

The health services industry: a decade of expansion

During the 1970's, the demand for health care rose, resulting in a dramatically increased work force, accompanied by a need for more highly skilled workers; wages and salaries remained below national averages and absences above; workweeks were shorter

EDWARD S. SEKSCENSKI

Along with a rise in the demand for medical services, and a steady increase in the costs of those services, the number of workers employed in the health services industry has grown at a very rapid pace. As the decade opened, about 4.3 million persons were working in hospitals, convalescent institutions, physicians' and dentists' offices, or other health care facilities.¹ By 1979, their number had grown to more than 6.7 million, an increase of 55 percent. During the same period, the total work force grew by 23 percent.

Median earnings of wage-and-salary workers in health services, however, were below the all-industry average throughout the decade. For full-time hospital employees, median usual weekly earnings were 86 percent of the national average in 1978, up from 82 percent in 1970. In other segments of the health services industry, average wage-and-salary earnings remained at about three-quarters of the all-industry average. However, workweeks tended to be slightly shorter in the health services industry than for all industries, both for part-time and full-time workers.

This article covers health service employees, such as physicians, nurses, and laboratory technicians, plus

those who provide administrative, clerical, food, and other supportive services in health care facilities. The universe for hours and earnings data is wage-and-salary workers. Self-employed health service providers are included in the data on total employed. Much of the material is derived from special tabulations prepared by the author from computer tapes for the Current Population Survey² in May. This survey is the only source of national data on employment, earnings, and hours of workers in the entire health industry.³

An overview

Early approaches to measuring the level of health service requirements stressed the "need" for services according to the size, density, and age and sex distributions of the population, the estimated incidence of illnesses and injuries, and rough estimates of health worker productivity. Roger I. Lee and Lewis W. Jones in their 1933 study of physician requirements used these criteria to calculate the physician to population ratios that were used in planning medical schools and health facilities through the 1950's.⁴ Similarly, the President's Commission on the Health Needs of the Nation (1953)⁵ and the Surgeon General's Consultant Group on Medical Education (1959)⁶ based their recommendations for expansion of medical schools and facilities largely on

Edward S. Sekscenski is an economist in the Office of Current Employment Analysis, Bureau of Labor Statistics.

Table 1. Workers in the health services industry by segment, May 1970 to May 1979

[Numbers in thousands]

Year	Total employed	Health services industry					
		Total	Hospitals	Convalescent institutions	Physicians' offices	Dentists' offices	Other ¹
1970	78,358	4,323	2,727	N.A.	N.A.	N.A.	1,596 ²
1971	78,708	4,605	2,878	590	486	234	418
1972	81,224	4,850	2,914	651	557	255	473
1973	83,758	5,235	3,114	760	594	268	499
1974	85,786	5,470	3,190	809	605	292	575
1975	84,146	5,741	3,392	864	570	345	670
1976	87,278	6,140	3,568	933	657	332	650
1977	90,482	6,267	3,507	975	685	323	777
1978	93,904	6,522	3,661	924	815	353	769
1979	96,327	6,699	3,753	1,012	779	351	804
Percent increase, 1970-79	22.9	54.9	37.6	71.5 ³	60.3 ³	50.0 ³	92.3 ³

¹Includes persons employed in nonhospital clinics, medical and dental laboratories, nonphysician practitioners' offices and other health services not elsewhere classified.

²Represents the sum of persons at work in convalescent institutions, physicians' and dentists' offices, and in other health services not elsewhere classified.

³Increase for 1971-79.

NOTE: Because of rounding, sums of individual items may not equal totals.

N.A. = Not available separately.

existing physician to population ratios and projected changes in the latter.

More recent theory on the demand for health services views each segment of the industry as providing inputs into the production of a final output—"good health" which is an investment good.⁷ Families or individual consumers purchase varying amounts and combinations of these services according to the expected return on their investment (in terms of fewer days of illness and longer and more enjoyable lives) and present costs of the services.

The growing availability of medical insurance has played a large role in the growth of the health services industry. The majority of medical costs (at least two-thirds in 1978) are paid through third party agencies—health insurers.⁸ The prevalence of health insurance, as well as the costs of its premiums, and the extent of coverage differ greatly by segment. In general, demand has been greater where coverage has been more comprehensive. For example, fuller coverage for hospital than for other services resulted in a demand on hospitals for services that might have been provided more economically elsewhere. However, over the decade, broader coverage for physicians' and dentists' services, care in convalescent institutions, and other nonhospital services increased demand for these services.⁹

In addition to the expanding role of health insurance, other factors contributed to the growth in the demand for health services during the 1970's, both in aggregate and on a per capita basis. Among these factors were an increasing and aging population, rising personal and family incomes (at least through mid-decade), and greater public awareness and desire for quality health care. As a result, the Nation's total health expenditures rose from about \$75 billion in 1970 to more than \$212 billion in 1979, while per capita expenditures advanced from \$358 to \$942. Over the same period, the health in-

dustry's share of the gross national product increased from 7.6 to 9.0 percent.¹⁰

Growth by industry segment

Hospitals employed the majority of all workers in the health services industry throughout the decade, 3.7 of 6.7 million in 1979. However, the fastest employment growth was in other segments of the industry. While employment in hospitals increased by 37 percent between 1970 and 1979, it nearly doubled in the rest of the industry (see table 1). As a result, hospitals accounted for a smaller proportion of all health industry workers in 1979 (56 percent) than in 1970 (62 percent).

Employment rose at a less rapid rate in hospitals than in other segments of the industry for several reasons, including decreases in the average length of a patient's stay,¹¹ a lowering of the birth rate (while childbirth remained the major reason for hospitalization in nonfederal short-stay hospitals, total maternal deliveries declined),¹² and a growing substitution of ambulatory or outpatient care for hospital inpatient care. Outpatient visits increased by 53 percent between 1970 and 1977, compared to a 17-percent rise in inpatient admissions over the same period.¹³

The closing of many "long-term" hospitals (where patients stay an average of 30 days or more), especially government-owned psychiatric facilities, also slowed the demand for hospital workers. While the total number of beds in "short-term" hospitals (where patients usually stay less than 30 days) increased by about 8.3 percent during 1972-77, the number in long-term hospitals declined by 40 percent,¹⁴ as more of their patients were treated in outpatient facilities.

Convalescent institutions were the next largest group of health service employers, reaching more than 1 million in 1979. An aging population and increased insur-

ance benefits, especially under medicare and medicaid plans, contributed to the very rapid employment growth in these institutions between 1971 and 1976. However, employment leveled off during mid-decade, as government regulation of these facilities strengthened,¹⁵ and "home-health services" for elderly patients gained support.¹⁶ Employment in convalescent institutions rose again between 1978 and 1979. Over the decade, the proportion of all health industry workers employed in convalescent institutions increased from 10.6 to 15.4 percent.

Employment in physicians' and dentists' offices, and in "other health services," such as nonphysician practitioners' offices, nonhospital clinics, group health associations, and medical and dental laboratories, also grew at rates faster than that in hospitals. Growth in these facilities was consistent with the trend towards substitution of outpatient and other health care for hospital inpatient services and greater insurance coverage for nonhospital services. As a whole, these diverse providers of health services employed 1.8 million persons in 1979, 60 percent greater than in 1971. Among them, physicians' offices were the largest single employers in 1979, with 720,000 workers or about 63 percent more than in 1971. This growth represented an increase of approximately 50 percent in the number of office physicians, to more than 270,000, as well as their increasing use of auxiliaries, such as nurse practitioners, physicians' assistants, and other technical and clerical staff.

The number of persons working in dentists' offices increased to 342,000, about 46 percent over the decade. The number of dentists in these offices rose from about 100,000 to 120,000, while their use of auxiliaries increased. This is partially because of more dental group practices which tend to employ more assistants per dentist than do solo practices.¹⁷

Occupational trends

The health industry work force included a higher proportion of professional and technical workers in 1979 than in 1971.¹⁸ However, clerical workers also increased their share of employment. In contrast, service workers declined in relative importance. (See table 2.)

The growing use of highly sophisticated diagnostic and therapeutic equipment increased the demand for skilled technologists and technicians. Some of this new equipment reduced the demand for workers, by performing equivalent work automatically or faster. However, the delivery of more advanced medical care, made possible by new technology, caused a relative increase in the demand for highly skilled workers. The largest growth in technologists and technician employment was in nonhospital facilities. While there were half again as many hospital employees in these occupations in 1979 as in 1971, the number in nonhospital clinics, laboratories, and physicians' and dentists' offices more than doubled.

A reorganization of the delivery of some health care also added to the demand for more highly skilled workers. For example, according to the American Hospital Association the proportion of hospitals with intensive care units rose from less than one-third in 1965 to about two-thirds in 1978; those with cardiac intensive care units increased from 0.05 to 31.7 percent over the same period.¹⁹ These facilities generally require employees with greater skill levels because of the sophisticated medical care they provide.

The growth in the proportion of registered nurses and the relative decline in importance of licensed practical nurses and nurses' aides also illustrated the trend toward rising skill levels. Total employment of the professional nursing group rose by three-fifths between 1971

Table 2. Workers in the health services industry, by selected occupations, May 1971 and May 1979

[Numbers in thousands]

Occupation	1971			1979		
	Total health services	Hospital	Medical except hospital	Total health services	Hospital	Medical except hospital
Total ¹	4,605	2,878	1,728	6,699	3,753	2,946
Managenal, professional, and technical workers, total	1,586	929	657	2,445	1,433	1,012
Health administrators	128	70	58	148	76	72
Physicians	290	99	191	419	135	284
Dentists	108	108	133	4	129
Registered nurses	662	491	171	1,063	794	269
Therapists	83	49	34	184	100	84
Technologists and technicians	293	199	94	446	293	153
Dieticians	28	21	7	52	31	21
Service and clerical workers, total	2,238	1,506	732	3,051	1,716	1,335
Licensed practical nurses	279	210	69	333	230	103
Nurses' aides	770	533	237	940	483	457
Food, laundry, and housekeeping	597	434	163	680	428	251
Clerical	592	329	263	1,099	575	524

¹ Total includes other occupations not shown in table.

and 1979, aided by increased Federal support to schools of nursing. The Nurse Training Act of 1964, which was renewed through 1975, provided a total of \$2 billion in direct Federal grants to schools of nursing for distribution as student loans and scholarships, and for new school construction and financial support for existing nursing schools.

In contrast, the number of licensed practical nurses and nurses' aides each rose by approximately one-fifth. Aides had declined by about 6 percent in hospitals largely because of the closing of many of these facilities that had provided long-term care. However, the number of aides in convalescent institutions increased by 93 percent.

Therapists were among the professional health occupations that grew more rapidly than total employment in the health services industry. This group roughly doubled in number between 1971 and 1979 as the result of funding for new rehabilitation programs for the disabled as well as growth in established programs. The increased employment was divided about evenly between hospitals and other health facilities.

The growth in demand for lower skilled workers, such as food service and laundry workers, slowed as a result of the trend toward treating many long-term patients through home-health services or outpatient clinics. The proportion of the industry's work force in food service, laundry, and housekeeping occupations decreased from 13 to 10 percent during the 1970's.

Clerical workers nearly doubled in number during the decade, as more of the "office" work of the industry was shifted from those providing medical services to secretaries, medical records clerks, and other clerical employees.

Self-employment in the health industry

Self-employed workers are an important, albeit relatively small, segment of the industry's work force (352,000 or 5.3 percent in 1979). In contrast to an 11-percent increase in the number of all self-employed workers from 1971 to 1979, the number in the health industry was about the same in both years. The proportion of all physicians who were self-employed dropped from approximately one-half to one-third, while that of dentists decreased from nine-tenths to two-thirds. To some extent the rapid growth in wage-and-salary employment in some professional health service occupations represented the incorporation of professional practices for tax benefits. For many such professionals the change was in accounting practices, not in employment status.

Physicians (40 percent) and dentists (20 percent) accounted for about the same proportions of all self-employed persons in the industry throughout the decade. The remainder of the self-employed was made up

of principally registered nurses on private duty, nurse practitioners, private-duty nurses' aides, chiropractors, health technologists in private medical research, and to a lesser degree pharmacists,²⁰ dieticians, psychologists, therapists, medical social workers, and some convalescent institution proprietors.

Women and black workers

In contrast to the overall work force, women make up the majority of workers in the health services industry, reflecting that occupations in this industry—nursing being a primary example—traditionally have been dominated by women. Even though the female proportion of the national work force increased during the 1970's (from about 37 to 42 percent), their proportion of health industry employment remained much higher, nearly 75 percent.

Women's share of all professional health workers, including registered nurses, rose from about 60 to 65 percent during the decade. Their share of all physicians, dentists, and practitioners was 9 percent in 1971, 12 percent in 1979. Among these professionals under age 35 in 1979, women accounted for almost 20 percent.

The ratio of men to women in the health industry in 1979 was nearly the reverse among the self-employed as for the wage-and-salary work force. However, women's share of the self-employed rose from about 20 percent in 1971 to 25 percent in 1979.

Convalescent institutions employ an overwhelming majority of women—nearly 9 of 10 were female employees in 1979. In hospitals, clinics, medical laboratories, and group health associations, about three-quarters of the employees were women.

Black workers, who made up about 10 percent of all workers throughout the decade, also are overrepresented among health service employees. However, the proportion of all health industry employees who were black, decreased slightly over the decade, from about 15 to 13 percent. This was largely because of a proportional decline in their employment in hospitals, where their fraction of the work force went from 18 to 15 percent.

Throughout the period, few blacks worked in physicians' and dentists' offices. No more than 5 percent of employees in these offices were black in any year in the 1970's. Of all physicians and dentists, blacks accounted for less than 3 percent both in 1971 and 1979.

However, blacks, especially men, increased their share of employment in the "other health services" group. For all black workers the proportion of employment in these facilities rose from about 8 percent in May 1971 to 12 percent in May 1979. Black men increased their share of all men in this type of employment from 5 to 14 percent over the same period. For black women, most of the employment increases were in the nonprofessional health occupations. Black men became a little

more numerous among the technical health occupations.

Weekly earnings

Historically, the earnings of wage-and-salary workers in the health services industry have been well below those in the overall work force.²¹ In 1978, usual median weekly earnings of health service employees working full time were \$180,²² or 81 percent that of all full-time workers. The gap had narrowed slightly since 1973. (See table 3.)

Full-time hospital employees were among the highest paid workers in the industry, with usual earnings of about \$195 per week, on average, in 1978. Since 1973, their earnings had increased by 50 percent, compared with 40 percent for all-industry wage-and-salary workers, and 44 percent for wage-and-salary workers in the health industry.

An increase in union coverage of hospital employees, from 12 to 22 percent, especially following extension of the National Labor Relations Act to workers in non-profit hospitals in 1974, as well as an increase in the proportion of professional and technical workers, contributed to the relatively rapid growth in the earnings of hospital employees.²³

Convalescent institution employees had lower earnings than other health workers. Their usual median weekly earnings of \$127 in 1978 represented less than three-fifths that of all workers. The lower proportion of health professionals and higher proportion of service workers contributed to the lower earnings in this segment. In addition, average earnings of workers in several occupations, including registered nurses, health administrators, clerical workers, and nurses' aides, were lower in convalescent institutions than in hospitals.

Persons employed in the "other health services" group were the most highly paid wage-and-salary workers in the industry. Their median weekly earnings throughout most of the 1970's were about equal to those of the overall work force. These higher earnings

are greatly the result of the higher earnings of some of the professional groups employed in this group compared with those of their counterparts in the rest of the health industry.

Usual median weekly earnings of physicians' employed in physicians' offices, approximately \$972 in 1978, were the highest of any occupational group in the industry, although they showed little increase from their 1974 level of about \$966. These data relate only to the wage-and-salary portions of the earnings, of physicians employed in physicians' offices. All other earnings, such as salaries from hospitals and self-employed earnings, are excluded.

The dominance of women in the industry may be one reason for the lower median earnings of health service workers. Throughout industry, women earn less, on average, than men in equivalent occupations.²⁴ In the health industry in 1978, women employed full time as wage-and-salary workers earned approximately \$168 per week, on average, whereas their male counterparts earned \$241 per week. Women employed as health therapists and registered nurses earned about 85 percent of the weekly earnings of men in these occupations. The same earnings ratio applied to licensed practical nurses, nurses' aides, and nonprofessional health service workers.

Work schedules

Average weekly hours of health industry employees were shorter than the average for all wage-and-salary workers. (See table 4.) The relationship showed little variation over the decade. Full-time hospital employees, for example, reported working an average workweek of 40.8 hours in May 1979 compared with 42.6 hours for all full-time wage-and-salary workers. Comparable figures for 1970 were 41.0 hours (hospital workers) and 42.8 hours (all wage-and-salary workers). Health workers in nonhospital facilities who worked full time averaged 41.8 hours in 1979, up slightly from 40.6 hours in

Table 3. Median usual weekly earnings for full-time, wage-and-salary workers in the health services industry, by segment, May 1970 to May 1978

Year	All full-time, wage-and-salary workers	Health services industry					
		Total	Hospitals	Convalescent institutions	Physicians' offices	Dentists' offices	Other ¹
1970	\$131	N.A.	\$108	N.A.	N.A.	N.A.	\$98 ²
1971	139	N.A.	114	N.A.	N.A.	N.A.	104 ²
1972	144	N.A.	123	N.A.	N.A.	N.A.	112 ²
1973	158	\$125	130	\$91	\$122	\$99	162
1974	168	135	142	92	127	116	169
1975	183	148	154	96	140	125	179
1976	194	159	172	109	156	128	191
1977	204	168	179	120	161	151	205
1978	221	180	195	127	174	162	205

¹ Includes earnings in nonhospital clinics, medical and dental laboratories, nonphysician practitioner's offices, and other health services, not elsewhere classified.

² Represents the sum of persons at work in convalescent institutions, physicians' and den-

tists' offices, and in other health services not elsewhere classified.

N.A. = Not available separately.

Table 4. Usual weekly hours of work for wage-and-salary workers in the health services industry, by segment, May 1971 and May 1979

Year and industry segment	Number of workers (in thousands)	Percent distribution									Average weekly hours		
		Total	Part time				Full time					Total workers	Workers on full-time schedules
			1 to 14 hours	15 to 29 hours	30 to 34 hours	35 to 39 hours	40 hours	41 to 48 hours	49 to 59 hours	60 hours or more			
1971													
All industries	64,788	100	5	10	6	8	46	12	8	5	38.9	42.8	
Health services, total	4,060	100	5	14	8	6	56	7	2	3	
Hospitals	2,734	100	3	13	7	4	61	8	2	3	37.2	40.6	
Medical, except hospital	1,326	100	8	14	10	9	47	6	3	2	38.1	40.9	
1979													
All industries	81,075	100	5	11	7	8	45	11	9	6	38.7	42.6	
Health services, total	6,040	100	4	15	8	8	50	7	4	4	
Hospitals	3,573	100	3	14	7	6	55	8	3	3	37.4	40.8	
Medical, except hospital	2,467	100	6	18	10	10	42	6	4	5	35.9	41.8	

NOTE: Because of rounding, sums of individual items may not equal totals.

1970. The latter was probably a function of increased proportion of physicians and dentists among the totals.

The work schedules of employees in the health service industry who held one full-time job varied little by occupation, with the exception of physicians who averaged about 54 hours per week in 1979 (56 hours for men and 44 hours for women). Among registered nurses, health technologists, and nonprofessional health workers, average weekly hours were within less than 1 hour of 41 hours per week, with little difference between men and women.

Usual workweeks of fewer than 5 days were reported by a greater proportion of full-time nonhospital health workers (7.3 percent) in May 1979 than the average for all industries (2.0 percent). A smaller than average proportion (8.5 versus 12.6 percent) reported usual workweeks in excess of 5 days. However, full-time hospital employees were less likely to stray from the 5-day standard. Only 2.2 percent of these employees usually worked fewer than 5 days per week; 7 percent usually worked greater than a 5-day week. These figures compare to 2.2 and 14.3 percent for all workers.²⁵

The health industry had a relatively high proportion of part-time workers throughout the decade. While the ratio of part-time workers to all workers in the total work force rose from 1 in 8 to 1 in 7, that in the health services industry remained 1 in 5. The use of part-time workers in the nonhospital segment of the industry was particularly high—about one-fourth of all workers.

Dual jobholding is common among some health service occupations. Many physicians, for example, combine a private practice with a wage-and-salary job in a hospital or clinic. Other health employees work two wage-and-salary jobs or more in different facilities, such as nurses who provide on-call services to health facilities. The average workweeks of many of these dual jobholding workers are longer than those of single jobholders.

Total weekly hours worked by dual jobholding men whose primary jobs were in the nonhospital sector of

the health industry were 62 hours in 1979. Those whose primary jobs were in hospitals worked an average of 53 hours per week at both jobs combined.

Although the dual jobholding rate among women in professional health occupations (4.5 percent) was higher than for all women (3.5 percent) in 1979, their rate was well below that of men. This reflects in part the smaller proportions of physicians in their ranks.

Because of the need for round-the-clock provision of hospital services, about a quarter of the full-time employees in this segment of the health industry worked schedules in other than daytime hours. This compares with approximately 16 percent of all full-time nonfarm wage-and-salary workers who worked shift schedules, and about the same percent of nonhospital health industry employees. The proportions are nearly identical for every year that data on shifts are available, 1973-78. Among nonprofessional health service workers the proportion of shift workers was 36 percent.²⁶

Absences present problems

Although absence rates have not increased in recent years, the increasing skill levels of the workers providing health services, as well as their life and death responsibilities, has made substitution of absent workers a more difficult task for health managers.

According to Bernhard Hoffman, director of personnel at the Henry Ford Hospital in Detroit:

"At one point limited substitution of skills applied only to the professional medical staff, but as certification and registration have increased, [that is, expanded into semiprofessional and technical occupations], substitution [has] become almost impossible in any of the health professions that involve skill."²⁷

The percent of full-time workers with an absence and the percent of total time lost were higher in the health industry than in the total wage-and-salary work force. About 8.2 percent of full-time health industry workers lost some time from their workweek during May 1979, as a result of illnesses, injuries, and miscellaneous per-

sonal reasons. This compares with 6.7 percent of both nonfarm wage-and-salary workers, as well as all service industry workers, who had lost some worktime during the week. These rates were almost unchanged throughout the decade.

Time lost because of absences in the health industry accounted for about 4.3 percent of their total usual hours worked, while the time lost by all wage-and-salary workers equaled 3.4 percent of their total usual hours.

Relatively higher absence rates in the health industry are largely a reflection of its greater proportion of women employees, who generally have higher such rates than men. The percent of all full-time, wage-and-salary women with one absence or more during May 1979 was 8.6 percent, compared with 5.5 percent for all men.²⁸

In all industries, the incidence of absence and the total time lost also varies greatly by occupational group. Among most full-time professional wage-and-salary workers in the health industry, absence rates are lower than among nonprofessionals. However, among registered nurses absences are higher than the average for the total wage-and-salary work force, and higher than those of elementary and secondary schoolteachers, an occupational group whose educational requirements and sex distributions are about comparable to those of registered nurses.

Fewer physicians reported some time lost during the week in May 1979 than any other group, 3.1 percent, followed by technicians, 4.4 percent, and registered nurses, 7.6 percent. Full-time, non-professional health workers reported the highest incidence of absence, 11.6 percent.

Combined hours lost to the industry by absent workers, as would be expected, followed the same occupa-

tional pattern. Total time lost to the wage-and-salary industry by absent full-time physicians equaled 1.2 percent of the usual hours worked per week by full-time, wage-and-salary physicians in 1979—that of technicians was 4.4 percent. The absences of registered nurses decreased total usual hours worked by all full-time registered nurses by 6.7 percent.

Job tenure, the length of time a person remains at one job, was lower, on average, among men employed in the health services industry (3.6 years) than for all men (4.5 years) in January 1978.²⁹ However, among men in professional health occupations average tenure was 5.5 years; it was 2.7 years for men in nonprofessional health jobs. Among women, average tenure was about the same in the health industry (2.7 years) as in all industries (2.6 years). Again, it was higher among professional (3.5 years) than nonprofessional (1.6 years) occupations.

BECAUSE OF INCREASED DEMAND for health services the industry work force increased greatly during the 1970's. Shifts in the demand for services among the various industry segments yielded a change in the proportional distribution of workers in those segments, as well as the occupational compositions of each segment. Advances in medical technology and a reorganization of the delivery of some health care added to the changes in occupational distribution in the overall industry.

The earnings of wage-and-salary health workers did not generally reflect the dramatic rise in demand for their services. Although, in the hospital segment earnings rose more rapidly than those for all wage-and-salary workers, among workers in clinics, laboratories, and group health associations the increase in weekly earnings kept pace with the national average. □

— FOOTNOTES —

¹ Census Industrial Codes: 828 (physicians' offices), 829 (dentists' offices), 837 (chiropractors' offices), 838 (hospitals), 839 (convalescent institutions), 847 (other health practitioners' offices, not elsewhere classified), and 848 (other health services, not elsewhere classified). "Other health services" include clinics not associated with hospitals, medical and dental laboratories, group health associations, and health maintenance organizations.

² The Current Population Survey is a monthly survey of households conducted for the Bureau of Labor Statistics by the Bureau of the Census. For more information on the survey see *The Current Population Survey: Design and Methodology* (U.S. Bureau of the Census, 1979), Technical Paper 40.

³ The Bureau of Labor Statistics also publishes employment and earnings data on wage-and-salary workers employed in hospitals in about 20 major metropolitan areas of the country, from its Industry Wage Surveys, as well as employment data for all private health industry workers, and earnings and hours data for nonsupervisory production workers in the health industry, from its monthly survey of establishments, the Current Employment Survey. In May 1979 employment in these private health industry establishments totaled 4,726,000. Excluding Government workers from the Current Population Survey total for May 1979 data yields a private health industry work force of about 4,722,000. For more information see *Industry*

Wage Survey: Hospitals, Bulletin 2069 (Bureau of Labor Statistics, 1980).

⁴ Roger I. Lee and Lewis W. Jones, *The Fundamentals of Good Medical Care* (Chicago, University of Chicago Press, 1933).

⁵ See "America's Health Status, Needs, and Resources," *Building America's Health* (President's Committee on Health Needs of the Nation, 1953).

⁶ *Physicians for a Growing America: Report of the Surgeon General's Consultant Group on Medical Education* (U.S. Department of Health, Education, and Welfare, 1959).

⁷ See, for example, Selma J. Mushkin, *Health as an Investment*, Advisory Commission on Intergovernmental Relations, Washington, D.C., 1962, and Michael Grossman, "On the Concept of Health Capital and the Demand for Health," *Journal of Political Economy*, March–April 1972, pp. 223–55.

⁸ See *Health, United States 1979* (U.S. Department of Health, Education, and Welfare, Public Health Service, 1980) p. 237.

⁹ The proportion of total personal health care expenditures paid by third party agencies rose from 56 to 64 percent, for physicians' services between 1970 and 1979; from 10 to 27 percent, for dentists' services; and from 49 to 58 percent, for nursing home services. Third party payments accounted for about 90 percent of personal health care expenditures for hospital care throughout the decade. See Robert

M. Gibson, "National Health Expenditures, 1979," *Health Care Financing Review*, Vol. 2, No. 1, 1980.

¹⁰ Ibid.

¹¹ See *Health, United States 1979*, p. 180.

¹² Ibid.

¹³ See David A. Stockman and W. Philip Graham, "Hospital Cost Containment," *New Directions for Public Health* (San Francisco, Institute for Contemporary Studies, 1980), p. 121.

¹⁴ *Health, United States 1979*, p. 208.

¹⁵ See Charles Hynes, "The Regulation of Nursing Homes: A Case Study," *Regulating Health Care. The Struggle for Control* (New York, Academy of Political Science, 1980), pp. 126-36.

¹⁶ See *Medicare—Use of Home Health Services: 1978* (U.S. Department of Health, Education, and Welfare, Health Care Financing Administration, 1980).

¹⁷ According to the American Dental Association 1975 Survey of Dental Practice, self-employed dentists in solo practice employed 2.4 assistants, on average, while dental group practices with two dentists employed 5.7 assistants per practice; three dentists, 7.9 assistants; and four dentists, 12.3 assistants.

¹⁸ Occupational data for 1970 are not strictly comparable to those for 1971 forward as a result of changes in the occupational classification system for the 1970 Census of Population that were introduced into the Current Population Survey in January.

¹⁹ Stockman and Graham, "Hospital Cost Containment," p. 119.

²⁰ Most pharmacists are classified as employed in the retail trade industry as opposed to the health industry. Of the approximately 214,000 total pharmacists in May 1979, 70,000 were classified as being in the health industry. About 83 percent of these were self-employed.

²¹ *Employment and Earnings* (U.S. Bureau of Labor Statistics), various issues.

²² Comparable weekly earnings data for the health services industry workers shown in this report are not available beyond 1978 because of changes in the Current Population Survey earnings series introduced in 1979. For more information on 1979 earnings see Earl F. Mellor, "Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey" (U.S. Bureau of Labor Statistics, July 1980).

²³ Unpublished Current Population Survey data for May 1973-78. For more information on the effect of the 1974 act on union organizing in the health industry see Richard U. Miller, "Hospitals," *Collective Bargaining: Contemporary American Experience* (Madison, Wis. Industrial Relation Research Association, 1980), pp. 373-433, and *Impact of 1974 Health Care Amendments to the NLRA on Collective Bargaining in the Health Care Industry* (U.S. Department of Labor and Federal Mediation and Conciliation Service, 1979).

²⁴ See, for example, Nancy F. Rytina, "Occupational segregation and earnings differences by sex," *Monthly Labor Review*, January 1981, pp. 49-53.

²⁵ See Janice N. Hedges, "The workweek in 1979, fewer but longer workdays," *Monthly Labor Review*, August 1980, p. 31.

²⁶ Janice N. Hedges and Edward S. Sekscenski, "Workers on late shifts in a changing economy," *Monthly Labor Review*, September 1979, pp. 17, 18.

²⁷ Bernhard Hoffman, *Reducing Worker Absenteeism* (Ann Arbor, Mich., The University of Michigan. Institute of Science and Technology, 1979), pp. 59-72.

²⁸ For more information on absences of U.S. workers, see Daniel E. Taylor, "Absent workers and lost hours, May 1978," *Monthly Labor Review*, August 1979, pp. 49-53.

²⁹ For more information on job tenure see Edward S. Sekscenski "Job tenure declines as work force changes," *Monthly Labor Review*, December 1979, pp. 48-50.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.
