administered by physicians and other health personnel. Primary health care is not a monopoly of the general practitioner, the specialist, the pediatrician or the internist. It is shared by nurses, social workers and many other professional groups. Much of the traditional health care can be carried out by medical assistants, nurse practitioners or others. For a long time in both Africa and India, medical assistants have provided medical care for the villages. In China, the now famous barefoot doctors, with little training, care for villagers. In Czarist Russia, Peter the Great introduced the feldshers to help in the army because there were no physicians. In Canada, at McMaster University, an experiment showed that a nurse practitioner can accomplish many of the medical tasks that traditionally belonged to the physician. In the United States, somewhat begrudgingly, primary health care people are considered to be not only the physicians but also the nurse practitioners and other health personnel. In Britain, under the national health system, the general practice is comprised of home nurses, health visitors and midwives. Slowly the non-physicians are getting more and more responsibilities and doing more of the work. The replacement of many tasks of primary health care from the physician to the non-physician and other health personnel may impair employability

of today's medical student. Therefore, there is an urgent need for a reexamination of health personnel requirements for the 1980's.

Sidney R. Garfield, M.D., Morris F. Collen, M.D., Robert Feldman, M.D., Krikor Soghikian, M.D., M.P.H., Robert H. Richart, Ph.D., and James H. Duncan, B.S.I.E., "An Evaluation of an Ambulatory Medical-Care Delivery System," *The New England Journal of Medicine*, February 19, 1976, pp. 426-431.

The authors of this article are all affiliated with the Department of Medical Methods Research, Kaiser Foundation Research Institute and Permanente Medical Group, an organization that has spearheaded private prepaid health plans. They note that all the new approaches to the delivery of health services focus on "the elimination of fee-for-service financial barriers in order to assure access to care for the sick. However, these approaches invariably resulted in a paradox: they impaired the very access they were meant to assure, because they inherently produced increased demand, inflationary costs and maldistribution of physician services."

To eliminate this paradox, the authors designed a medical care delivery system that would relieve the impaired access to care. Two basic changes in the traditional delivery system were made. The first was a method of access through a paramedically-staffed health-evaluation service that, with minimum physician involvement, can separate the users of prepaid services into three components: the well and worried well; the asymptomatic sick; and the sick. The second change involved an appropriate service to receive each of these components: a health care service, staffed by paramedical staff, for the well and worried well; a preventive maintenance service, staffed by paramedicals, for the monitoring and follow-up observation of the asymptomatic sick; and a sick-care service in which physicians tend those affected by

acute or other chronic illnesses.

This new system was instituted at the Kaiser-Permanente Medical Center in Oakland, California, and by using a sample of 4369 patients, it was compared with the traditional delivery system. Analysis of the records indicated a savings of 0.50 physician hours and $28.21 of physician costs per patient in the entry work-up process, an average saving of about 70 percent. In addition the new system provided access to new patients within 24 to 48 hours, as compared to six to eight weeks for a new appointment in the traditional system.

Such an experiment is vital to the utilization of manpower in the health care industry. A significant saving in the scarce resource, physicians, is indicated. While the authors contend that the concept of the new system appears to be transferable to most forms of practice, many more experiments with this concept should be conducted in order to confirm this contention.

Marilyn Heins, M.D.; Sue Smock, M.S.; Jennifer Jacobs, M.D.; Margaret Stein, "Productivity of Women Physicians," *Journal of the American Medical Association*, October 25, 1976, pp. 1961-1964.

The main hypothesis of the analysis is that there is no difference in productivity between male and female physicians. The analytical study is based on 87 randomly selected women physicians in metropolitan Detroit. To date there are 50,000 female physicians in the United States; and in 1975 one out of every four freshmen enrolled in medical school was a woman. Therefore, in a few years hence, one-fourth of all physicians will be a female as compared with only 8 percent today. The median age of women physicians is about 46 years, about one-fourth have a pediatric specialty, and another quarter are in general medicine. There are few (6 percent) in surgery.

The survey found that 84 percent of the women physicians were working as physicians at the time of the survey. About 6 percent were working part-time (more than 20 hours), and only 4 percent worked less than 20 hours. Four-fifths of all women with children under 18 worked full time. Child care has a small effect on the productivity of the majority of women in the sample. Contrary to other studies, it is shown here that women physicians have worked continuously for about three-quart quarters of the time since graduating from medical school. Short-comings exist because, besides the partial household help some women get, three-quarters of the women from the sample do all the cooking, shopping, child care and money management in the household. While the productivity of women physicians is high, the problems facing the female physician (being a wife and mother) are still as stringent

as before. More of the comments received in the sample indicated that most of the women found it very difficult to cope with both their professional and their family interests.

Now that we are approaching the stage when 25 percent of all doctors will be female, the assumption that only women have the responsibility of household maintenance should be dropped. Instead, the responsibilities of household tasks should be shared by both husband and wife. The conclusion of an article by Jussin and Mueller that women work two-fifths fewer hours in their lifetimes than men as shown by samples is refuted, and it is asserted that the productivity of women is not much different than that of male physicians.

Fred J. Hellinger, "The Volume of Care Provided in Health Care Settings under Medicare," *Atlantic Economic Journal*, Spring 1976, pp. 54-60.

The hypothesis is that there is a certain degree of substitution among health care facilities. A study by Davis and Russell shows that the demand for outpatient care is a function of the price of inpatient care and the price of outpatient care and other variables. Davis and Russell found a very high elasticity of demand for outpatient care (0.85) with respect to the price of inpatient care; when the room charges are included in the inpatient price the elasticity is at least 1.46.

The author examines the substitution and sees some problems with pricing. An attempt is made to answer the question of whether national health insurance should cover extended care facilities, outpatient, and home health care. In order to determine this it is necessary to know the substitute availability patterns which would emerge from a national health insurance plan. The model used is for 1968 (after Medicare was implemented), and the findings are that there is a significant amount of substitution between extended care facilities and short-term hospital care. It seems that the rate of availability of hospital beds will have lowered the use of extended care facilities because physicians are less inclined to transfer a patient out of the hospital if it has unoccupied beds. The biggest problem is to determine how new home health care is affected by coinsurance and how it can affect extended care facilities. Home health care may mean many things, such as attendance by a nurse if the patient is helpless, or home visits by any other allied health professional. The

average number of visits may be meaningless. Intuitively it is known that home health care is the cheapest form of health care, but the question remains whether it can satisfy the needs of the population at large, especially the elderly who need medical care. In the final analysis, there is little or no price substitution between outpatient health care, home health care, short-term health care and extended care facility use. This is so because Medicare covers only part of outpatient and home health care. Yet there is no way to know how much Medicare provisions really influence this change.

The argument is that physicians are less concerned with the price effect, and more concerned with the availability of hospital and extended care facility beds. It seems that outpatient and home health care are substitutes for short-term health care and extended care facilities, but that they cannot be affected by price. If we could distinguish between net costs to the patients, the price elasticity of substitution could be realistically determined. As it stands, the price itself does not necessarily influence the demand for home health care versus short-term hospitals and extended care facilities. The conclusion is that the coverage of outpatient nursing home care by Medicare has resulted in increase of overall costs, but a decrease in the use of short-term hospitals.

Geraldine Holmes, George E. Livingston and Elizabeth Mills, "Contribution of a Nurse Clinician to Office Practice Productivity: Comparison of Two Sole Primary Care Practices," *Health Service Research*, Spring 1976, pp. 21-33.

Because of a desire to learn more about the impact of nurse clinicians on the availability of primary care service in Kansas, a series of productivity case studies was initiated in the summer of 1974. In the case study reported in this article, productivity was assessed in two solo physician practices, one with only a nurse to assist the physician (practice I) and the other with a nurse clinician in addition to the registered nurse (practice II). The comparisons emphasized are (1) the different roles of the nurse in practice I and the nurse clinician in practice II; (2) the type of patient services each professional provides; and (3) the productivity of each practice, measured in terms of the number of patient visits processed during a standard time period.

The two practices were similar in the distribution of patient problems presented and in the demographic, socioeconomic, and racial characteristics of the patient population served. The researchers collected data in each practice for 12 consecutive workdays, and the method involved timing all office activities of the physicians, the nurse clinician and the nurse, and coding the data in predetermined categories.

The nurse clinician's primary responsibilities involved managing selected types of patient visits independently, while the nurse in practice I was responsible for the performance of routine nursing tasks, bookkeeping, and office maintenance. The nurse spent only 15 percent of her day in direct patient contact, compared

to 48 percent for the nurse clinician. Almost 75 percent of the problems handled alone by the nurse involved a scheduled procedure and no significant evaluation of the patient's problem; for the nurse clinician the comparative figure was only 15 percent.

The data suggest that the nurse clinician contributed substantially to the productivity of practice II; and in addition, by seeing patients first the nurse clinician saved the physician time. Despite the fact that physician I spent more time in direct patient contact (64 percent of his day) than did physician II (56 percent of his day), the former saw fewer patients a day because he spent more time in conversation with patients, history taking, and patient education or counseling. When only visits managed independently by the nurse clinician are counted, the projected difference in annual productivity is 1848 patient visits, or 20 percent. When all visits are used in the calculation the projected difference in productivity is 2856 patient visits, or 31 percent. The evidence available indicates that the nurse clinician in practice II increased the productivity of the practice without increasing costs to patients. She has been well accepted by patients, and the quality of patient care has not diminished.

Irving Leveson and Elizabeth Rodgers, "Hospital Cost Inflation and Physician Payment," *American Journal of Economics and Sociology*, April 1976, pp. 161-174.

This is an exploratory analysis of the physician revenue maximization hypothesis. An attempt is made to explain why hospitals costs are 20 times the level of 1940. It is shown that the marginal product of physicians, and consequently income, can be increased by increasing the utilization of allied-health personnel and introducing technology and equipment, and other ancilliary services. With increasing health insurance coverage, the tendency is to increase hospital services. Hospitals perform services for which the physician is paid, thus furthering the income of physicians. The argument is that when the physician works for a fee rather than a salary, there is a tendency to push for the use of more non-physician labor and more technology. For physicians this is an external economy and, internalized, increases their incomes. The main implication is that a physician should be divorced from the managerial decision making on the growth of hospital services and technology because it is self-serving. When physicians do not exercise primary direct control, as in HMO's, costs are kept down.

When productivity does not increase at the same pace with wages or when a factor of production such as labor is used more, or is paid more than it is used, prices increase. Over the last two decades, wages of allied health personnel increased faster than wages for comparative occupations in other industries. This happened simultaneously with increases in the average skills of health personnel and an increase of capital per patient, but not an

increase of staff per patient day.

Based on the physician revenue maximization hypothesis, the general conclusion of this analysis is that the rate of inflation in hospitals is directly associated with the type of institutional arrangements. The cost of hospitals tends to be lower when physicians do not control the hospitals. When physicians control the administration of health providers, they aim for more allied health personnel to do more of the physicians' work for which physicians are paid, for more equipment that allows for more patients, and for higher fees or salaries.

Susan Scott Lewis, "Nurses and Trade Unions in Britain," *International Journal of Health Services*, Vol. 6, No. 4, 1976, pp. 641-649.

Noting the poor pay and working conditions of nurses in Britain, the article presents in detail the failure of the organizations representing the nurses to negotiate reasonable wages. A number of factors contributed to the failure of the Whitley Council negotiations in the past. The Health Service trade unions are poorly represented on the Council. They are not united and largely have right-wing leadership and policies. Vocational and professional aspects of nursing homes, in the past, have been presented in contradiction to trade union activity and political consciousness. And the fact that nurses are predominately women lacking in trade union organization has militated against successful negotiations.

The author describes in detail a series of events, including strike actions by nurses during 1974, which led to a substantial pay raise. The award amounted to an extra 170 million pounds to be spent on nurses' wages per year, and the response of the unions was a qualified acceptance. Although a target salary of 3,000 pounds per year was reached for ward sisters, some student nurses received increases of only 5.6 percent, giving them a salary of between 1,125 and 1,323 pounds a year. The Unions continued to negotiate for increased salaries for the lower-paid nurses, a reduced working week, a ban on agency nurses in the National Health Service, improved accomodations, increased special-duty payments, and total abolition of split-shift working.

There were many positive aspects of the 1974 pay campaign. The whole question of the deterioration of the NHS and its need of additional

funds was highlighted. Many nurses joined their trade union, and many already unionized aligned with the working class to defend the concept of a fully socialized system of health care.

Charles R. Link and John H. Landon, "Market Structure, Non-Pecuniary Factors, and Professional Salaries: Registered Nurses," *Journal of Economics and Business*, Winter 1976, pp. 151-155.

The principal goal of this article is to test the hypothesis that the wage rate for a standard grade and quantity of labor will tend to vary directly with the extent of product-market power--i.e., the inelasticity of product demand facing the firm--and inversely with the extent of monopsony power--i.e., with the inelasticity of supply of labor to the firm. Since in the hospital industry monopoly in the product market is likely to coincide with monopsony in the labor market for nurses, the authors have selected this as the ideal place to test this tradeoff.

The authors describe their study as unique in several ways: (1) starting salaries, rather than average salaries are employed; (2) separate analyses are made on baccalaureate and diploma nurses; (3) concentration is measured by an entrophy index as well as the traditional concentration ratio; and (4) data from individual hospitals instead of average data from standard metropolitan statistical areas are utilized. A survey of 520 hospitals was conducted in November 1973, and in the final sample 317 hospitals were included. The sample was drawn from both large and small cities, and included the major categories of general service hospitals.

The influences of monopsony on hospital nurses' salaries were estimated by ordinary least squares. The dependent variables were the starting annual salaries of registered nurses with a diploma and of registered nurses with a baccalaureate, both with no previous

experience. The independent variables used were: entropy; type of hospital; manufacturing hourly wage; cost of living; region; and non-monetary benefits. The results illustrated a strong and systematic negative relationship between nurses' salaries and the degree of monopsony; and this relationship held even when such other considerations as type of hospital, area salaries, price index and nonmonetary factors are included in the earnings equation.

Clearly there are other market factors that may be important. The authors recognize this at the article's conclusion by indicating that a complete model of the nurse labor market should include such factors as unionization, the presence of hospital associations, and various other dimensions of supply and demand.

John H. Morrow and Arch B. Edwards, "U.S. Health Manpower Policy: Will the Benefits Justify the Costs," *Journal of Medical Economics*, October 1976, pp. 791-805.

The author of this article question the United States policy on health manpower, by indicating that more manpower in the health field is being "purchased" at a high cost, while the resulting health benefits to the nation are likely to be negligible. The current national policy is to expand as rapidly as possible available manpower in the health field on the assumption that this will insure better health for the American people.

The article notes that under current policies the physician to population ratio will be 50 percent higher in the year 2000 than today's ratio, but at a cost of diverting another 4 percent or more of GNP from other purposes into health care. However, there are strong indications that only marginal benefits, if any, in the overall health of the American people will result. Health improvement as measured by increases in life expectancy has some undefined limit, and more personal health services does not seem to expand the limit. Changes in life style and in the environment have a more direct effect on health and longevity than does an increase in the physician/population ratio.

Taking up the problem of the maldistribution of health services and health manpower, the authors note that past increases in health manpower failed to result in a more equal geographic distribution, and there is no reason to assume that future increases will have any other distribution. The authors also note that in recent years the number of first-year residents in family practice

programs was far below the number required to replace retiring general practitioners and to keep pace with population growth.

The authors argue that the United States adopt policies that reduce the rate at which we are adding to the United States health manpower pool. It is a costly and cruel illusion that better health will result from such a policy. They suggest that the nation reexamine its goals and priorities in order to make a wiser decision.

The article correctly notes that the mere expenditure of funds to increase numbers of health manpower is not really sufficient to improve the overall health of the nation or the maldistribution of health resources. However, few specific suggestions are made as to what policies or strategies should be substituted. But perhaps that is due in a forthcoming article.

Donald M. Steinwach, Sam Shapiro, Richard Yaffe, David M. Levine, and Henry Seidel, "The Role of New Health Practitioners in a Prepaid Group Practice," *Medical Care*, February 1976, pp. 95-120.

This article presents the first set of results of a study of the delivery of care of a prepaid group practice program, the Columbia Medical Plan, where a decision was made to increase markedly the use of New Health Practitioners (NHP). The underlying rationale for this move was the expectation that NHP would represent an economic alternative, without loss in quality, to more traditional modes of practice through improved utilization of the physician's specialized training and skills. The approach taken was to delegate common ambulatory problems and routine physical examinations to the NHP under appropriate supervision. This paper provides information on one significant segment of the findings, i.e., the changes that occurred in the distribution of ambulatory care between the NHP and physicians over a three-year period in the Departments of Medicine and Pediatrics.

During the period July 1971 to June 1974 the Department of Medicine made major changes in the mix of providers, starting from a predominantly physician staff and going to a majority of NHP. The three years of experience showed the following:

1. The annual number of patient visits per FTE physician as a first provider decreased; however an increasing proportion of physician-patient encounters were with the health associate as the first provider.

2. Physicians retained the primary role in the diagnosis, treatment, and maintenance of enrollees with chronic conditions.

3. Health associates assumed a primary role in the diagnosis and treatment of acute self-limited condition and acute conditions for which there is usually limited uncertainty in diagnosis and are typically responsive to therapy.

The Department of Pediatrics paralleled the Department of Medicine in the extensive use of NHP in ambulatory care. During the three-year period changes in the distribution of ambulatory care between NHP and physicians accompanied a greater increase in the health associate staff than in the number of pediatricians to meet the need of an expanding enrollment. The general characteristics of these changes were:

1. The annual number of encounters seen by FTE pediatrician decreased; however, the encounters when the pediatrician was a second provider increased slightly.

2. Health associates managed an increasing proportion of all well-child care and assumed an expanding role in evaluation, diagnosis and treatment of common ambulatory conditions.

3. Pediatricians retained a primary role in the diagnosis and treatment of chronic conditions and in the more serious acute conditions.

Rough estimates were made on the ratio of health associates to additional physicians who would have been required if there had been a less extensive NHP program. In adult medicine, the ratio was 2.6 health associates to one FTE physician; in pediatrics the ratio was estimated at 2.1.

Paul E. Sultan and Darryl Enos, "Medical Market Performance and Health Maintenance Organizations," *Atlantic Economic Journal*, Spring 1976, pp. 46-52.

The main hypothesis is that HMO's can contribute greatly to increased efficiency and decreased cost of health care delivery. In 1976, about $130 billion or 8.3 percent of the GNP were spent for health care. In the 19th century it was felt that education is a citizen's right, while in the 20th century proper health care for everyone is an accepted goal.

Government at all levels-federal, state and local-has attempted in various ways (Medicare, Medicaid, clinics, municipal hospitals, etc.) to fulfill the health care goal. Programs had known degrees of success but the attempt to accomplish unusual health care programs through the market has been the least successful. With the U.S. institutional approach some "market" form is more plausible than a "socialized" type of health care. This is why HMO's respond best.

HMO's present favorable and unfavorable aspects. On the positive side, first, HMO's are "private" with little government machines and control. Second, it can be flexible in form; physicians may join it completely or on a part-time basis. Third, the consumer has more of a choice: he may choose between a private practice and an HMO. Fourth, consumers feel more secure when they know that they are completely covered for all their health needs. Fifth, within an HMO, allied health personnel can be used more effectively with more services for consumers at a lower cost. Sixth, the team approach of HMO's allows for immediate response of specialists when needed. Seventh, an HMO has to be responsive to consumer needs because they depend on the consumer for their liveli-

hood. Eight, in HMO's, economies of scale can be realized. Nine, as a response the federal government has rationalized federal funding and designed local health planning agencies [HSA's].

On the negative side, the AMA believes that physician prerogatives may be impaired when working for a salary. Also critics say that customers are under-served because of the minimal service goal of HMO's and because of shortcomings of mass production service. There is more waiting, less personal relationships, and the team approach is more physician centered than patient centered. Often, the physician will work longer hours in solo practice and physicians are still reluctant to work with assistance of allied health personnel. Finally, HMO's serve only employed customers so that the unemployed and therefore the poor are unrepresented, making it discriminatory in fact, if not in letter.

As in any organization change, the negative aspects will continue to plague the HMO's for a long time. On balance, the HMO's perform an important service and will tend to decrease or at least level costs of health care; indeed, their economic feasibility has already been established.

David Widgery, "Unions and Strikes in the National Health Service in Britain," *International Journal of Health Services*, Vol. 6, No. 2, 1976, pp. 301-308.

In this very short article the author outlines the origins of the principal blue-collar and white-collar trade unions in the British Health Service, and sketches their growth since the establishment of the National Health Service in 1949. He traces the strike actions from the 1970 unoffical strike of ancilliary workers to the unofficial national industrial action over working hours by junior hospital doctors, and stresses the increase in militancy that has spread through the industry. It is argued that while strike actions in hospitals in the early 1970's was a novel tactic adopted as a last resort by blue-collar workers pressing for wage increases, now industrial action over a wide range of political and medical issues has been taken by all types of hospital workers, including the white-collar professional.

The author's presentation is too brief to do justice to the evolving industrial relations system that has developed (and is still developing) in the British health care industry. It fails to give the detailed rationale for the growth and militancy of the unions involved, but this may be due to limitations of space. What may be questioned, however, is the author's assertion that the British National Health Service is under challenge and that the strike actions by unions are playing a central part in the national debate over the future of the service. If this is so, the author knows more than he has told the reader. There is little in the article from which one can conclude that the strike actions of hospital workers are significant to the future of Britain's NHS.

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