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ABSTRACT

This booklet covering health manpower literature is divided into four sections. First, health manpower indicators are presented, such as estimated employment in selected potentially entry-level health occupations. Next follows a paper entitled "Regionalization of Health Insurance in Italy." The third section consists of five book abstracts, including "The Health Care Dilemma: Problems of Technology in Health Care Delivery," "A Manpower Policy for Primary Health Care," and "Promoting Health: Consumer Education and National Policy." Finally, the last section contains the abstracts of sixteen articles: some representative titles are Health Insurance: The Canadian Experience: A Pilot Study of the Initial Bargaining Demands by Newly-Organized Employees of Health Care Institutions: The National Labor Relations Act: The Health Care Amendments: Manpower Planning for Nurse Personnel: Work Load Management System Ensures Stable Nurse-Patient Ratio: An Effect of Organization of Medical Care Upon Health Manpower Distribution: Physicians and Non-physician Health Practitioners: The Characteristics of Their Practices and Their Relationships: and Continuing Education: An Approach Toward Structure and a Call for Help. A comprehensive list of current health articles and the titles of journals searched for health manpower literature are attached. (EM)

HEALTH MANPOWER LITERATURE

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EDITORS' NOTE

The Health Manpower indicators presented in this issue remain unchanged from the last issue since no new data are available. The recent health articles listed in the current issue come largely from recent issues of the Journal of Economic Literature, published by the American Economic Association, and health-related sources.

The article included in this issue, "Regionalisation of National Health Insurance in Italy," is an updated version of a paper presented at the North American Regional Science Meeting in Philadelphia, November 1977. It assesses the possible effects of the decentralization of the Italian health care system. The abstracts are true representations of the views of the author(s); a strong effort was made not to introduce the editors' views or opinions.

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

CONTENTS

Health Manpower Indicators

1. ESTIMATED EMPLOYMENT IN SELECTED HEALTH OCCUPATIONS THAT ARE POTENTIALLY ENTRY-LEVEL

Selected Years: 1950-1974

	1950	1960	1965	1968	1971	1973	1974
Clinical Lab. Tech. & Assistant	na	na	45000	61000	67000	67000	70000
Dental Assistant	55200	na	91000	95000	114000	116000	118000
Dental Lab. Assistant	21000	na	25500	27000	31150	32000	32000
Dietetic Technician	na	na	na	6000	7000	23000	24700
Medical Library Clerk	na	na	5000	6000	4100	4100	7300
Record Technician	8000	20000	25000	26000	43000	45000	47000
Nurse's Aide	205246	391800	500000	786000	875000	910000	936000
Home Health Aide	500	2300	6000	14000	25000	28000	34000
Occupational Therapy Aide	na	na	na	5500	6500	6500	6500
Optometric Assistant	na	na	na	na	5000	5000	5000
Optometric Technician	na	na	na	na	1000	1000	1000
Physical Therapy Assistant	na	na	na	8000	9000	8100	8100
Radiologic Technician	na	na	41000	100000	100000	100000	100000
Respiratory Therapist	na	na	na	8000	12000	12000	19000
Health Office Services	na	na	na	275000	300000	300000	300000
Social Work Aide	na	na	na	1500	4300	4300	4300
Ambulance Attendant	na	na	na	na	5600	207000	260000
Animal Technician	na	na	na	na	na	5000	5000
EKG Technician	na	na	na	7000	9500	9500	9500
EEG Technician	na	na	1200	3000	3500	4000	4000
Total Selected Occupations	na	na	na	1429000	1622650	1887500	1991400
Total Health Personnel	na	na	na	3706350	4502250	4448250	4707650

Source: *Health Resources Statistics*, various years.

2. HOSPITAL INDICATORS

Selected Years: 1950-1975

	1950	1960	1965	1968	1970	1971	1972	1973	1974	1975
# of Hospitals	6788	6876	7123	7137	7123	7097	7061	7123	7174	7156
# of Beds (000's)	1456	1658	1704	1663	1616	1556	1550	1535	1513	1466
# of Full-time Personnel (000's)	1058	1598	1952	2309	2537	2589	2671	2769	2919	3023
# of Full-time Personnel per 100 Patients	84	114	139	168	196	209	221	233	250	269
# of Physicians/Dentists	na	na	na	na	na	na	49236	50078	53367	54712
# of RN's	na	na	na	na	na	na	425728	446387	478577	510118
# of LPN's	na	na	na	na	na	na	215692	222599	233534	239949
# of Others	na	na	na	na	na	na	1980106	2049543	2153258	2217818
# of Total Trainees	na	na	na	na	na	na	95028	96170	96699	92350
Inpatient Admissions (000's)	18483	25027	28812	29766	31759	32664	33265	34352	35506	36157
Outpatient Visits (000's)	na	na	125793	156139	181370	199725	219182	233555	250481	254844
Average Daily Census (000's)	1253	1402	1403	1378	1298	1237	1209	1189	1167	1125
Payroll (000's)	$2191	$5588	$8551	$11997	$15706	$17635	$19530	$21330	$23821	$27135
Total Assets (000's)	$7791	$17714	$24502	$31019	$36159	$38625	$43157	$47369	$51706	$57302
Hospital Expenses per Patient Day	$7.98	$16.46	$25.29	$37.78	$53.95	$63.82	$73.89	$83.67	$97.23	$118.69

Source: *Hospital Statistics*, 1972-1976.

3. PERCENT DISTRIBUTION OF PERSONAL HEALTH CARE EXPENDITURES BY TYPE OF CARE AND SOURCE OF PAYMENT

Selected Years: 1950-1976

	1950	1960	1965	1970	1971	1972	1973	1974	1975	1976
Type of Care - Total	[illegible]	[illegible]	100%	100%	100%	100%	100%	100%	100%	100%
Hospital Care	35.5	[illegible]	39.3	41.0	43.0	43.7	43.8	44.9	45.6	46.0
Physicians' Services	25.9	24.5	25.1	22.4	22.3	22.1	21.8	21.6	21.7	21.9
Dentists' Services	[illegible]	8.6	8.1	7.4	7.3	7.2	7.4	7.5	7.4	7.1
Other Professional Services	[illegible]	[illegible]	3.0	2.3	2.2	2.2	2.2	2.1	2.1	2.0
Drugs & Drug Sundries	15.8	15.9	[illegible]	11.8	11.3	11.0	10.9	10.3	9.7	9.3
Eyeglasses & Appliances	4.6	3.3	3.4	[illegible]	2.7	2.5	2.4	1.9	1.7	1.6
Nursing Home Care	1.7	2.1	[illegible]	6.4	7.2	7.8	8.1	8.2	8.6	8.8
Other Health Services	3.8	4.6	3.4	[illegible]	[illegible]	3.5	3.4	3.5	3.2	3.3
Source of Payment - Total	[illegible]	[illegible]	100%	[illegible]	[illegible]	100%	100%	100%	100%	100%
Private - Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Direct Payments	[illegible]	55.1	52.5	40.4	9.1	37.6	36.8	36.1	33.6	32.5
Insurance Benefits	8.5	[illegible]	24.7	[illegible]	24.9	24.9	25.4	25.2	25.4	26.0
Other	[illegible]	[illegible]	2.0	[illegible]	1.4	1.4	1.4	1.3	1.3	1.3
Public - Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Federal	[illegible]	[illegible]	8.5	22.3	22.9	24.2	24.5	25.2	27.3	28.0
State & Local	[illegible]	12.4	12.3	11.9	11.6	11.9	12.0	12.1	12.4	12.2
Total Personal Health Care Expenditures (Millions $)	[illegible]	[illegible]	$33498	$60113	$67228	$74828	$82490	$91315	$105745	$120431
Personal Health Care Expenditures as % of GNP	[illegible]	4.6%	5.1%	6.3%	6.6%	6.7%	6.7%	6.7%	[illegible]	7.5%
Selected Per Capita Expenditures:										
Personal Health Care	[illegible]	$124.5[illegible]	$170.32	$289.76	$320.84	$353.66	$386.84	$425.15	$488.23	$551.50
Private Contribution	[illegible]	[illegible]	134.95	190.73	209.98	225.90	245.87	266.59	294.47	329.78
Public Contribution	13.69	[illegible]	35.38	99.03	110.86	127.76	140.98	158.56	193.76	221.72

Source: [illegible] Security Bulletin, 2/76, p.12; 4/77, pp.15, 18.

5

BASIC SOURCES FOR HEALTH MANPOWER STATISTICS

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Staff Article

REGIONALIZATION OF NATIONAL HEALTH INSURANCE IN ITALY

Staff Article

1. INTRODUCTION

Italy's administrative division into twenty regions in 1970 marked the beginning of what has become a strong push toward decentralization, even though the country's economic conditions have been precarious for the past five years. While regions have no power of taxation, each region can use as it wishes the funds allocated to it on a per capita basis. In line with this decentralization trend, the Italian National Institute of Health (INAM), the agency that provided the financing and administration of national health insurance, was officially terminated on July 1, 1977, and its functions were transferred to the regions--the rationale being that public policies aimed at improving the efficiency and quality of health care must be based on the particular socioeconomic framework of each area.

In a country where all government activities are centralized--even township finances have to be government approved and local treasuries live only by the grace of the central government--regionalization of health care insurance is a concept that cannot be digested easily, either by government bureaucrats or the general public. Arguments for regionalization are convincing from the point of view of income distribution. The richest region (Lombardia) has a per

capita income twice as high as the poorest one (Basilicata). The health problems of the rich, but frigid, North are different from the problems of the poor, but balmy South. Social customs in the North are closer to those of its central European neighbors, while the South is essentially Levantine.

Socio-economic differences require different types of health care to be administered by different types of health personnel. Yet, the greatest numbers of health personnel (especially physicians) concentrate in a few large northern cities and in Naples, while the rest of the country, especially in the South, must make do with proportionately fewer health personnel.

2. *General Characteristics of Health Care System in Italy*

Italy has had comprehensive national health insurance for over twenty years. The Italian Parliament has made health care practically a free commodity by passing new and increasingly comprehensive legislation every few years. The result has been a substantial increase in demand without an efficient adjustment of supply. In the government's rush to provide universal health coverage, private industry and the intermediary insurance agencies have placed greater and greater emphasis on more costly capital-intensive forms of health care. Because the components of the system

have not been altered to accommodate the new demand schedule, bottlenecks have occurred and costs have risen dramatically.

A piece of legislation does not necessarily change the institution it is intended to control. For many years before national health insurance coverage was introduced, Italy had been plagued with problems associated with health care delivery--among them, the lack of adequate training for medical and allied health personnel, the lack of physician-hospital affiliations, the overutilization of hospital facilities, and the absence of extended care facilities. These problems were severly aggravated by the introduction of comprehensive insurance coverage. Lack of comprehensive planning allowed a malfunctioning bureaucracy to mushroom and negate the positive attributes of national health insurance.

A comprehensive health insurance program is a powerful public instrument, but its success depends on supporting sectors and personnel. While "scarcity of health care" was overcome by law, the necessary reorganization to accomplish the ultimate socio-economic goal did not accompany it.

This is not to say that the general health of the population has not improved. In fact, the major health indicators have shown substantial improvement since World War II. Infant mortality dropped from

110 per 1,000 to 27.4 per 1,000. Malaria and polio have virtually disappeared, while disease due to malnutrition has declined significantly. The crude death rate dropped from 13.6 to 9.6 per 1,000, while life expectancy jumped from 60 to 74.5 years. However, this dramatic progress in the health of the country is a direct result of improved sanitary and social conditions following World War II, coupled with the availability of improved medicines (in the form of innoculations), previously developed in the West. Once the original spurt of improved health levels off, other problems must be dealt with--the acute and chronic diseases which have little effect on the health indicators but have major consequences for worker productivity and the economic well-being of the state.

One of the main shortcomings of the Italian health care system is the lopsided skill distribution of health personnel. There are too many inadequately trained physicians and there is little use made of auxiliary personnel. It has been estimated that there are 114,000 active physicians in Italy, or one physician for every 518 people, compared to a 1 to 733 ratio for the United States. In addition, there are approximately 137,000 medical students in a system that includes only 25 medical schools. The open standards for admission, coupled with overcrowded classrooms and laboratory facilities, have resulted in a factory-like production of physicians. Hospital

privileges are reserved for a select few, and many new graduates are required to practice medicine in general wards on a voluntary basis as stand-ins for absentee, hospital-tenured physicians.

Because of their large numbers, physicians perform many tasks that can be done by nurses or technicians. Italy has about 18 active registered nurses per 10,000 people, far below the optimum figure of 30 per 10,000 set by the World Health Organization. In 1971, the total number of allied health workers employed outside of hospitals was as low as 16,633 for 55 million Italians, or a ratio of 1 to 3,562. In the United States, this ratio was 1 to 126.

3. *Regional and Socio-Economic Factors in Italy*

What is true for the nation as a whole is exacerbated at the regional level. Table 1 presents five selective economic indicators and their relationships between the South and the North. This admittedly small sample indicates that the South is far below the North in terms of economic well-being. While both income and consumption have remained relatively stable over a 12-year period, per capita savings in the South have plummeted dramatically in relation to those in the North. The only indicator which has shown relative improvement is investment, due in large part to massive government outlays.

TABLE 1

Regional Indicators for Selected Years, 1951 - 1973

	Y/Pop. (000's lira)	C/Pop. (000's lira)	Sp/Pop. (000's lira)	L/Pop.	I/Pop. (000's lira)
		North Italy			
1951	327	262	65	36	69
1961	542	396	146	39	136
1969	763	573	190	37	187
1973	862	674	188	38	197
		South Italy			
1951	195	164	31	27	34
1961	288	252	36	28	88
1969	417	386	31	28	135
1973	464	454	10	31	176
		S. Italy/N. Italy			
1951	.5963	.6260	.4769	.7500	.4928
1961	.5314	.6363	.2466	.7179	.6470
1969	.5465	.6736	.1632	.7568	.7219
1973	.5382	.6736	.0532	.8158	.8934

NOTE: Y/Pop = Per capita Income
C/Pop = Per capita Private Consumption
Sp/Pop = Per capita Private Savings
L/Pop = Full-time Labor Force as a percent of population
I/Pop = Per capita Investment

SOURCES

Unione italiana delle camere di commercio industria artigianato e agricoltura, I conti economici regionali 1974 Serie storica 1963-74, Franco Angeli Editore, Milano, Italy 1976.

ISTAT, Occupati presenti in Italia Anni 1951-1972, Rome, Italy, 1973 (bozza)

_____, Annuario di contabilita nazionale 1974, Rome, Italy

_____, Annuario di statistiche del lavoro 1975, Rome, Italy

Yet, it is obvious that the primary motivation for these investments, i.e., improving the economic well-being of the South, has failed to increase substantially either income or employment.

Health indicators reflect the same regional disparity as do the economic indicators. Table 2 records selected health indicators for 1972 and their relative value to the South and the North. Once again, the South lags behind in all the indicators, most notably in the number of hospital-employed allied health personnel per number of people. The only indicator comparable between North and South is that reflecting total number of physicians per capita.

4. *A Statistical Exercise to Test Regional Health Personnel Utilization*

An attempt is made here to explain the regional variation of demand for health personnel through the availability of health care proxies and socio-economic indices. The main hypothesis derives from our cursory knowledge of the socio-economic fabric of the South and the North. To begin with, we tested the hypothesis that the demand for health personnel of type "i" is influenced by the demand for health care and the availability of health care facilities. This follows from the traditional economic theory that health personnel demand is derived from final health care demand. We hypothesized that a particular-skilled employment will depend on the

Table 2

Selected Health Indicators

1972

	NM per 1000 persons	T per 1000 persons	Beds per 1000 persons	Physicians per 1000 persons	Consumption of Health per Capita	Populations (000's)
North Italy	3.1	3.8	11.9	2.1	82333	35402
South Italy	1.8	2.2	8.4	1.9	58780	18343
S/N Italy	.5806	.5789	.7059	.9048	.7139	.5200

Source: ISTAT, Annuario di Statistiche Sanitarie 1973
Modelli Italiani e Stranieri di Assistenza Sanitaria, Vol. 1

Note: NM = nurses and midwives
T = technicians

nature and quantity of fixed assets used. Finally, we assumed that the larger areas (measured by population) and the wealthier areas (gross regional product per capita) would employ more health personnel.

We postulated that: P_i = f(BED, ADC, PHYS, POPSM, GNP, CHEALTH, WAGE, TECH, BHOSP, POP) where:

P_i stands for NMZ = nurses and midwives per population;

TZ = technicians and others per population;

TPERZ = total health care personnel per population.

BEDS = total number of hospital beds

ADC = average daily census, or average in-patient population per day

PHYS = total number of physicians, both in-hospital and private practitioners

POPSM = population per square mile

GNP = gross national product per capita

CHEALTH = consumption expenditures for health care

WAGE = average yearly wage

TECH = change in capital assets

BHSOP = average size of hospital, measured as beds/hospital

POP = population

A more detailed discussion of the variables, along with sources, is presented in the Appendix.

We normalized our variables either by population or, in the case of wages, by personnel, to get more

homogeneous results. The outcome, though, was distorted by multicollinearity, implying a defect in specification. In the second round, rather than explain the demand for personnel based on our first model, we eliminated the independent variables which introduced disturbances. We limited ourselves to testing a hypothesis for Italy as a whole; then the North and South separately. Three dependent variables were used: nurses and midwives, NM; technicians and others, T; and total health personnel, TPER. All equations take the same form and are estimated by log linear regression equations:

$$P_i = f(ADCZ, WAGE, GNPZ, PHYSZ, TECHX)$$

where for each geographical area the independent variables for each equation are:

ADCZ = average daily census per capita

WAGE = wages per personnel

GNPZ = GNP per capita

PHYSZ = physicians per capita

TECHZ = net change in capital assets of health facilities per capita

The results of our regressions are reported in Table 3.

Even in these modified models, all nine equations show high coefficients of multiple determination (R^2 = .84 to .95). From a statistical point of view, however, the independent variables are not always significant in explaining regional variation of

TABLE 3

Regression Results

2nd Estimate

Dependent Variable	Constant	AgeZ	PriceZ	GNPZ	Wage	Tech	R^2
[illegible]	[illegible]	.7748[illegible]	.17428	.43843	-.09709	.15131	.94
		[illegible]*	(1.[illegible])	(3.59834)*	(-.19130)	(3.36422)*	
TZ	-2.48[illegible]	.84681	.10147	.45827	-.46777	.04462	.90
		(6.14473)*	(2.52331)	(3.02477)*	(-.74120)	(0.79782)	
TFERR	1.[illegible]	.75902	.23714	.37764	-.15485	.07938	.96
		(7.[illegible])*	(2.2[illegible])**	(4.48471)*	(-.44147)	(2.55382)**	
[illegible]	-.18044	.[illegible]	.25573	-.04173	-.42793	.15134	.88
		(4.[illegible])*	(1.43721)****	(-.10853)	(-.51756	(2.59708)**	
[illegible]	[illegible]	.80[illegible]	-.02986	.54246	-.14998	-.05159	.84
		([illegible])*	(-.11[illegible])	(1.64882)****	(-.28342)	(-.59279)	
TFERZ	.[illegible]	.64[illegible]	.13[illegible]	.10948	-.17002	.03348	.95
		(6.[illegible])*	(1.62140)****	(0.75751)	(-.31343)	(0.87563)	
[illegible]	[illegible]	.[illegible]	.[illegible]	.41975	.38211	.08177	.94
		(.[illegible])	(0.[illegible])	(1.49938)	(1.49938)	(0.13268)	
[illegible]	[illegible]	.45460	.56[illegible]	-.41138	.32829	.22466	.96
		[illegible]	[illegible]	(-.59157)	(0.29450)	(2.27754)****	
[illegible]	-4.[illegible]	.[illegible]	.[illegible]	-.16296	.57962	.10824	.96
		([illegible])****	([illegible])	(-.24272)	(0.53866)	(1.13674)	

t-statistics in parentheses

* .1 level of significance
** .05 level of significance
*** .01 level of significance
**** .11 level of significance

demand for health personnel (t-statistics are significant at the 10 percent level or in over 38 percent of the cells).

By far the most significant variable is the average daily census per capita (at 1 percent level of significance)*. As we expected, there is a close relationship between daily census and personnel. Yet, we obtained elasticities of .80 for the North and .45 in the South for demand for technicians. It seems that the demand for technicians is influenced by the average patient population much less in the South than in the North.

Less significant is the explanation of regional variation by the availability of physicians. In the North the presence of physicians, as we expected, has a high explanatory value, while in the South the coefficient $\beta = .00594$. The inference is that in the southern regions allied health personnel play a more independent role from physicians than they do in the North.

Indeed, the variable approximating material well-being, GNPZ, is a more important explanatory variable** for the employment of nurses and midwives

*In all cases, the level of significance for the South is below 10 percent because of the lower number of observations made in the South than in the North.

**This variable is highly significant for Italy as a whole, but not for the North and South separately.

while for other health personnel, it is similar for both regions. Moreover, the negative sign for the North implies that the larger the GNP, the lower the regional variation in demand. The reverse happens in the South, where the sign is negative in the technician equation, probably for the same reason.*

These kinds of relationships also occur with regard to the wage variable, which is statistically insignificant in all equations. In the North the sign is constantly negative, and in the South, constantly positive. The implication is that in the North higher wages diminish regional personnel demand, while in the South the opposite occurs. This is contrary to economic theory, suggesting a case of unlimited labor supply with no downward sloping curve.

What we call technology is really a proxy of required net assets of health providers. The results are uneven--in some cases the t-statistics indicate high significance while in other cases a low significance (t=.59279 to 3.36422). Yet, the value of the coefficient β is consistently low, and in one case (the technician equation for the North)it is negative. In general this is a weak proxy variable and can be interpreted as having little influence in regional

*We recognize that this may be interpreted in a variety of ways. For example, the negative sign for nurses/midwives in the North may indicate that the higher the GNP, the more people will demand the services of physicians instead of nurses/midwives.

variation of demand for health personnel. Perhaps a better proxy, if available, could be more closely related to technological expansion and innovations.

5. *Conclusions*

Based on these preliminary tests, regional demand for allied health personnel seems to be mainly a function of average daily census, and only marginally affected by the number of physicians available and the per capita income. In the South wages do not influence the demand for health personnel, a lack of influence which might simply characterize a state of underdevelopment or which might be attributable to the fact that the proxy used--total wages in the hospital divided by the total personnel employed in the hospital--includes a very heterogeneous type of personnel.

To be sure, conclusions based on the behavior of the occupancy variable are misleading because over-utilization of hospital capacity is a serious health care bottleneck in Italy as a whole. A survey of Roman hospitals for 1975 revealed an average occupancy rate of 114 percent. One of the reasons for such a high occupancy rate is that hospital-based ambulatory facilities are practically non-existent in Italy. Once the patient arrives at the typical Italian hospital, he becomes an inpatient with an average length of stay of 17 days, twice as long as in hospitals in

the United States.

One could have expected the health care institutional structure to be a reflection of the level of development in each area. A direct inference would be that the level of technological sophistication--not to be confused with superior health care--is a factor of regional wealth. Higher technology means that a larger number of highly skilled allied health personnel is required. These expectations have been justified by a study of regional variation of health care and personnel utilization in the United States,* but apparently, they are unjustified for Italy.

It seems that conditions of health care delivery in Italy are generally in a poor state and that the usual relationships among hospital occupancy, technology, and number of physicians and requirements for allied health personnel do not hold. Yet, as indicated earlier (see Table 2), the South fares worse in the delivery of adequate health care than the North. The regionalization of the nation's health care system, that seems equitable on a per capita basis, may not close the regional gap. Policies of regional development for depressed areas should necessarily be discriminatory against more affluent areas as advanced regions can attract more and better providers, leaving poor regions even further behind. If a

*See Health Manpower Literature, Vol. 2, No. 1

distribution of health resources is centrally accomplished on a per capita basis, the areas that are most in need receive the same proportion as the less needy. By the same token, if each region manages its own health system, financial resources can be wasted and "medical resources," i.e., physicians, technology and allied health personnel, further deflected towards the wealthier areas, which can accomodate the regional expatriates and offer a milieu for personal development.

The new regionalized health system started to operate in 1977, and it is still too early to judge the results. Shifting local policies to local control is laudable and theoretically efficient; but localities (regions and townships) have no fiscal control because they have little power of taxation. Therefore, regions cannot shift specific allocations to remedy deficiencies even vis-a-vis the North. It seems that Italy's policymakers failed to distinguish between regional health planning within the national context and regionalization of the health care system. They confuse the latter with the former. Regional differences exist, but they cannot be remedied by simply razing the system and superimposing local bureaucracies onto the national one. Indeed, over the last year policymakers have been aware of the deficiencies, and new legislation favoring the South is being prepared.

APPENDIX

Sources:

The 1972 figures for all variables were taken from the *Annuario di statistiche sanitarie 1973*, and the *Annuario statico italiano 1974*.

The total physician population was taken from the *Modelli italiani e stranieri di assistenza sanitaria*, Volume Primo, and is for 1973.

Income data was taken from the Italian Matrix of Transformation for 1972, calculated by G. Schachter and F. Pilloton, *Input Output Italia, 1959, 1965, 1969, 1972*, Northeastern University Press, Boston, Mass., 1977.

Definition of Variables

Dependent Variables

NM: The variable NM includes all nurses and midwives practicing in public and private hospitals. This variable obviously excludes nurses and midwives working outside the hospital system in addition to those working outside the health care system or unemployed. These exclusions were necessary because of the unavailability of the proper data.

T: The dependent variable for technicians and others includes all hospital-based technicians, public and private. Unfortunately, there is no indication in our sources as to what percent of this figure constitutes actual technicians, nor what types of personnel "other" includes. We therefore assume at the outset that a significant portion of this variable constitutes actual technicians (either skilled or semi-skilled) and that the "other" capacity is so small as to insignficantly affect the results of the model.

TPER: Total hospital personnel refers to the aggregation of the following categories: physicians, nurses, midwives, administrative personnel,

technicians and others.

Independent Variables

BEDS: Since we are dealing with auxiliary personnel whose main function is the care and maintenance of bedridden patients, we expect the number of beds per region to have a direct impact on the personnel utilization. With regard to nurses and midwives, we are postulating a ratio of NM to beds, or at least a minimum effective ratio. We do not expect this ratio to be constant, although we do expect it to be positive.

ADC: The second institutional variable included in this model is average daily census, calculated by dividing the total number of patient days by 366 (1972 was a leap year). We include this variable to emphasize the effect which the average patient population has on the utilization of personnel and which the bed variable lacks. We use ADC with the rationale that beds, tempered by the patient population, will have a more significant impact on the employment of NM than either single variable. We expect the sign to be positive.

PHYS: We use this variable on the theory that both hospital and non-hospital physicians exert a direct influence on the utilization of allied health personnel. Hospital-based physicians are apt to increase the number of auxiliary personnel that work under them. Non-hospital physicians have a more indirect effect: they generally control the flow of patients into a hospital, which influences the manpower composition within the hospital. We expect the sign to be positive.

POPSM: Population per square mile, or density, is used as a proxy for the urban/rural ratio in a given region. If density is high, we assume a high urban population. We hypothesize that personnel will prefer to work in an urban setting as opposed to a rural setting. Actually, this variable is intrinsically

connected with PHYS and BEDS, and thus creates some multicollinarity. The expected sign for this variable is positive.

GNP: This is our income variable and is expected to be positively related to the distribution of personnel. Income is calculated per capita, and the reasoning for using this variable is similar to that for using POPSM, that is, a high income area will facilitate growth in hospital facilities more so than a low income area. Although we expect a positive relationship, it will be interesting to see whether government investment policies have been directed toward distributing health resources to lower-income regions. If this is the case, the sign will be negative.

CHEALTH: Since the Italian health care system has been nationalized, regional cost differentiation has been minimized. We expect, therefore, that the highest per capita health care consumption will indicate higher utilization of facilities, directly and positively affecting the demand for allied health personnel. Health consumption per capita in the North was taken from the *Annuario di contabilita nazionale 1973* and normalized with the matrix total, while consumption for the southern regions was taken from the 1972 Matrix of Transformation. The consumption data for the North was aggregated into three large sub-regions, so we are uncertain as to its effectiveness in the model. We do expect a positive correlation for the southern regions, since the matrix is disaggregated into the eight sub-regions.

WAGE: Probably the most important economic variable, from a purely theoretical viewpoint, it refers to the relative wages between regions. We hypothesize that personnel will congregate in areas where the relative wage rate is higher, and therefore, expect a positive relationship. The wage rate used is not restricted to each individual occupation. The only wage data we could find were the aggregate wages and benefits for all hospitals in 1972. This figure was divided

by the total number of hospital personnel (including physicians and administrative personnel) to arrive at an average annual salary for all health care personnel. It is likely, though, that the wage differentials have been minimized due to nationalization. If that is the case, WAGE may be an insignificant factor.

TECH: We hypothesize that an increase in the capital assets of a hospital facility will have a positive effect on the number of allied health personnel employed. Ideally, a lag of one or two years would be more appropriate. Unfortunately, regional disaggregation of the data does not exist before 1972.

BHOSP: We also hypothesize that the average size of a hospital (measured by number of beds) will positively influence the use of personnel. With this variable, which is actually correlated with the TECH variable we are postulating economies of scale: as a hospital increases in size, economies of scale exist for auxiliary laboratories and testing facilities. It follows that as more auxiliary functions are added, more personnel will be hired to staff the new departments.

Books Abstracted

Brown, J.H.U. *The Health Care Dilemma: Problems of Technology in Health Care Delivery*. New York and London: Human Sciences Press, 1978. 183 pages.

Brown addresses himself to the serious problems inherent in the contemporary health care system. He emphasizes the overreliance on recent technology which has resulted in higher, rather than lower, medical costs; the overly complicated and cumbersome delivery system; and the gross depersonalization of medical services. In his opinion, far too much attention has been focused on the inpatient rather than on the outpatient, whose growing demands are yet unmet.

Brown presents an overview of the health care system--new medical techniques, managerial approach, technology in health care, control of quality and problems in health services, and finally, the role of the consumer.

Commenting that "the average citizen does not know how to use the health care system well...people regard the emergency room of the nearest hospital as the private physician to their families," Brown points out that education of the masses to the various

alternatives could produce a health care system that provides quality care while being cost effective. Individual consumers should be trained to serve as their own providers for many of their medical problems in order to reduce the utilization of expensive capital and human resources. At the same time the health care system and much of its resources should be diverted towards home care.

Brown notes that a research organization, Bolt, Baranek, and Newman, developed a system whereby computer-assisted patients can be furnished patient education programs in diabetes, family planning, obesity, lung disease, dieting, and hypertension.

"In summary, then, a major need in the health care network is for training and education. We must create an informed consumer to use the system, a provider who can receive regular updating of knowledge, and a system which has large informational capacity."

Hyman, Herbert Harvey. *Health Regulation: Certificate of Need and 1122.* Germantown, Maryland: Aspen Systems Corporation, 1977. pp.x, 185 pages.

The National Health Planning and Resources Develment Act of 1974 (PL 93-641) requires that every state develop a Certificate of Need (CON) program by 1980. The Act is explicit in linking new institutional facilities and services to the planning goals of a particular region or state with the ultimate goal of separating health providers from a context that benefits only their patients, physicians or institutions. Health care demands could then be evaluated from the perspective of the region as a whole and the medical requirements of the entire population served.

Health Regulation devotes itself to discussing the major weaknesses of CON. A substantial majority (over 90 percent) of CON requests nave been approved, although approval rates for new facilities are lower. Because of the relative lack of data, plans or criteria available to the review agencies, the CON process has not been very efficient in most states. The overall impact on cost containment to date has been relatively modest. There has been continued approval of projects in almost 50 percent of the sampled areas, despite the fact that area plans indicate that no new facilities or beds are needed.

Hyman outlines six important problems that are central to CON. First, where federal policy guide-

lines are stated in an ambiguous or unclear fashion, they are subject to a wide range of interpretation by planning agencies, providers, and others interested only in achieving their particular private goals.

Second, apparently there is no accepted standard of defining "needs." Without this clear standard each provider or planner can define the term in a fashion that best suits his or her private needs.

Third, there are identifiable components of the health system that have some impact on cost containment policy. However, the existing CON strategy appears to emphasize one method or process to the exclusion of others in an effort to contain and regulate costs.

Fourth, it is likely that in the short run health providers and planners will be successful in receiving approval from CON committees regardless of the quality of the request. Hyman suggests that in the long run when consumers become more aware of the overall direct impact of such approved requests on their own net incomes, a backlash might occur in the form of very restrictive public legislation. This legislation, if it is indeed extremely restrictive, would only multiply many of the associated problems of health care delivery.

Fifth, in order for CON to operate effectively, planning, resources development, and evaluation of services must all function simultaneously with

currently existing regulations.

Finally, the role of the federal government in PL 93-641 is confused and there is a call for more federal intervention. "The federal thrust is its threat to impose rigid, federally initiated regulations if the local and state planning agencies and the health providers do not work in a collaborative effort to effect cost control."

Institute of Medicine, National Academy of Sciences. *A Manpower Policy for Primary Health Care.* Washington, D.C., 1978. pp. xiii, 106 pages.

This report concerns itself with public funding of health manpower education, credentialling of practitioners, and qualitative and quantitative aspects of training programs as well as the scope of primary care services and their reimbursement and health services research.

A substantial effort is made to delineate primary care functions in a broad sense. The study came to the conclusion that because of significant overlapping of medical functions among health providers and the variances of the practice of medicine among practice settings and geographical locations, delineation of primary care functions was not possible or fruitful. "The committee came to believe that an explanation of the roles of different professional groups was not now a practical, policy-oriented undertaking."

The most important contributions of this report are the policy recommendations which are summarized below:

1. Since no practical arrangement has been found consistently superior to any other, primary care as defined in this report should continue to be delivered by various combinations of health care providers in a variety of practical arrangements.

2. For the present, the number of entrants to medical school should remain at the current annual

level.

3. For the present, the number of nurse practitioners and physician assistants trained should remain at the current annual level.

4. Third-party payers (federal, state, and private) should reimburse all physicians at the same payment level for the same primary care service.

5. Third-part, payers (federal, state, and private) should reduce the differentials in payment levels between primary care procedures and non-primary care procedures.

6. Third-party payers should institute payments to practice units for those necessary services delivered by primary care providers and currently not reimbursed, such as commonly accepted health education and preventive services.

7. Training programs for family physicians, nurse practitioners, and physician assistants should continue to receive direct federal, state, and private support because these practitioners are the most feasible providers of primary care to underserved population.

8. Third-party payers should discontinue all geographic differentials in payment levels for physician services within a state.

9. Third-party payers should reimburse the practice unit for the same primary care services at the same payment level regardless of whether the services are provided by physicians, nurse practitioners,

or physician assistants.

10. There should be an active, continuous program for monitoring a number of factors, including the numbers, specialty, and geographic distribution of physicians, nurse practitioners, and physician assistants, as well as the perceptions of the patient population regarding the adequacy and availability of primary care services.

11. An increased emphasis should be given to health services research in primary care manpower.

12. There should be a substantial increase in the national goal for the percentage of first-year residents in primary care fields.

13. Federal and state governments should continue to promote primary care, partly by using financial incentives for the creation and support of primary care residency programs.

14. It is desirable that all medical schools direct, or have a major affiliation with, at least one primary care residency program in which residents have responsibility under faculty supervision for the provision of accountable, accessible, comprehensive, continual, and coordinated care.

15. In selecting among applicants for admission, medical schools should give weight to likely indicators of primary care career selection.

16. Undergraduate medical education should provide students with a knowledge of epidemiology and aspects of behavioral and social sciences relevant to

patient care.

17. Medical schools should provide all students with some clinical experience in a primary care setting.

18. Medical schools and primary care training programs should teach a team approach to the delivery of primary care.

19. Amendments to state licensing laws should authorize nurse practitioners and physician assistants to provide medical services, including making medical diagnoses and prescribing drugs when appropriate. Nurse practitioners and physician assistants in general should be required to provide their designated services as skillfully as physicians, but they should not provide medical services without physician supervision.

20. The nursing profession should continue to have accreditation responsibility for nurse practitioner education programs and should establish requirements for nurse practitioner education and training in collaboration with physicians and other health professionals.

Moss, Frank E., and Val J. Halamandaris. *Too Old Too Sick Too Bad*. Germantown, Maryland. Aspen Systems Corporation, 1977. pp. xvii, 326 pages.

Too Old Too Sick Too Bad provides a comprehensive discussion of the kaleidoscope of current problems in nursing homes and offers some suggestions for improvement. The authors' investigations cover a list of subject areas that include nursing homes as the greatest fear of the elderly; nursing home abuses; the pharmaceutical russian roulette of nursing home drugs; fires in nursing homes; profiteering; nursing homes as new depositories for the mentally impaired; lack of vacancy for minority groups; substandard nursing homes; lack of policy toward the infirm elderly; national enforcement of standards; political influence on the nursing home; the physician's abdication of responsibility; nursing homes without nurses; America's finest nursing homes; and choosing a nursing home.

Of particular interest to the Center of Medical Manpower Studies are the manpower implications of many of the criticisms and the constructive suggestions made by the authors.

Moss and Halamandaris note that the term "nursing home" is somewhat misleading. "Within the context of a nursing home, the word "nurse" is used very loosely to apply to almost everyone in white. As of the writing of this study, there were about 65,000 registered nurses in 23,000 long term care facilities,

caring for over a million patients on a 24-hour per day basis. The ratio of one registered nurse (RN) to every 46 extended care patients raises some doubt, at least, as to the quantity and quality of services provided.

According to Moss and Halamandaris there are five major reasons for the shortage of RN's in nursing homes. First, federal requirements for the number of nurses in extended care facilities remain low. Only one RN is required on the day shift, seven days a week, and only one licensed practical nurse (LPN), must be on duty on each of the afternoon and evening shifts, regardless of the size of the institution.

Second, working conditions in nursing homes are not competitive for RN's. In general, working conditions are poor, and wages and fringe benefits are substandard.

Third, a less obvious reason causing nurses to avoid nursing homes has to do with the design of long-term care facilities and the delivery of care to residents. What is needed is a clear definition of what constitutes good nursing care and practice in long-term facilities.

Fourth, few nursing schools emphasize geriatrics. Of the 1,054 schools of nursing in the United States which received questionnaires, 512 completed the questionnaire. Only 27 stated that their programs included, or would include in the near future, a

geriatric specialty in the curriculum, while 274 answered that geriatrics was included in their curriculum as part of a more general course on human development. Only 135 answered that they had a program in which students worked with nursing homes.

Fifth, few government programs emphasize geriatrics. Recent figures indicated that there were 144 separate programs administered by 13 separate agencies for the training of nurses and health care personnel. Of this total, 94 of these programs were exclusively for the training of nursing personnel and together received $1.7 billion in the 1973 fiscal year. According to an American Nursing Association study quoted by the authors, there were no graduate programs in gerontological nursing anywhere in the United States at that time (1975).

In summary, both RN's and LPN's employed in nursing homes are in very short supply. Often the LPN's function in place of the RN. "The inevitable result is the reliance on unlicensed and untrained personnel to provide 80 to 90 percent of the care that is given in American nursing homes."

Somers, Anne R., ed. *Promoting Health: Consumer Education and National Policy*. Germantown, Maryland: Aspen Systems Corporation, 1976. pp. xxvi., 264 pages.

This volume is organized into three sections. The first is concerned with the relation of health status to lifestyle and the ever present challenge to consumer health education. The second summarizes and analyzes current programs, practices, and problems of health education, including sections on physicians, nurses, health education personnel and other health personnel. The third section contains the recommendations of the study group. The report includes a wide variety of appendixes. Included also are studies of the health portion of the federal budget, reports from the Blue Cross Association and examinations of health education manpower and methods available to evaluate the health education components of preventive health programs.

Estimates are made of the total number of individuals (12,500) prepared in health education at the baccalaureate, masters, or doctoral levels who are actively working in the field of either public health education or school health education. Of these, no more than 2,000 persons are prepared in community or public health education.

The report indicates that as of 1974, 124 bachelor's, 94 master's, and 31 doctoral degree programs were being offered. Also mentioned is the fact

that this relatively large number is somewhat misleading since in the academic year 1969-70 only 160 master's degrees in health education were granted in the United States. Of this number, 33 went to foreign students and 28 were granted by the University of Puerto Rico. The author also estimates that no more than 24 Ph.D.'s were granted by these universities in that year.

One recommendation concerned with health education manpower states: "Request the Secretary of Health, Education and Welfare to arrange for the conduct of a study or studies of consumer health education manpower to determine current and future needs for all categories and levels of personnel and to recommend appropriate education and credentialling policies."

The study also recommends that a task force give immediate and special attention to the definition and development of a new category of indigenous community health education aides, advocates, or facilitators, to act as mediators between the community, especially in low-income areas, and health providers such as hospitals, outpatient units and health educators. The report indicates that such new categories of health personnel have been utilized in a few areas and have demonstrated a need for more standardized training resulting in some form of academic certification.

Journal Articles Abstracted

Charron, K.C. "Health Insurance: The Canadian Experience." *The AFL-CIO American Federationist*, April 1978, pp. 11-16.

Although the health care systems of Canada and the United States are marked by certain similarities --fee for service is a prominent feature of both, both have a common approach to the education of health care professionals, and both employ similar methods to support medical research -- Canada, unlike the United States, relies heavily on universal, publicly funded health insurance to finance its national health services. Charron's article is devoted to an examination of the Canadian system with an eye toward the possibility of its introduction in the United States. "Canadian mistakes may provide as valuable a lesson as Canadian successes."

The major components of the Canadian National Health Programs lie in hospital insurance and diagnostic services, which were introduced in 1958, and in insurance for physicians' services, provided by the Medical Care Act of 1966. In 1978 well over 80 percent of the total cost of health care in Canada was supported by public financing.

Charron covers five major points in his discussion of the Canadian experience with national health insurance.

(1) National health insurance in the United States should be phased in gradually. Since a

comprehensive national health insurance involves a very substantial budget, less stress would be put on the system by a phase-in policy. Also, the phase-in policy would allow those in charge of the plan and those using the plan to gain experience and would help avoid gross errors in financing, utilization and control.

(2) Charron stresses what he calls "the four E's of efficiency, effectiveness, economy, and evaluation." Note is made that the evaluation of a national health insurance plan cannot occur overnight and that a system of coherent management and administration is necessary.

(3) Rationing of health care demand is essential. Charron does not argue against a fee-for-service system since he recognizes that the demand for health services is almost completely inelastic.

(4) The utilization of medical services, including those of hospitals, did increase with the development of Canadian NHI. However, the author believes that the need for such services always existed and that, therefore, the increase in utilization was warranted. "The Canadian experience with co-insurance and deductibles is that when they are reasonable, they do not control utilization."

(5) Finally, Charron advocates full and open public administration, public disclosure and audit of any system of national health insurance.

De Arcangelis, Antonio. "Riforma sanitaria o cornice vuota?" *Nord e Sud*, No. 27-28 (April-May 1977), pp. 57-64.

De Arcangelis is critical of proposals for health care reform and of the eventual regionalization of the National Health Insurance system. He feels that Italy's present health care system stands on very precarious grounds. "It is difficult for a patient today to enjoy a confidence in the public health care delivery system" as the system does not seem able to respond to the needs and basic prerequisites of the health care provider.

At present, Italians, as a nation, seem to be as healthy as citizens of other European countries. In 1951, as in 1971, Italy's mortality index was about 10 per 1,000, the average of that of the other countries. However, Italy's records of infant mortality and contagious disease are among the worse on the continent--only Greece, Spain, and Portugal have worse.

While De Arcangelis is, then, not opposed to reforms in the health care field, he is somewhat pessimistic of their success. Because of a gross deficit in manpower and finances, the proposed plans do not accomodate regional demands. For example, De Arcangelis feels that the proposed legislation will not take into account the specific needs of southern Italy, where health care delivery problems are most acute. As it stands now, the new law gives

little consideration to specific or even general training programs for health care personnel in the South.

While the aim of the new law is to provide equal health care throughout the nation, no provision is made for per capita federal financial assistance. Such regionalization of National Health Insurance, while it might assist regions in the North, could only worsen the South's present health care delivery system.

Demarko, Ken, James W. Robinson, and Ernest C. Houck. "A Pilot Study of the Initial Bargaining Demands by Newly-Organized Employees of Health Care Institutions." *Labor Law Journal*, 29, No. 5 (May, 1978), 275-291.

Demarko, Robinson, and Houck study newly organized employees of nonprofit health care unions to determine whether critics are correct in their arguments against these unions and in the demands they bring to management.

In August 1974 the National Labor Relations Act was amended to include in its coverage employees of nonprofit hospitals, health care centers, and nursing homes. "Prior to this amendment, such employees were excluded specifically from the Act and denied the rights guaranteed to their counterparts in proprietary hospitals."

Demark, Robinson, and Houck make note of the uncompetitive wage scales that still exist for a significant segment of nonprofit hospital and health care employees. Entry-level employees in these hospitals receive wages that are 40 percent lower than the average wages for manufacturing workers. New York City hospital employees earn $115 below the amount required to maintain a family of four at the minimum standard of living.

Although American hospitals and the American Hospital Association, in general, have been opposed

to unionization, the unions themselves have taken increasing interest in organizing these "fringe areas" of labor. With the removal of exemptions of not-for-profit hospitals from the National Labor Relations Act, these employees have been freed to organize themselves into bargaining units.

The authors examine the priorities which newly organized unions assign to certain bargaining objectives in their negotiations for the first contract. The primary demand of the unions polled was for higher wages. In addition, union negotiators for large hospitals (over 250 beds) also emphasized a demand for paid holidays and health disability insurance.

A significant conclusion of the research indicated that hospital employee unions, once recognized, do not tend to strike, and recognition is not a direct invitation to strike, notwithstanding fears voiced by the AHA. Rather, unions appear to prefer to settle their differences with the institution through arbitration rather than strike.

"Based on the evidence presented here, one may conclude that critics of nonprofit hospital unions are somewhat incorrect in...their arguments against these unions and in the demands these unions will bring to management."

Dolan, Andrew K. "The New York State Nurses Association 1985 Proposal: Who Needs It?" *Journal of Health Politics, Policy and Law*, 2, No.4 (Winter 1978), 508-530.

In 1974 the New York State Nurses Association passed a resolution making a bachelor's degree in nursing requisite for registered nurse licensure by the year 1985. Dolan believes that any such proposal must be accompanied by evidence that the change will be cost effective and provide an improvement in quality. He feels that those who proposed the change provided no such proof. And, in fact, Dolan believes such changed requirements have little if any justification.

Dolan's paper examines the existence of a proven connection between the proposed requirements and quality of care, the cost of the proposed change in terms of cost of compliance with the new requirement and its impact on the supply of nurses, and finally, the impact the change will have on those trying to enter the profession, particularly the disadvantaged employee.

Dolan finds that the proposal of the New York State Nurses Association fails to justify itself in any of these areas. He recommends alternatives to the proposal involving more relevant examination procedures, more rigorous accreditation of nursing schools, and a more active post-licensing review process.

In general, Dolan questions the process whereby professionals are allowed to set entrance requirements to their own profession in the absence of public scrutiny and evaluation.

Durant, Guy. "Gerer l' hopital." *Annales de sciences* economiques appliques, 33, No. 3 (1977-78), 109-131.

Durant describes the many complexities of manpower utilization and hospital management in Belgium, where health care expenditures increased by 25 percent in 1976. This increase in medical expenses was due primarily to increased longevity, resulting, therefore, in a relatively older population with more aggravated health problems; to a significant shift in dietary habits, with many more health hazards; to increased pollution; and to a general demand for improved health care delivery. At the same time the country experienced a substantial increase in wage and construction costs.

In Belgium the hospital is the main vehicle for the delivery of health care. Durant notes that health institutions vary considerably from commercial institutions since the demand for health care is almost completely price inelastic.

Most of the problems Belgian hospitals incur in delivering health care are involved with the hospitals' organization, with the high cost of hospital personnel, and with misallocation of health manpower within health care institutions.

According to Durant, extended care hospitals in 1974 employed 31,000 nurses, of whom only 60 percent were "qualified" or "registered." This gave the coun-

try's extended care facilities a ratio of one nurse for every two beds. The cost for all health personnel amounted to 42 percent of the average daily cost per bed.

Durant refers to a study which notes that, in general, 78 percent of the working time of registered nurses and practical nurses is devoted to functions other than those having to do with patient care. He also refers to a study which indicates that 24 percent of nursing time is devoted to patient care, five percent is spent on route, while the remainder of time (71 percent) is devoted to the exchange of information and work not related to health care functions. In fact, it is generally recognized that nurses' functions are not well defined and that considerable overlapping exists in the performance of medical and non-medical functions.

Durant concludes that hospitals require a reorganization so that tasks are carefully defined and performers are assigned to specific appropriate functions.

Farkas, Emil C. "The National Labor Relations Act: The Health Care Amendments." *Labor Law Journal*, 29, No. 5 (May 1978), 259-274.

Farkas devotes himself to discussing the relationship between health care institutions and the National Labor Relations Board, particularly as it has been affected by the Health Care Amendments to the National Labor Relations Act. Effective July 26, 1974, the Health Care Amendments specifically granted the National Labor Relations Board jurisdiction over health care institutions, including nonprofit hospitals. Farkas notes that despite its statutory jurisdiction, the Board may decline jurisdiction in situations where there is an insubstantial impact on interstate commerce. The Board retained the $100,000 annual gross revenue standard for jurisdiction which had previously applied to such health care institutions as nursing homes, visiting nurses associations, and related facilities, and the $250,000 annual gross revenue standard for hospitals of any type; it limited its jurisdiction over all other types of health care institutions to those employers who receive at least $250,000 in gross revenue per year. Farkas observes that the Board has given a broad interpretation to "health care institution" and has asserted jurisdiction over most facilities which are in any way related to the health care field.

"Prior to the adoption of the Health Care Amendments, the Board determined bargaining unit issues in

health care institutions on a case-by-case basis," relying for definition of "bargaining unit" on traditional criteria which involved combining those employees who shared a substantial interest in wages, hours and other terms and conditions of employment. In applying these criteria for defining bargaining units, the Board found that registered nurses are entitled to be represented in a separate unit, since they possess interests showing a greater degree of separateness than those possessed by most other professional employees in the industry. The Board also found that interns and residents are not employees, but rather students, primarily because they are engaged in graduate educational training which is a requirement for the practice of medicine. The Board has included head nurses in a unit of registered nurses, notwithstanding the fact that they participated in the evaluation of employees who worked under them and could impose discipline.

Farkas briefly summarizes some important Board decisions on bargaining units of technical employees, service and maintenance, and clerical employees, as well as its decisions on separate maintenance and single location units.

Farkas goes on to note that there has been significant unfair labor practice litigation involving

health care institutions, but that the Board, for the most part, has made no distinction between employers in the health care industry and those in other fields. With reference to unfair labor practices, Farkas comments that the Health Care Amendments provide that a health care institution must be given a 10-day advance notice by a labor organization before any picketing or strike can lawfully occur.

In summarizing, Farkas points out that since the enactment of the Health Care Amendments the Board has recognized the need of health care institutions for special considerations; the Board has been very flexible and its decisions have normally turned on the particular facts of the case under consideration. He concludes that since the Amendments are still relatively new, the question of whether they will reduce strikes and other labor unrest in the industry remains to be answered. "However, this legislation appears to be a realistic approach to such problems and is designed to allow employers and employees to share in the fruit of collective bargaining, while recognizing that the primary obligation of health care facilities is to provide patient care."

Feldstein, Paul J. and Irene Butler, "The Foreign Medical Graduate and Public Policy: A Discussion of the Issues and Options." *International Journal of Health Services*, 8, No. 3 (1978), pp. 541-558.

Feldstein and Butler discuss four primary justifications for curtailing the number of foreign medical graduates (FMG's) entering the United States. One justification for such limitation is that they represent a loss of very scarce manpower for less developed countries, where health care requirements are significantly higher than those of the United States. These countries subsidize the training of their own physicians and then proceed to lose them to the U.S. Feldstein and Butler suggest that FMG's be required to repay all educational costs to their home country before they are allowed to emigrate to the United States. The country providing their training could also attempt to discourage their emigration through some system of incentives and penalties.

A second argument for limiting the flow of FMG's to the United States concerns the quality differential that exists between the FMG and the United States medical graduates. The authors suggest that all residency programs be required to meet specific minimum educational requirements, including language courses, compensatory training, and orientation courses.

A third argument rests on the hypothesis that more American students could become physicians by completing medical school in the United States if the

government did not rely so heavily on the FMG. Feldstein and Butler suggest that there are two basic policy options for dealing with this problem. "The first would result in an increase in the supply of medical education opportunities available to U.S. citizens. The second would attempt to decrease their demand for medical education."

The final issue discussed concerns the overall impact that the large inflow of FMG's is having on the market for physician services in the United States. The consequences of a physician surplus would likely lead to unnecessary care, increased prices, and lower quality of services. Feldstein and Butler suggest that such problems might be alleviated through the action of specialty boards which certify competence, through moratoriums on new medical schools and bans on expanded enrollment for existing schools, through introducing mechanisms that will enable schools to respond to future shortages and surpluses, as well as through a number of similar strategies.

Feldstein and Butler conclude that with "all due respect to the complexity of the issues surrounding FMG's, we suggest that the concerns expressed are neither with FMG's nor with the FMG's home countries. Instead, the concern is a result of a basic disagreement among those who hold differing opinions regarding what the available supply of physician services in this country should be."

Keaveny, Timothy J. and Roger L. Hayden. "Manpower Planning for Nurse Personnel." *American Journal of Public Health*, 68, No. 7 (July 1978), 656-661.

This article describes techniques of manpower planning for nurse personnel at the state and regional level. The planning process comprises identification of current supply, projection of future supply, identification of current requirements, projection of future requirements, and finally, an assessment of the balance between demand and supply.

Keaveny and Hayden maintain that no effective manpower planning is possible without cooperation among planning specialists and decision makers. The demand for health personnel is defined as the number of health personnel necessary for the provision of health services demanded within an area, while supply is defined as the number of full-time equivalent (FTE) employed personnel. Active supply is differentiated from potential supply, which also includes currently licensed or certified health personnel, either employed or not employed.

The planning process includes an historical analysis that can be projected into the future. Since there is no specific information about the future, adjustments for the future might be made either on an ad hoc basis or through a computer decision mechanism, taking alternatives into consideration. The planning process is an offshoot of the

Delphi technique which obtains the consensus of various alternatives. Keaveny and Hayden demonstrate that Milkovitch and Mahoney found that manpower forecasting via the Delphi technique is more accurate than forecasting based on only statistical techniques.

The methodology for manpower planning is applied to the state of Wyoming only for estimating the demand and supply of RN's and LPN's. As a matter of policy, the following exogenous variables were used: scale of operations of educational institutions, interstate migration patterns, labor force participation rate and job design for RN and LPN positions. To identify the potential supply, the authors assess the current supply and future inflow and outflow of nurses in the state. To determine potential supply, the authors consider the FTE number of new nurses located in Wyoming, the number of individuals who activated their licenses during the current year, and the number of new licenses issued to nurses not educated in the state. Labor force participation is very important because being licensed does not insure employment. The requirement for nurses is calculated as a ratio to the population. As Keaveny and Hayden point out, this method has a number of advantages, among which are the facts that it is easier to understand and apply, and that there exists a relatively

ample data supply. Through this method, it is possible to do health manpower planning that otherwise could not be calculated.

One set of results from the authors' computations of Wyoming indicate that there will be an excess supply of LPN's, if historical trends are allowed to continue. As possible solutions, Keaveny and Hayden suggest that there be no further extension of LPN education in institutions which offer such an education and that LPN's be encouraged to leave the state, thus permitting labor force participation to decline. Another solution is based on the work done by Goldstein and Horowitz, who maintain that there is overlap in the task delegation to LPN's and RN's. Assuming, both administratively and practically, that LPN's could be substituted for RN's, the redistribution of tasks to RN's would reduce oversupply of LPN's by approximately one half. The authors conclude that the implementation of such planning can be achieved only by cooperation among the people involved, i.e., the planners, representatives of nurses associations, employer associations, licensing agencies and educating institutions.

Lysaught, Jerome P., Mary Ann Christ, and Gloria Hagopian. "Progress in Professional Service: Nurse Leaders Queried." *Hospitals*, 52, No. 16 (August 16, 1978), 93-98, 120.

An Abstract for Action, a report based on a three-year study of nursing and nursing education by the National Commission for the Study of Nursing, was published in June 1970. A three-year implementation period followed.

The Commission's report distinguished four principal aims: (1) the establishment of institutional joint practice committees between medicine and nursing; (2) the enhancement of career perspectives through recognition of advanced clinical competency; (3) the development of recognition and reward systems based on increased competence in practice; and (4) the increase of ties and joint responsibilities between nursing service and nursing education.

Lysaught, Christ, and Hagopian sought out nursing service directors in an effort to determine which, if any, of the Commission's recommendations had made progress. Of the nursing service directors reporting back, only about half had organized some formal apparatus to bring medical and nursing practitioners into joint and collaborative care planning. Approximately two thirds of the directors experienced a rearrangement of both medical and nursing roles, while an equal number found increased cooperation between

the professions. The study also indicated that two-thirds of the reporting institutions had not hired nurse practitioners--a group which represents "the new age of advanced clinical competency."

The authors came to the conclusion that progress on the Commission's recommendations is evident, but far too slow. "There are still the unmistakable signs that nursing remains the ambiguous profession. It is moving, and in positive directions, but the pace is tortuous."

Meyer, Diane. "Work Load Management System Ensures Stable Nurse-Patient Ratio." *Hospitals*, 52, No. 5 (March 1, 1978), 81-85.

Meyer stresses that one of the most important challenges hospitals face at present is to provide high quality care while keeping a lid on costs. Central to this challenge is an accurate staffing of nurses.

Meyer reports on a specific project, the efforts of which were devoted to refining and testing a system of nursing work load measurement and management. "Applications of this comprehensive system, which was designated the GRASP system, affect budgeting, staffing, auditing, charging, and billing."

The GRASP system estimates patient-care units (PCUs) for all incoming admissions. Patients are then assigned to those units that have the lowest PCU count. The overall objective of the GRASP system is an even distribution of work loads among the nursing units of the institution.

Meyer describes the actual operation of the GRASP system at Grace Hospital, Morganton, N.C.

Perkoff, Gerald T. "An Effect of Organization of Medical Care Upon Health Manpower Distribution." *Medical Care*, 16, No. 8 (August 1978), 628-640.

Perkoff is concerned with the accuracy of health manpower projections in the United States. He presents data and analyses from the Medical Care Group of Washington University and from several other organized medical care settings responsible for prepaid enrollees.

A summary of some of Perkoff's findings indicates that as "few as 8 percent of total visits may be made to specialists under systems that are organized to emphasize primary care. Further, the proportions of primary care and specialty visits vary inversely with the strictness of this organization. Those groups which employ family physicians have a higher proportion of primary care physicians than do those groups which employ general internists or pediatricians, or than exist in the medical care system at large."

The relationship, then, between the specific kind of organization providing care and its utilization would suggest that the organization itself is the most important factor in determining manpower needs and that "the pattern of medical care may be affected markedly by different organizational arrangements."

Admitting that his data suggest, but do not prove the accuracy of his hypothesis, Perkoff goes on to list three additional hypotheses that must be researched before effective manpower planning will be possible.

1) It should be possible to identify and measure certain organizational characteristics which favor the development of given patterns of care.

2) The training of physicians is a major determinant of the pattern. It should be possible to measure whether this is or is not so.

3) The actual numbers of physicians involved will depend upon the tasks considered appropriate for given generalists and specialists. Numbers derived from these considerations will be modified according to the manner and degree to which nonphysician health care providers substitute for physicians in organized systems of care.

Richards, Thomas B. "Knowledge About the Workplace: A Helpful Factor in Analysis of Health Facility Labor-Management Problems." *Labor Law Journal*, 29, No. 1 (January 1978), 40-48.

Richards believes that the hospital is an institution of increasing complexity, characterized by a sophisticated medical technology and a need for medical personnel with more and more technical ability. This situation has led to a continuous rise in the number of health personnel employed in a highly labor intensive industry. As a result of the growing number of employees in this industry, the number of labor-management litigations is also quickly rising. Richards feels that parties involved in labor-management problems in health institutions would find it helpful to be aware of recent sample problems. He specifically focuses on the question of whether it is sex-based discrimination to deny employment to a male nurse when such employment requires intimate personal health care of female patients.

As they are set forth, cases center on the problems and interests of the male nurse, the female patient, and the management of the hospital.

Richards' general aim is to illustrate "how greater knowledge concerning the health care workplace facilitates interpretation of the significance of the conflicting decisions and assists in the formulation of a general principle for use in future cases."

After outlining several cases, Richards goes on to suggest some principles of hospital management. He calls for improved job descriptions and improved documentation of patient preferences along with a restructuring of functions so as to accomodate both the employee, the employer, and most important, the patient. Finally, he calls for an increased effort to expose health care managers to more coursework in the managing of the health care facilities.

Rosario, Lucio. "Riforma sanitaria e meridionalismo." *Nord e Sud*, No. 1 (January-March 1978), pp. 235-238.

This note, by the editor of *Nord e Sud*, is a response to criticisms of the process of reforming the Italian health care system. Rosario notes the lack of attention given to the problem of regional disparity in economic growth and development in northern and southern Italy, a disparity which is especially significant in the delivery of health care services.

Rosario believes that the proposals for reform will bring about an end to the disparities, not only among regions, but also between urban, rural, poor and wealthy areas of the nation. The proposals specify that every five years a specific share of national income, less productive investment, must be allocated for social services and a fixed annual share allocated to the health care area for health care capital investments and for direct health services. He further suggests the establishment of a general regulation to assist in allocating health care expenditures among various health care providers.

In addition, Rosario proposes a ceiling on and encourages guidelines for health care expenditures. Since health care delivery in Italy developed with a minimum of planning, he believes that intensive health care planning could significantly improve the delivery of medical services to the consumer. Further, he

feels that such planning could attract more qualified health manpower into the field.

Rosario suggests a system whereby federal funds for health care and services can be distributed in such a fashion as to encourage the development of such services in less affluent geographical areas. Areas with relatively more efficient health delivery systems would then receive fewer funds from federal sources.

Simborg, Donald W., Barbara H. Starfield, and Susan D. Horn. "Physicians and Non-physician Health Practitioners: The Characteristics of Their Practices and Their Relationships." *American Journal of Public Health*, 68, No. 1 (January 1978), 44-48.

Simborg, Starfield, and Horn assess the return to an emphasis on primary care in physician education and the increasing delegation of primary care activities to non-physicians such as nurse practitioners and other health practitioners who have received training directed at primary care under the supervision of physicians. They point out that some observers maintain that one can expect the non-physician health practitioners and physicians to emphasize different aspects of patient care, while other observers indicate that their activities are complementary.

In this study, 1,369 patient-practitioner encounters were examined by chart review. The study concentrates on six primary care practices which utilize both physician and non-physician practitioners to measure the difference between practitioner types in the care of patients. Among other findings, the study reveals that nurse clinicians tend to order more laboratory tests and special diets than physicians for the same patients, that nurse practitioners tend to see patients more often than physicians in similar situations, and that nurse practitioners tend to educate more patients. But, there is little difference

in the results of patient care administered either by the physician or non-physician.

The study's main inference is that "non-physician health practitioners are more attuned to recognizing information from physicians than the other way around." The authors volunteer that a possible explanation for this finding may lie in the fact that the data might have been poor, but a consistency check did not show that the data were at fault. The authors also suggest in explanation that the non-physician health practitioner may be scheduling the patient to see the physician in some cases only for a specific problem. They maintain, however, that this is not so.

The most likely explanation the authors offer is that there is incomplete communication between physician and non-physician practitioners and that each practitioner is dealing with a different, but overlapping, set of information for the same patient. Simborg, Starfield, and Horn mention a study which shows that the accuracy of physicians' diagnoses could be improved 20 to 30 percent if a physician assistant took a detailed history in a highly structured fashion.

The study concludes that interaction between two types of practitioners shows the importance of information communication for the care of patients. This potential has not been fully exploited, especially by physicians examined in this study.

Stamps, Paula L., et.al. "Measurement of Work Satisfaction Among Health Professionals." *Medical Care*, 16, No. 4 (April 1978), 337-352.

In the past, most studies examining the issue of job satisfaction concentrated on the relationship between job satisfaction and productivity or absenteeism in the context of factory or assembly work. A different orientation is needed for investigating middle-level professionals in a service-oriented industry. "Measurement of Work Satisfaction" discusses the methodology used in an ongoing research project to investigate job satisfaction of health professionals in both hospitals and ambulatory settings.

Based on a review of recent literature, six components of job satisfaction were chosen as the most relevant to the health field: pay, autonomy, task requirement, organizational requirements, interaction, job prestige/status. These components were measured by establishing the relative importance of each through paired comparison techniques and by determining a measure of the respondent's current level of satisfaction. Combining the two responses, one overall score was developed, reflecting both relative importance and actual satisfaction.

The measurement instrument was tested on three samples. Two of the samples were nurses in a hospital setting, while the third sample broadened the scope of the survey by including physicians, nurses

and support (technical) staff in a private ambulatory group practice.

The preliminary results of the ambulatory study are reported in four tables, and four themes are apparent. An especially obvious theme is dissatisfaction with the low pay scales. A second is the problem of delegating various responsibilities to different types of professionals--all three groups indicate strong agreement with the fact that most of their daily activities could be done by someone with less skill and training, and the nursing group and support staff feel that their particular job does not require much skill. A third theme is the concern of all three groups with communication between all levels of professionals. Finally, the fourth theme concerns the administration and organization of the clinic. A strong minority (35 percent) agrees that the clinic is not organized with the patient's needs as top priority.

The remainder of the paper examines the validity of the job satisfaction components, the internal reliability of the questionnaire, and the correlation of weighted and unweighted total scores.

Westbury, Stuart A., Jr., John E. Mosher, and Michael A. Sachs. "Conti[illegible]g Education: An Approach Toward Structure and a Call for Help." *Hospital and Health Services Administration*, Summer 1978, pp. 68-78.

Westbury, Mosher, and Sachs are concerned with the problems health care personnel face in attempting to meet the overwhelming need for keeping abreast of knowledge and advances in their fields. The article is devoted to an examination of the current status of continuing education for health care professionals.

One of the first attempts to bring order to the problems of acquiring continued health care education came in the form of a two-volume publication by the Radcliffe Programs in Health Care titled, *Resources for Continuing Education in Health Care*. Together, the volumes provided a list of continuing education opportunities available through academic institutions and professional associations.

The authors note that state legislatures are requiring continuing education as a precondition to relicensing practitioners in an increasing number of professions, that occupations that have never before required licensing are clamoring for certification, and that a growing number of professional associations are now requiring additional professional education for membership.

In an effort to define what constitutes continuing education for the health administrator, Westbury,

Mosher and Sachs developed their own list of "Continuing Education Learning Modalities." Their attempt was to broaden the context of continuing education and incorporate all learning that can keep an administrator current in his/her employment role. Commenting on their taxonomy, they point out the importance of identifying informal activities.

To test the taxonomy, a questionnaire was developed to gather information about the health administrator's continuing education activities. The respondents indicated a heavy preference for interactive programs of short duration, and average attendance was four programs per year. The respondents were also asked their motivation for seeking additional education, and the primary reason given (83 percent) was to obtain more education/training to meet the changing demand of their present positions. The least motivating reason (40 percent) had to do with the expectations of their licensing boards.

The authors note that the need for further research in this area is underscored by the recent HEW report, "Credentialing Health Manpower," which states:

> Unfortunately, there has been little substantive research to determine the best methods of assuring continued competency. In addition, the impact of various continued competency assurance mechanisms on the supply and distribution of health manpower, as well as the quality and costs of services they render has not been adequately examined....

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Atlantic Economic Journal

Applied Economics

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Journal of Development Economics
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Quarterly Review of Economics and Business

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Review of Social Economy

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