Study of Medical Care in Puerto Rico

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A STUDY of medical care in Puerto Rico indicates that sweeping changes for the better have occurred during the last 20 years. A rising level of the economy will make it possible to continue to improve health care for the whole population, particularly if improvements are made in organization and financing.

Organization of the Study

In 1956 the government of Puerto Rico asked the Columbia University School of Public Health and Administrative Medicine to study medical care in Puerto Rico. The legislation creating the study was the result of a recommendation made by the University of Puerto Rico School of Public Health in a report, "Health Survey of Seventeen Municipalities Served by the Bayamón District Hospital of Puerto Rico," issued in 1955. Dr. Ray E. Trussell, chairman of the Columbia school, and Dr. Guillermo Arbona, secretary of health of the Commonwealth, directed a Puerto Rican study team. Columbia University consultants, in addition to van Dyke, were Harold Baumgarten, assistant professor of administrative medicine, Dr. Jack Elinson, associate professor of administrative medicine, and Dr. George Rosen, professor of health education.

The university and the department of health, working together on a contract basis, organized a Puerto Rican research group consisting of a public health physician, social scientist, hospital administrator, and a coordinator of studies trained in administrative medicine. Other Puerto Rican personnel who helped with the studies full time or part time included statisticians, accountants, nurses, social workers, an engineer, a medical records librarian, and interviewers. A special group of five physicians, all certified specialists, appraised the quality of medical care in a sample of facilities.

The Legislature authorized the appointment of an advisory committee of Puerto Ricans representing major health professions, civic groups, labor, industry, education, government, church, press, and consumer groups. The committee's functions were to review findings of the studies, to suggest recommendations, and to react to final recommendations. The advisory committee held 15 meetings. Its five subcommittees considered separately the reports on quality of care, personnel, facilities, organization and administration, and financing. The reports were then presented to the full advisory committee. Many useful conclusions and recommendations were developed by this procedure. The series of studies which comprise the full report will be published in 1961 (*1*). A summary is available in Spanish and may be obtained from the Puerto Rico Department of Health.

Health and Economic Background

Malaria has been eradicated in Puerto Rico and tuberculosis and infant mortality death rates reduced. Life expectancy has increased to 70.6 years. Safe water supplies have been developed islandwide. Thirty-four health

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centers have been built and 1,590 district hospital beds provided. An accredited medical school has been established, a new dental school opened, and a Puerto Rican medical center has been planned and partially constructed. New patterns of health service administration are being demonstrated through regionalization.

A rise of 183.6 percent in the gross national product occurred from 1940 to 1960. When corrected for population change, the per capita GNP, measuring the output available for all uses per member of the population, has risen 163.9 percent since 1940. If capital replacement items, taxes, and undistributed profits are substracted from the GNP, the remainder is the amount available for expenditure, including expenditure for consumer items and for new capital formation. When corrected for price changes, the GNP shows a rise of 88 percent since 1947, from $558 million in 1947 to $1,047 million in 1947 dollars in 1960. The value of agricultural products has risen 177 percent since 1940 (percentage uncorrected for price changes).

Employment statistics show a shift of the labor force from agriculture to industry and trade. Agricultural employment has declined 46 percent since 1940, while employment in manufacturing and trade has increased 63 percent. Total employment, although it has fluctuated, was virtually unchanged by 1960 compared with 1940. Production gains were reaped via a shift of the labor force to areas of greater productivity rather than an expansion of the labor force. The migration to the mainland by a part of the work force has resulted in a relatively stable number of workers. Unemployment remains a significant problem.

These accomplishments, aside from a high rate of unemployment, must be viewed against the position in which the Commonwealth finds itself. Puerto Rico is a small island with one of the highest densities of population per square mile in the world. Natural resources are meager. Up to about 20 years ago Puerto Rico was a poverty stricken land with a one-crop economy. Tropical diseases, as well as tuberculosis, affected a large part of the population. An economic and cultural renaissance began during the administration of Governor Rexford Tugwell and has continued at an accelerated

Table 1. Expenditures for medical care in Puerto Rico, fiscal year 1957–58

PUBLIC EXPENDITURES FOR MEDICAL CARE	
Medical and hospital care	$36,390,355
State government	19,329,740
Department of health [1]	10,538,069
Special hospitals	5,027,999
State insurance fund	2,978,459
Workmen's compensation medical benefits	785,213
Municipal government [2]	7,754,929
Federal Government	9,305,686
Defense Department	2,209,968
Medicare program	167,512
Veterans Administration	6,701,049
Public Health Service	68,970
Division of Vocational Rehabilitation	158,187
Education, planning, and research [3]	2,533,244
Department of health	1,231,884
School of medicine	1,281,086
Federal agencies	20,274
Other public health activities	3,900,792
Department of health	3,512,242
School health program, department of education	181,640
Federal Government [4]	206,910
Medical facilities construction	1,726,018
State funds	561,702
Federal expenditures	1,084,316
Municipal expenditures	80,000
Total public expenditures	$44,550,409
PRIVATE EXPENDITURES FOR MEDICAL CARE	
Hospital services (direct payments)	5,542,000
Physicians' services (direct payments)	9,769,000
Prepaid medical and hospital services	5,471,654
Insurance benefits	4,503,107
Expenses for prepayment	968,547
Medicines	32,799,000
Appliances	3,000,024
Dentists	5,982,000
Other professional services	2,889,000
Expenditures by industry not reported elsewhere [5]	350,946
Industrial inplant services	218,940
Payments to physicians	109,470
Others	22,536
Expenditures by labor unions not reported elsewhere [6]	425,647
Industry contributions to labor union funds not reported elsewhere	398,324
Union members	27,323
Philanthropy	787,394
Total private expenditures	67,016,665
Grand total	111,567,074

[1] Includes $1,150,323 of Federal grants-in-aid, $198,015 for maternal and child health and part of the expenditures for the school health program, and $26,430 paid by department of health for employees' Blue Cross prepayment plan.

[2] Includes $5,171 paid by municipal governments for employees' Blue Cross prepayment plan.

[3] Limited to agencies mentioned above.

[4] Estimated.

[5] Total expenditure for medical care by industry was $2,189,399. This sum is distributed among various items listed under Private Expenditures for Medical Care.

[6] The total contribution of industry to union funds was $940,799. The amount of $542,475 is included in expenses for prepayment.

pace under the direction of Governor Luis Muñoz Marin.

Expenditures for Medical Care

The data in tables 1 and 2 were gathered from two major sources, analysis of government expenditures and family household survey data. Some statistics from official records are precise, some represent allocation within a total expenditure and involve an element of judgment, and some are estimates based on reports taken from the family household survey of out-of-pocket expenditures for medical care. These estimates are least reliable, yet they fill in a picture which would otherwise be incomplete.

An estimated $111,567,074 was spent in Puerto Rico in 1957–58 for medical care of all types, including construction and medical education (table 1). Of this amount, $44,550,409 was spent by units of government including the Federal Government, and $67,016,665 was spent from private resources. Thus 60 percent of estimated total expenditures were private and 40 percent public. However, the family survey data indicate that more than 60 percent of the population of the island use government facilities for all or part of their medical care. Further, almost half of the estimated personal expenditures was for drugs and medicines ($32,799,000). If private expenditures for medicines are removed from the total expenditures, various units of government paid 57 percent of all money spent for health care in Puerto Rico.

Also, government bears almost the entire cost of education and research, community health services, and care of patients with mental illness or tuberculosis. Voluntary participation in such responsibilities while important does not represent the investment of much money.

Table 2 compares estimated private expenditures for medical care and voluntary health insurance in Puerto Rico with expenditures for these purposes in the United States. While the percentage of disposable personal income allocated to health expenditures is somewhat higher in Puerto Rico than in the United States, in-

Table 2. Private expenditures for medical care and voluntary health insurance: amount, percentage distribution, and percent of disposable personal income, by type of expenditure, Puerto Rico and United States, 1958

Type of expenditure	Amount (millions)		Percentage distribution		Percentage of disposable personal income	
	Puerto Rico	United States	Puerto Rico	United States	Puerto Rico	United States
Grand total	$65. 5	$16, 397	100. 0	100. 0	6. 1	5. 2
All direct payments	60. 0	11, 900	91. 6	72. 6	5. 6	3. 8
Insurance benefits	4. 5	3, 877	6. 9	23. 6	. 4	1. 2
Expenses for prepayment	1. 0	620	1. 5	3. 8	. 1	. 2
Hospital and medical expenses	20. 8	9, 392	31. 7	57. 3	1. 9	3. 0
Direct payments	15. 3	4, 895	23. 3	29. 9	1. 4	1. 6
Insurance benefits	4. 5	3, 877	6. 9	23. 6	. 4	1. 2
Expenses for prepayment	1. 0	620	1. 5	3. 8	. 1	. 2
Medicines and appliances	35. 8	4, 362	54. 7	26. 6	3. 3	1. 4
Medicines	32. 8	[1]	50. 1	[1]	3. 0	[1]
Appliances	3. 0	[1]	4. 6	[1]	. 3	[1]
Dentists' services	6. 0	1, 674	9. 2	10. 2	. 6	. 5
Other professional services	2. 9	[2] 969	4. 4	5. 9	. 3	. 3

[1] Detailed allocation not available.
[2] Includes nursing homes.

SOURCES: Statistics for the United States are from Agnes W. Brewster: Voluntary health insurance and medical care expenditures, 1948–58, Social Security Bulletin 22: 4, table 1, December 1959. Statistics for Puerto Rico are based upon those in table 1, adjusted to compare with the Federal method of estimating private expenditures for medical care.

surance benefits are considerably lower in Puerto Rico.

The most striking difference between Puerto Rico and the United States in the percentage distribution of private expenditures is for drugs and appliances. In Puerto Rico, 54.7 percent of all estimated private expenditures was for such purposes in 1958 compared with 26.6 percent in the United States. This disparity is so great that the statistics were compared with estimates of the Puerto Rico Planning Board and with countries other than the United States. There is a tendency to spend a higher percentage for drugs and medicines of all funds spent on health in countries with relatively low per capita income than in countries with higher per capita income. The reason for this is the relative lack of medical care personnel and facilities in less developed areas as well as an inability on the part of many to pay for medical care.

It is believed that, within the percentage of error expected in family survey statistics, the totals in table 2 are reasonably correct in their relation to each other.

Household Survey

One of the sources of data for the study was a household survey. Its purposes were to determine the patterns of utilization of private and public medical services and the quantitative and qualitative aspects of such care, to learn what Puerto Ricans are paying directly for medical care by type of service or facility used, and to ascertain certain opinions and attitudes of the interviewed families about their medical care. A sample of families were interviewed to fill in a questionnaire designed to bring out the pertinent data. The survey sample was drawn from the panel of approximately 13,000 households used by the department of labor for its quarterly survey. Interviews were conducted with 2,951 families, with 14,651 members, who were fairly evenly distributed between urban areas (52.5 percent), and rural areas (47.5 percent).

When families were asked about important items in the cost of living, the cost of medical care was the second most frequent complaint. Food prices ranked first among the families interviewed. Thirteen percent of the families had borrowed money to meet the costs of medical care, and the majority of the borrowers belonged to the lowest socioeconomic group. In addition, 12 percent of the sample families reported that some family member had lost income from regular work because of illness. The average out-of-pocket expenditure for health care per family was $141 for a 12-month period.

Organization of Medical Care

Several systems for the provision of medical care are working side by side. The Commonwealth Department of Health, the municipal governments, and the State insurance fund all operate medical and hospital care programs. The Federal Government has its own systems locally for veterans, members of the Armed Forces, and military dependents, and since July 1, 1960, participates in the cost of health insurance for Federal employees. The Federal Government assists in the financing of the Commonwealth medical care program with grants-in-aid for various purposes.

As in many parts of the world, the government in Puerto Rico has always had the responsibility of providing most of the population with whatever medical care they received. In Puerto Rico this was, and to an extent still is, a function of municipal government. During the last two decades, however, the Commonwealth government with the aid of Federal funds as well as cooperative efforts with the municipalities has constructed a series of health facilities which with few exceptions are the best on the island. These facilities are part of an organized plan for the medical care of more than two-thirds of the population.

The pattern of medical care predominant in Puerto Rico has been shaped by the need to provide medical care for people unable to pay for it. It is improbable that medical care would have reached very many people if the municipal and Commonwealth governments had not provided service. The dominance of public medical care is demonstrated by the fact that 63 percent of all hospitals, both general and special, are governmental, and that they have 69 percent of all the hospital beds. These

facilities were responsible for 63 percent of all admissions and 72 percent of all patient-days of care in 1957–58. In addition, both municipal and Commonwealth governments contracted for inpatient care in private hospitals, and when these patient-days of care are added to those provided in government-operated facilities, 89.5 percent of all inpatient-days of care were government supported. When only inpatient-days of care in general hospitals are considered, 81.4 percent were financed by government at some level.

Historically, the organization of health services in Puerto Rico begins with the incorporation of municipalities during the Spanish regime. Until recently there was justification for independent health services in each community because of the difficulties of transportation and communication between municipalities. The simplicity of health care organization was due in part also to the limited scientific knowledge of the era. As the municipalities grew, municipal hospitals were established. Gradually most of the municipalities in Puerto Rico built a hospital varying from a large to a very small facility.

At present, several municipalities spend more than 50 percent of their total budget for medical care. The average for all municipalities is 32 percent. This shows the great interest of mayors and other municipal authorities in providing medical and hospital services for the population they represent. But in spite of this good will, many deficiencies exist. Modern medical care is expensive and requires well-maintained facilities and equipment and well-trained personnel working under good organizational circumstances. This is impossible without adequate funds.

About one-third of the people receive some or all of their care through proprietary hospitals, private nonprofit hospitals, private dispensaries, and physicians' offices. With few exceptions, industry and labor do not operate their own medical care facilities but use their funds to contract for the services of private hospitals and physicians directly or through prepayment.

Prepayment systems have developed slowly and do not play a significant role in Puerto Rico. For fiscal year 1957–58 it is estimated that 12 percent of the people in Puerto Rico had some type of health insurance. Analysis of the coverage provided by many carriers reveals that it is quite inadequate. Other contracts which have very comprehensive provisions cannot possibly deliver what they have promised because the services promised cannot be provided for the amount of money collected. A review of the detailed information in the study makes it evident that the rank and file of Puerto Ricans cannot afford to purchase voluntary health insurance which will give them comprehensive coverage. This observation is based in part on the estimated per capita income of $565 for 1960 as published by the Puerto Rico Planning Board.

Conclusions and Recommendations

The conclusions and recommendations of the report fall into two broad categories. The first is that much needs to be done to reorganize existing patterns of medical care and ways of providing medical care in Puerto Rico. The specifics of this general point are described in detail in the report. It is believed that steps can be taken within current expenditures which would improve the quality of medical care to the whole population.

The second category of recommendations has to do with financing. It is apparent that a reasonably good level of medical care cannot be provided to everyone in Puerto Rico within current expenditures, even though those expenditures in the aggregate amount to somewhat more of the gross national product of Puerto Rico than do similar expenditures in the United States.

The reason for this needs to be understood. Modern medical care is expensive wherever it is provided because of the complicated array of technical equipment, supplies, and personnel required. This does not mean that a high level of medical care throughout the world needs to be as expensive on a dollar basis as it is in the United States. As a percentage of the gross national product, however, it may be necessary to allocate a larger percentage of the GNP than is spent in the United States in order to produce a similar level of service.

In this respect Puerto Rico is in a peculiar

position. As a part of the economy of the United States, the island reaps certain economic benefits. But if medical care is viewed as an isolated phenomenon, there is one disadvantage to Puerto Rico as a part of the U.S. medical economy. Salary and wage scales for technical medical care personnel are relatively high in the United States, and there are also shortages of highly trained personnel for medical care. In consequence, in order to retain such personnel, Puerto Rico, with a general wage level about one-quarter that of the United States, must pay what are for the island relatively high salaries and wages to medical care personnel if reasonably good medical care is to be provided. In brief, what Puerto Rico must do is pay technical medical care personnel at a rate which will discourage migration to the mainland.

The report contains detailed estimates of the funds required to raise the quantity and quality of medical care in Puerto Rico for the whole population. The staff suggested several alternate plans for organization and financing of medical care. It was recommended that traditional public health services should continue to be financed as they currently are from general tax revenue, grants-in-aid, and other usual sources. Government responsibilities for education, research, care of those with tuberculosis or mental illness, public health dentistry, and construction of facilities should be financed from the same sources. The remaining services of a medical and hospital care nature which the staff termed "personal health services" could be financed through a health insurance fund. Money for this fund could be obtained from one or all of the following sources: (*a*) general or special taxes, (*b*) payroll taxes on the employer or employees or both, (*c*) prepayment premiums collected at the place of employment or through the employer.

One of the results of rapid economic growth in Puerto Rico is that the accomplishment of certain social goals can be attained without radical shifts in the percentage of funds allocated for a particular purpose. No sacrifice of other social objectives is required to improve medical care. Thus, if the percentage of Commonwealth income now spent for all medical care can be increased slightly, if the amounts so allocated maintain pace each year with other parts of the economy, and if the various recommendations for economical management and financing are implemented, improved health care for the entire population can be attained.

REFERENCE

(*1*) Trussell, R. E., et al.: Medical and hospital care in Puerto Rico. To be published.

Community Health Administration

"Administration of Community Health Services," a 560-page training handbook for city and county managers and their principal administrative aides is the latest volume in the Municipal Management Series published by the International City Managers' Association. This edition, prepared under the direction of the American Public Health Association's Committee on Public Health Administration, discusses community health in terms of metropolitan planning, program evaluation, fiscal and reporting techniques, and coordination of public and voluntary health activities. Medical care, chronic disease, hospital administration, mental health, and health services in disasters are among the topics included. Earlier editions in the series contain texts on planning, finance, personnel, public works, and other aspects of local administration.