

## *Report on Health Services in Cuba*

# HEALTH, HEALTH SERVICES, AND HEALTH PLANNING IN CUBA

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The profound changes which have occurred in the Cuban health services since 1958 are described and appraised in this article. The first part treats the main socioeconomic policies, particularly the urban and agrarian reforms, that have had an equalizing effect on the distribution of resources (including health resources) between regions and social classes. These socioeconomic developments have determined changes in mortality and morbidity patterns, particularly in the control of waterborne diseases, in the reduction of the level of malnutrition, and in the increasing prevalence of chronic conditions. The second part describes the main characteristics of the health services development in the last decade: centralization of inpatient facilities; decentralization of ambulatory ones; and the training of large numbers of physicians, paramedical personnel, and, especially, auxiliary personnel. The health services are structured according to a regional model that aims at the integration of preventive with curative services, personal with environmental, and medical with social services. Within this model, great priority is given to primary care, especially in the rural areas, where the greatest benefits of the restructuring of the system have been realized. The education and training of human resources, particularly of physicians, in response to the requirements of the system and the flight of nearly half the medical manpower after the Revolution, are also discussed in this section. The third part of the article describes the process of decision-making and planning in Cuba today, with special emphasis on the health sector. This process is highly centralized in plan preparation but highly decentralized in plan implementation. The medical profession has a definitive and decisive influence in the preparation of the plans, through the very powerful advisory planning task forces. The advantages and disadvantages of this active participation are discussed. Plan implementation is accomplished with massive participation by the population and its organs, the mass organizations, which partly explains the great achievements of the public health programs. The relationship between decision-makers and planners, not always an easy one, is also analyzed.

In 1958, the government of Cuba changed. Even at that time, the change appeared to be quite different from most of the changes "at the top" that periodically occur in some Latin American countries. Accurately perceiving the far-reaching implications of this change, the rest of the Latin American countries, led by the United States, responded by establishing the Alliance for Progress. The proposed goal of the Alliance was the same in principle as that of the Cuban Revolution, but was to be achieved within the democratic framework assumed to exist in the member countries.

As described by Jerome Levinson, who was with the United States Agency for International Development (US-AID) when the Alliance was created, and Juan de Onís, chief of the *New York Times* bureau in Mexico City,

The Alliance could counteract the appeal of Castroism to Latin America's once docile masses of workers and peasants by offering them economic benefits and social reform within a democratic political framework (1).

With remarkable candor, these authors, both of whom were intimately involved with the Alliance from the beginning, in 1970 produced a book significantly entitled *The*

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*Alliance That Lost Its Way*, in which they concluded, after an analysis of the present socioeconomic situation in Latin America, that:

Cuba has come closer to some of the Alliance objectives than most Alliance members. In education and public health, no country in Latin America has carried out such ambitious and nationally comprehensive programs. Cuba's centrally planned economy has done more to integrate the rural and urban sectors (through a national income distribution policy) than the market economies of other Latin American countries (1).

When statements of this nature are the conclusions of people not necessarily emotionally or intellectually committed to the Cuban social experiment, undoubtedly they provoke one's intellectual curiosity. In this regard, the following notes may be interpreted as the observations of one who visited, studied, taught, and consulted in that country with great interest.

Within the overall description of the Cuban scene, the notes have a certain order. The first part briefly describes the demographic and socioeconomic structure of the country, and the second part contains a description of the development of health services in the last decade. An initial appraisal of the health services planning process is presented in the third part.

It should be emphasized that these observations and impressions are entirely personal. If, in fact, my perceptions have been faulty, it is I who must reexamine my understanding of the Cuban reality, because my Cuban colleagues were untiring in their efforts and kind assistance to help me correctly comprehend the very exciting developments in that country.

## SOCIOECONOMIC CHARACTERISTICS

### *Cuba: A Caribbean Island*

Cuba is a small island just to the south of Florida, described by Christopher Columbus when he came upon it on October 27, 1492, as the pearl of the New World, so struck was he with the beauty of the country. At that time, the island was inhabited by about 10,000 Indians. Today, the population numbers over 8 million on an island approximately 1,200 kilometers long and 32 kilometers at the most narrow point. It is located only 180 kilometers from Florida on the north, 77 kilometers from Haiti on the east, and 210 kilometers from Mexico on the west (2, 3).

Of the Cuban population, 73 per cent are white, mostly of Spanish origin, and 27 per cent are black, mostly of west African origin. In 1968, the birth rate was 27.3 per 1000 population, the death rate approximately 10 per 1000, and the infant mortality rate 37 per 1000 live births. The overall rate of demographic growth was 1.7. These figures can be compared with those of the United States, where there was a birth rate of 21.2 per 1000 population, a death rate of 9.4, an infant mortality rate of 24.2 per 1000 live births, and a demographic growth rate of 1.18 (4, 5).

The difference between the demographic rates for Cuba and the United States indicates that Cuba has a younger population. However, the population is older than that of Colombia, for instance, where 42 per cent of the population is 15 years of age or under. In Cuba, 36 per cent are in this age group, and in the United States the figure is 27 per cent. The productive age group (those between 15 and 64 years) represents 59 per cent of the Cuban population, 65 per cent of the U.S. population, and 54 per cent of the

Colombian population. The elderly population (65 years and over) represents 4 per cent of the Cuban population, 7 per cent of the U.S. population, and 3 per cent of the Colombian population (1965 data) (6).

In 1965, 7,700,000 people in Cuba lived in an area of 110,924 square kilometers, with a population density of 69 persons per square kilometer. More important than overall density is the proportion of people per kilometer of arable land, which in Cuba in 1965 was 381 per square kilometer of arable land (based on a total of 19,700 square kilometers of arable land). In Table 1 these figures are compared with those for the United States, Colombia, and the world (4, 5).

It is worth noting that in spite of this high population density, the Cuban leadership does not consider the country to be overpopulated. Quite the contrary, the leadership perceives the shortage of manpower in the productive age group as a serious handicap to the economic development of the country.<sup>1</sup> Moreover, the growth of the overall population is considered an asset and an investment for future years, since it is thought that once children reach the productive age, their increased number will have a positive effect on the country's economic development. In this regard, the current imbalance in the age distribution of productive and unproductive members of the population, due to the disproportionately high number of the young, is accepted as an investment. Therefore, in a country where the population policy is clearly anti-Malthusian, contraceptives are provided as measures for the sexual rights of individuals, but not as population control devices. Actually, it is this observer's opinion that the contraceptive measures are not very actively promoted and abortion is performed only for medical reasons when the mother's health is threatened. The present population policy is best explained in the speech "The Revolution Continues" by Prime Minister Fidel Castro (9).

### *The Cuban Development Scene*

Where do the people live? As in most Latin American countries, there has been a process of increased urbanization in Cuba; at present 65 per cent of the population lives in urban areas (communities of over 20,000 people) and 35 per cent in rural areas. Following the Latin American pattern, the population is concentrated in large cities, predominantly Havana, with 22 per cent of the entire Cuban population in 1966. This figure can be compared with those for Buenos Aires (34 per cent of the Argentinian population in 1960), Santiago (26 per cent of the Chilean population in 1960), and Montevideo (46 per cent of the Uruguayan population in 1960) (4).

In contrast to these other metropolises, however, Havana's growth in the last decade has been very slow, calculated at just 1 per cent. This phenomenon was the result of a deliberate government policy of regional equalization by which greater emphasis was placed on development of the smaller communities and rural areas rather than the capital (10). The policy, as described later, was also applied to the health sector.

Two policies, among others, seem to have had great impact on the process of rural-urban equalization. The first one was established under the Law of Urban Reform,

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<sup>1</sup> According to Jacoby (7), Research Professor at the Institute for International Economic Studies of the University of Stockholm and past Chief of FAO's Settlement and Tenure Branch, the manpower shortage is particularly acute in the agricultural sector, an observation which coincides with that of Huberman and Sweezy (8).

Table 1

The land and population density<sup>a</sup>

	Area (1)	Estimated Population in 1965 (2)	Gross Density (2) : (1)	Arable Land (4)	Density (2) : (4)
	km <sup>2</sup>	thousands		km <sup>2</sup>	
Cuba	110,924	7,631	69.36	19,700	381
Colombia	1,138,338	17,787	15.60	50,470	355
U.S.	9,363,390	194,583	20.22	185,150	102.30
World	135,330,000	3,300,000	60.26	1,461,000	216.29

<sup>a</sup> Adapted from *Statistical Abstract of Latin America*, pp. 3, 4, and 10. University of California, Los Angeles, 1966.

by which each family had the right to own a house. As a result, each family automatically owned the house in which it was living at the time of the law's passage, with rent being applied as the downpayment to the government for a period of 5 to 20 years, depending on the initial date the house was constructed. The amount of payment was limited to no more than 280 pesos<sup>2</sup> per month. The owners of the nationalized property received amortization of their property and monthly payments were made to them by the government, set at the amount of the monthly rental paid before the law was passed (11).

Along with urban reform there was a large investment in community development, primarily in the infrastructural elements of the community. For instance, according to the Ministry of Construction, in 1959 there were 303 urban communities of over 1,000 population, 175 of which had sewage systems, covering a total of 2,163,000 inhabitants. In 1967, there were 432 urban communities of over 1,000 inhabitants, 223 of which had sewage systems, covering a total of 4,316,000 inhabitants. This represents a doubling of the population covered by sewage systems (12). Regarding water supply, in 1958 only 35 per cent of the total population was served by piped water systems. And in the rural areas, 75 per cent of all families obtained their water from rivers, wells, and springs, with only 2 per cent receiving inside piped water (13). By 1969, however, 90 per cent of the urban population and 60 per cent of the rural population were covered by piped water systems (14).

Also, the urban and rural development policy inaugurated an active program of road construction to establish a network of road communications to cover the island, with the goal of 40,000 kilometers of roads by 1975 (from 6,000 in 1959). Consequently, the annual volume of road construction was 5,000 kilometers in 1969 (15a).

In housing, 11,089 homes were constructed each year during the five years following the Cuban Revolution. Forty per cent of these were built in the countryside as part of a program which set the highest priority on rural construction, with the eradication of slums and tenements in both urban and rural areas as a second priority (13). From 1967 to 1969, construction increased to an average of 16,600 homes per year, bringing the overall construction figure for the period 1959-1969 to 140,000 new dwelling units. This figure, however, fell short of the estimated 400,000 dwelling units required for 1970 (13).

Other pieces of legislation that seem to have furthered the process of equalization included two successive land reforms. According to the first, passed in 1959, land holdings larger than 1000 acres were nationalized by the government and distributed among many of the renters, sharecroppers, and landless peasants. At that time, the farmers, most of whom were landless before the reform, organized the National Association of Small Farmers, constituting the majority of the private farmers in Cuba today. The rest of the land was converted into state farms. It is noteworthy that in 1958, before the first land reform, U.S. firms owned 1.2 million hectares, a figure which represented more than 10 per cent of the land in Cuba, and that nine American corporations owned 46 per cent of the sugar production (15b).

During the second land reform, which took place in 1963, all holdings in excess of 67 hectares were nationalized and converted into state farms. After the second reform was

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<sup>2</sup> One Cuban peso is equivalent to one U.S. dollar, the parity being the same today as it was before 1958.

accomplished, the private sector comprised about 3.6 million hectares (39 per cent of the total) and the state sector, 5.5 million hectares (61 per cent of the total) (8, 16, 17).

### *The Employment Situation*

In 1962, 41 per cent of the labor force was involved in agriculture, 18 per cent in industry, and 41 per cent in services. In 1970, the figures had shifted to 29 per cent in industry and 30 per cent in services, but the figure for agriculture remained constant at 41 per cent. Thus, unlike most countries undergoing expansion in the industrial sector, the increase did not occur at the expense of the agricultural labor force.

To explain this rather unique phenomenon, economic development in Cuba over the last decade must be examined. After 1959, the new leadership chose to change the base of the economy, which was heavily dependent on sugar production (75 per cent of the gross national product) (15b). This crop represented 80 per cent of Cuba's exports and trade with the United States, and was by far the largest part of the country's exports and imports (8, 16, 17).

As a countermeasure, it was decided to diversify both agriculture and industry (the policy attempted in most of the developing Latin American countries). However, the policy failed, primarily because diversification in such a small country, for historical reasons economically integrated into the world market, could not be accomplished alone. With regard to industrialization, it was necessary for Cuba to import equipment and other raw materials for expansion within that sector, but a highly unfavorable balance of payments prevented this. Actually, there had been a steady decline in the balance of payments and, in 1965, the policy was revised to focus again on the sugar crop and also to emphasize only those industries that would in some way be related to either sugar production or cattle raising. In terms of the agricultural sector, a decline in sugar production was reversed, and today the percentage of the labor force involved in agriculture is the same as it was in the early 1960s. Moreover, the increase observed in the industrial sector has occurred only where the industry is related to agriculture. Consequently, these factors serve to explain the stability of the labor force within the agricultural sector.

Regarding the overall employment situation, according to Jacoby (7),

Cuba has become an ambitious country and today it displays the one fundamental characteristic which distinguishes it from most other underdeveloped countries: it has no unemployment problem; on the contrary, it has a painful labor shortage. [The reasons given for the lack of unemployment are] (1) the abolition of child labour through compulsory education; (2) the more or less general introduction of the 8-hour working day even during the peak seasons both in agriculture and industry; (3) the considerable expansion of the agricultural area combined with a diversification of agriculture, particularly through the introduction of labor-intensive crops such as coffee and citrus fruits; (4) the increased industrialization; and (5) the building of roads and dams, reforestation, house construction, etc. The army too absorbs a considerable part of the labor force, which it makes available for harvesting, reforestation and construction works.

With respect to salary scales, Zeitlin (18) notes that in a textile plant in Ariguanata, which employs 2,700 workers, an administrator earns 250 pesos per month, a skilled worker 300 pesos, and an unskilled worker about 95 pesos. He compares these wages to those of government officials, which range from 200 to 250 pesos per month for typical functionaries to a high of 700 pesos per month for cabinet ministers. Physicians, the most highly paid professionals, may earn from 400 to 700 pesos per month.

Two phenomena which draw the attention of the observer studying planning in Cuba involve the enormous sense of economic security felt by the public and the relative position of money as a means of exchange. The first was influenced by two government policies: one which established the "historical salary" whereby no one could ever earn less than the highest amount he had ever earned in the past (with the exception of political appointees), and the other, which dictated that no one could be fired from a job unless the decision was approved by the trade unions. Thus it seems that these two factors, along with the current economic climate of virtually no unemployment, have afforded the public a strong sense of security. Obviously, a number of questions relating to the effect that these two policies might have on the productivity of the Cuban labor force could be raised here.

Also, the combined factors of a public with wide purchasing power and a scarcity of goods (in addition to strict control of prices and the black market) seem to have given money a relative value. This situation may also explain the great emphasis the Cuban system places on moral incentives and group pressure (as opposed to monetary and material incentives) in stimulating production. Furthermore, the use of moral incentives is part of the Cuban leadership's commitment to the establishment of the new socialist man in a Communist society. For a discussion on the matter of incentives in the Cuban economy, see chapter 9 in Huberman and Sweezy (8). Arguments in favor of moral and material incentives are given in works by Guevara (19) and Leontief (20), respectively.

### *Changes in Mortality and Morbidity*

What has been the effect of this development on mortality and morbidity? Having briefly described the main characteristics of the Cuban population and the economic and employment situation, it seems relevant to give some indication of the mortality and morbidity in the country, before depicting the state of the health services.

Before approaching the subject of mortality and morbidity, it must be noted that data dating prior to and immediately after the Revolution must be used with caution. Indeed, any health investigator who has sought information in developing countries is familiar with the underreporting of and the somewhat incomplete and unreliable nature of most mortality and morbidity data. However, it is to the credit of the new Cuban government that, especially since 1965, high priority has been placed on establishing a reliable system of data gathering within the health sector in order to cover the whole population. The result of this policy can be seen in the area of death registration, where, for example, only 53 per cent of all deaths in Cuba were reported in 1956 (in rural areas the figure was even lower, where only 30 per cent were reported); but by 1969, 98 per cent of all deaths in the country were reported and documented with medical certificates (21).

Actually, it is most likely that the earlier incompleteness of the data and the subsequent improvement in data gathering techniques account for an apparent increase in infant mortality (37 per 1000 live births in 1965 to 40 per 1000 in 1969) (14). Some authors have hypothesized that the increase was due to a deterioration of the nutritional state of the population (13). Yet despite the scarcity of data about nutritional levels prior to and immediately after 1958, the available data would seem to refute this hypothesis. Instead, there is evidence to the contrary, that the nutritional level has improved significantly, particularly in the rural areas where malnutrition was common before 1958. Based on a study of the living conditions of agricultural workers in 1956 by the Catholic University Association, it was reported that malnutrition was widespread among most of

the rural population at that time, the average weight of the agricultural worker being 16 pounds below the national average. Also, in a three-day survey conducted by the same group, it was found that only 4 per cent of the rural population ate beef, 1 per cent ate fish, 2.12 per cent ate eggs, 11.22 per cent drank milk, and 3.36 per cent ate bread (15c). Other studies dating to that period arrive at similar conclusions, with MacGaffey and Barnett indicating that one-third of the Cuban population and 60 per cent of the rural population suffered from malnutrition (cited in reference 13). As in all developing countries, it is reasonable to assume that the percentage of malnutrition was higher among children than among adults, and that approximately 80 per cent of the children in rural areas were undernourished. (The adult-child malnourishment relationship is taken from reference 22.)

According to a 1969 report by the Food and Agriculture Organization (FAO) (15c), there was an estimated average intake of 2,650 calories per person per day in Cuba (this was higher than both the Latin American average and the daily requirement of 2,500 calories) (23). Protein intake was 64 grams, of which 29 grams, or 45 per cent of the overall protein intake, were of animal origin (24). This percentage is similar to the percentage of animal to overall protein consumption (45 per cent) in the group defined by the FAO "Third Survey of World Nutrition" (15c) as the group with "high consumption of calories" (the overall daily protein consumption in this group is 90 grams per day).

Besides these national estimates, nutritional and human development surveys of two rural areas in Cuba were made in 1967 by the Section of Nutrition of the Cuban National Research Institute of Hygiene. One was made in the rural area of Alguizar, in the Province of La Habana, which had 4,046 families and a total population of 17,015 (25). It found that 70 per cent of the children under 6 were well nourished and had normal weight, according to standards defined by the Institute of Nutrition of Central America and Panama (24), 25 per cent had malnutrition of first degree (healthy but vulnerable population), 5 per cent of the second degree; there was only one case of third degree malnutrition. Of the children 6 to 17 years of age, when applying the Baldwin weight scale (26), 97 per cent were considered to have normal weight.

The other study (27) was made in the rural area of San Andres de Caiguanabo, in the province of Pinar del Rio in one of the poorest areas in the country. With a methodology and standards similar to those used in the Alguizar nutritional survey, this study of 5,426 inhabitants found that 52 per cent of the children under 6 years were well nourished and had normal weight; 42 per cent had malnutrition of first degree (with a weight 90 per cent of the standard) and 6 per cent of second degree (with a weight between 78 per cent and 90 per cent of the standard). There were no cases of malnutrition of third degree. In the group from 6 to 17 years of age, 3 per cent of the males and 9 per cent of the females were underweight (between 70 per cent and 90 per cent of the standard). From a 3-day survey, it was also found that 39 per cent of the population drank milk, 15 per cent ate beef, 13 per cent ate eggs, and 9 per cent ate fish. Table 2 shows the average level of nutrition for that population.

The average caloric intake per person for the whole population of this rural area was 2,490 calories, which included 59.1 grams of protein per day.

As indicated earlier, caution must be taken when comparing the nutritional status of the public in different time periods, due to the limited record keeping before 1958. On the basis of what was recorded prior to that date, however, and allowing for the always



Table 2  
Daily caloric and nutritional consumption per capita in the nutritional and human development survey of the rural area of San Andres de Caiguanabo<sup>a</sup>

	Calories	Animal Protein		Vegetable	Total	Fats	Carbohydrates	Calcium	Phosphates	Iron	Vit. A	Thiamine	Riboflavin	Niacin	Ascorbic Acid
		gm	gm												
Average consumption	2490	22.1	37.0	59.1	72.1	402.2	552	899	18.8	409	1.26	1.06	13.4	138.0	
Recommended consumption	2520	—	—	56.3	—	—	886	—	11.9	1256	0.80	1.30	14.4	64.2	
Percentage of adequacy	99	—	—	105	—	—	62	—	158	32	158	82	204	215	

<sup>a</sup> Adapted from Nutritional Survey of San Andres de Caiguanabo. *Bulletin of Hygiene and Epidemiology* 7: 73, 1969 (in Spanish).

complex problems of comparability of terms and concepts used in different time periods, it still seems reasonable to conclude that rather than deterioration of the state of nutrition, there has been a definite improvement, which has very likely been the result of the advances in production and distribution (through rationing) of food across the country. Worth mentioning in this regard is that beginning in 1959, all children under 7, persons 65 and over, the sick, and the miners received a half liter of milk delivered to their homes free of charge; in 1969, the amount was increased to one liter per day.

In 1969-1970, the following food items were included within the rationing program: meat,  $\frac{3}{4}$  pound a week in Havana,  $\frac{1}{2}$  pound outside; fish  $\frac{1}{4}$  pound a week; butter, 2 ounces a month; eggs, 3 a week; coffee,  $1\frac{1}{2}$  ounces a week; bread, 4 ounces a day; rice, 3 pounds a month; sugar, 6 pounds a month; cooking oil, 12 ounces a month; chicken, offered only to miners or aged on production of a medical certificate (28).

These figures would seem to reinforce the observations of students of the Cuban situation, such as Hugh Thomas (28), who notes that:

Cubans now probably all have enough to eat (although) just enough. And in the country, particularly in Oriente province, the very poor peasants must be fed better and more regularly than before the revolution; and nearly everyone has better meals than they did before the terrible years of the depression which lasted so long in Cuba.

Regarding overall mortality, it is important to note that there has been a significant decrease in the mortality due to waterborne diseases, specifically gastroenteritis and other diarrheal diseases. Indeed, this category, which was the third highest cause of death in 1957, was the eighth ranking cause of death by 1967, and mortality due to these conditions declined from 42.5 to 20.1 per 100,000 population during the period 1957-1967. Gastroenteritis, the number one cause of infant mortality in 1959 and 1962, declined to the fourth rank by 1967. In that year, the main causes of infant mortality were pneumonia and congenital malformations (29). And, as symptomatic of the control of infectious diseases, the first three causes of mortality in 1969 were heart disease, cancer, and cardiovascular conditions, in that order, which is exactly the same order as that in the United States.

With regard to morbidity, the system of recording has been instituted progressively throughout the island, providing a medical intelligence and surveillance for reportable conditions. Figures 1A and 1B show the decline in the incidence of some of the registerable conditions such as typhoid fever and diphtheria, as well as the eradication of others such as malaria and poliomyelitis. Paradoxically, there has been an increase in other reportable conditions such as infectious hepatitis. Parallel to the increased control of infectious diseases there has been a corresponding increase in the prevalence of chronic conditions.

To summarize, then, it seems that the changes in socioeconomic development in Cuba have determined a change in the mortality and morbidity patterns, particularly in control of waterborne diseases, in reduction of the level of malnutrition and in the increased prevalence of chronic conditions. To what extent each component of that development influenced the change in these patterns is unknown. In that respect, this problem—quantifying the causal relationship between factors of socioeconomic development and health—is one of the most pertinent and pressing tasks for health planners, not only in Cuba, but in other countries as well. And it would seem that Cuba, having undergone the most profound economic changes in a relatively short period of time, could provide a likely background for this type of research. In this regard, the development of a reliable

data gathering system in that country seems to augur promising possibilities. Thus, exploration of some of these complexities could perhaps resolve the still unanswered questions regarding the level and nature of political, social, and economic investment that a country must make to improve the health of its people.

### THE CUBAN HEALTH SERVICES

#### *Structure of the Health Services*

The Cuban health facilities are publicly owned by the central government, and all personnel are paid according to a salary scale based on type of profession, experience, and

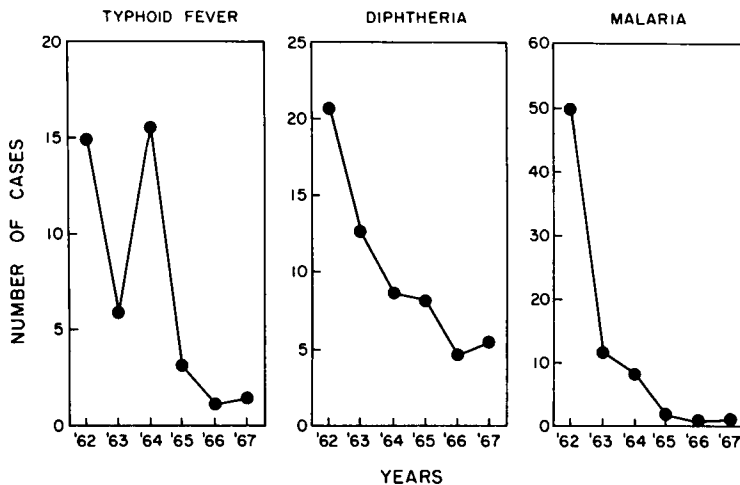


Figure 1A. Incidence rates for 100,000 inhabitants for typhoid fever, diphtheria, and malaria, Cuba 1962-1967.

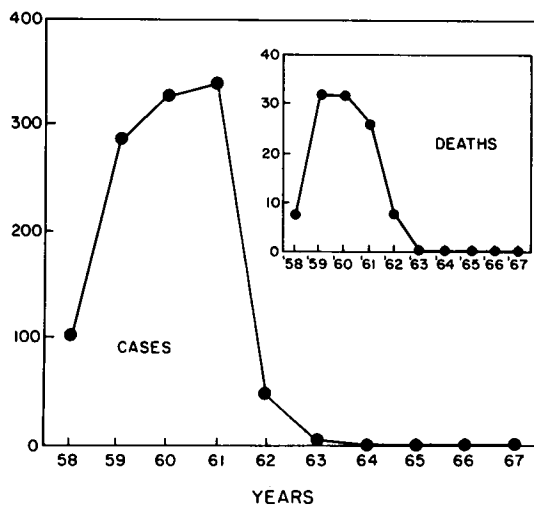


Figure 1B. Poliomylitis: cases and deaths, Cuba 1958-1967.

training. The services provided, whether preventive or curative, environmental or personal, medical or social, as well as the drugs, are practically free of charge.

The Cuban health services are administratively organized into seven health provinces of approximately one and one-quarter million people each. These seven provinces correspond to the six political subdivisions in the country, with the largest province (Oriente) divided into two health provinces due to the size of its population of nearly three million inhabitants. Each province is further divided into several regions of approximately one-quarter million people, each region into several areas<sup>3</sup> of approximately 30,000 people, and each area into several sectors of 3,000-5,000 people.

At every political level, whether province, region, area, or sector, the health services are grouped together according to the type of care provided: primary or community care at the area level, secondary or specialty care at the regional level, and tertiary or super-specialty care at the provincial level.

The types of facilities are thus grouped in these three levels:

- provincial hospital centers, providing tertiary care or super-specialty services to a population of approximately one and one-half million,
- regional hospital centers, providing secondary or specialty care services to a population of approximately one-quarter million,
- health centers (also referred to as polyclinics) at the area level, providing primary care or general medical services and ambulatory secondary services to a population of approximately 25,000-30,000. Every health center has several sectorial units, each providing some supportive primary care services for a population of approximately 3,000-5,000.

Through referrals, there is a continuous flow of patients within these levels, from the periphery (the area) to the center (the province) and a flow of consultants and supportive resources from the center to the periphery. In this manner, the three levels of care are regionalized, with the objective of providing integrated care to the communities. In this scheme, integrated care is meant to be the coordination of curative with preventive medicine, environmental with personal health services, and medical with social services, at the area, regional, or provincial level.

The reorganization of the health services began in 1959, starting with a restructuring at the system's center with the development of the provincial centers, and continuing afterwards with the regional centers. Later, in 1965, the health centers and the sectors were established as part of a national policy to create resources, human and otherwise, that could be made available to the whole population, thus effectively covering the public with a network of health centers. In effect, the development of the health services emanated from the center (the provincial center) to the periphery (the health center and its sectorial units).

*The Health Center.* The health center or polyclinic, one per area, is the smallest administrative unit providing health services and is responsible for rendering integrated care to a geographically defined population for which it acts as the primary source of care and also as the point of entry to the health services system. Although practically nonexistent before 1959, today there are 268 health centers which are classified into

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<sup>3</sup> The area is an administrative unit indigenous to the health services. Recently, in the province of Oriente, the school system developed a similar administrative unit called the district, which works in coordination with the health services area (10).

three types—A, B, or C—depending on their size, which is related to the size and density of the population to be served. An A health center, the largest type, has maternal and child care beds as well as observation beds, and is sometimes referred to as a rural hospital. The design of each type is standardized by the Design Division of the Ministry of Construction.

The health centers broaden their outreach to the community by way of the sectorial units which are staffed by paramedical personnel (auxiliary public health nurse and an assistant technical sanitarian), supervised by the health center staff. Sectorial units are administratively dependent on the health centers.

The primary care services provided at each health center include (a) clinical (curative and preventive) services divided into the four specialties of internal medicine, pediatrics, obstetrics-gynecology, and dentistry; (b) environmental health services; (c) public health or community services; and (d) social services. These four types of services are the responsibilities of four different teams. The clinical team includes different groups: internal medicine, pediatrics, obstetrics-gynecology, and dentistry groups, with primary care specialists, specialized nurses, and auxiliary nurses in each group.

As to the clinicians, the three types based in each health center are:

1. General practitioners, usually the older physicians who worked in solo practice before 1959 and are now located in health centers. Once they retire, they are not replaced by the Ministry, whose policy is to staff the centers completely with primary care specialists, i.e. internists, pediatricians and obstetrician-gynecologists. It is interesting that the Ministry's policy has been to structure primary medical care according to specialties delineated by patient age and sex, as suggested in Britain by McKeown (30), and not according to the general practice concept as defined by Scott (31) and Titmuss (32). Their rationale for this scheme was that specialization along age and sex lines was necessary to achieve integration of primary and secondary care with hospital care (33).
2. Physicians serving their two years of compulsory health service in the rural health centers, after their medical training. These physicians work as primary care specialists in the health centers and also part time in the hospitals (provincial and regional).
3. Primary, secondary, and tertiary care specialists working at the health centers on a part-time basis. Again, Ministry policy stipulates that most physicians must divide their time between the hospitals (either provincial or regional) and the health centers. Thus, due to the fact that many of the physicians working in the health centers are on a part-time schedule (and to a lesser degree this applies to other professionals, as well), the minimum staffing requirements for each center are given in man-hours instead of total number of physicians and other personnel.

The minimum health center staff includes the following: one director who is a full-time administrator and who has most likely received public health or medical administration training; four internist-hours per day per 15,000 people; four pediatrician-hours per day per 3,000 children (0-14 years of age); four obstetrician-gynecologist hours per 20,000 women; eight dentist-hours per 7,000 people; one dental assistant per 15 dentist-hours; eight nurse-hours per day per area (one nurse per area); one auxiliary nurse per sector (3,000-5,000 people); one administrator, who is chief of administration; one statistical clerk, who is chief of statistics; eight laboratory technician-hours per 15,000 people (one

laboratory technician per area); one auxiliary technical sanitarian per two sectors; and one assistant technical sanitarian per 2,000 people (the assistant technical sanitarian is a more junior position than the auxiliary technical sanitarian, and is a community worker who has had training in health supervision of environmental services) (34).

These minimum staff requirements were not only met but surpassed in most health centers in Cuba, except with respect to dentists, dental assistants, and auxiliary technical sanitarians, since there is a great shortage in these areas (33).

Besides the primary care services, supportive secondary and tertiary care services are offered in the health centers on a referral basis and are mainly provided by the medical specialists who are attached to the centers from the regional and provincial hospitals.

From this author's observations, it seems that there is a great utilization at the health center of nurses and particularly of nurse assistants and auxiliary personnel. The nurses are grouped according to their specialties, i.e. pediatric, adult, and public health or community nursing, working within the different groups and teams referred to previously. The adult and pediatric nurses are attached to the health center on a full-time basis, working with the clinicians as their assistants. It seems that they have more clinical responsibility than their counterparts in the United States and Britain, since, for example, they routinely administer intravenous injections and make house calls (physicians do not do the latter). The community or public health nurses, whose work is similar to that of the public health nurses in the United States and Britain, work more independently. Their work includes clinical immunizations, health education, and keeping a registry of all children and pregnant women in the community.

The social workers' role is to assist patients, guiding them in their use of the social and rehabilitation services. The auxiliary technical sanitarians, under the joint supervision of the director of the center and the regional chief of environmental health services (a technical sanitarian), are responsible for the health supervision of the environmental services, e.g. water supply and sewage services.

Health center activities are grouped into eight programs: maternal and child care, adult medicine, dentistry, control of infectious diseases, environmental services, food control, school health services, and occupational and labor medicine. The activities within each program are standardized and normalized by the Ministry of Health, via the provincial and regional administrations.

*Regional Hospital Center.* The regional hospital center, where secondary care is concentrated, is the next level at which health services are provided. The average regional hospital center has 250 to 350 beds, and there are a total of 38 regional hospital centers in the country.

In addition to the four basic specialties of pediatrics, internal medicine, obstetrics-gynecology, and dentistry, other services provided at this level include urology, ophthalmology, ear, nose, and throat, dermatology, psychiatry, orthopedics, traumatology, cardiology and angiology. Also included are clinical laboratory and radiology services, along with public health laboratories, blood banks, and tuberculosis clinics.<sup>4</sup>

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<sup>4</sup> These services compare to a certain extent with those suggested by the Joint Working Party of the Scottish Home and Health Department for the district hospital to serve a population of 150,000-300,000; they include general medicine, general surgery, geriatrics, obstetrics and gynecology, pediatrics, mental health, orthopedics, and supportive services such as anesthesia, radiology, clinical

A characteristic of these centers, as well as of the provincial hospital centers, is that with the exception of some services (such as endocrinology), most of the services offered there are inpatient services, because practically all outpatient services are provided at the health centers. All hospital clinicians from both the regional and provincial hospital centers spend two to three sessions per week at a health center (usually the same one), with the frequency depending on seniority and specialty. Professors spend two sessions per week and most other clinicians, three sessions per week, with at least one session devoted to preventive services, e.g. school health services, occupational screening. Each session lasts for four hours.

*Provincial Hospital Center.* The provincial hospital center, the third level at which services are provided, is the locus for tertiary care facilities. Tertiary services include allergology, neurology, neurosurgery, nephrology, hematology, oncology, virology, occupational medicine laboratories, sports medicine, and rehabilitative medicine. In addition to the tertiary medical services, provincial hospitals occasionally provide various institutional services (grouped either within or outside the same medical center), which may include a general acute hospital of 250-500 beds, an obstetrics-gynecologic hospital of 200 to 400 beds, blood banks, tuberculosis clinics, a psychiatric hospital, and rehabilitation units. In some of these provincial centers, the three levels of care—primary, secondary, and tertiary—are administratively and physically integrated following a scheme not unlike the balanced community hospitals described by McKeown (30) in Britain. As in the regional hospital centers, the clinicians who work in the provincial hospital centers must also work part time in the health centers.

Besides the health centers and the regional and provincial hospital centers, there are national units which serve the whole country, such as the National Psychiatric Hospital in Havana, where approximately 75 per cent of all the psychiatric beds in the country are housed. Also, there are national research institutes that serve as the main research centers for each specialty. This centralization of research at the national level seems to be due to a scarcity of research resources which are thus centralized for better utilization. But, in keeping with the overall scheme, most researchers working at these institutions also do clinical and/or laboratory work either at the provincial or regional hospitals and at the health center level.

#### *Major Characteristics of Health Services Development in Cuba: General Observations*

To an outside observer, the following points seem to characterize the development of health services in Cuba over the last decade.

1. After 1958, hospital services were centralized according to a defined regional model which grouped the different types of services by the level of care (secondary or tertiary) provided. The main motivation for this centralization seems to have been concern for maximizing the efficiency of the total system and avoiding duplication of services. This centralization necessitated closing small hospital units generally located in the urban areas which supposedly duplicated services and were inefficiently run. Thus, while the total number of hospitals was reduced from 339 in 1958 to 219 in 1969, the average size of

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chemistry, hematology, medical microbiology, and pathology. For larger populations, it was suggested that services such as ophthalmology, dermatology, otolaryngology, and urology be provided (35). Similar recommendations have been made for comparable types of hospitals in Sweden (36).

hospitals increased from 83 beds to 181 beds during the same period. Simultaneous to closing these small urban hospitals, an ambitious program of hospital construction was devised to expand existing hospitals and create new ones, particularly in the rural and indigent areas. Of the 41,027 hospital beds existent in 1969, 63 per cent were built during the decade 1958-1968. Of the total number, 72.4 per cent are general beds (19.7 per cent medicine, 17.2 per cent surgery, 22.2 per cent pediatrics and 13.3 per cent obstetrics-gynecology) and 27.6 per cent are specialty beds (psychiatric, tuberculosis, cancer, and others) (37).

2. There was a process of regional equalization, with high priority given to the rural and indigent areas. In 1959, for example, the city of Havana, with only 22 per cent of the population, had 54.7 per cent of all beds, while the province of Oriente (one of the poorest provinces in Cuba), with 35 per cent of the population, had only 15.5 per cent of all beds. However, as a result of the attempt to equalize the distribution of resources, ten years later, the percentage in Havana had decreased to 40 per cent of all beds, while in Oriente it had increased to 23 per cent. Thus, although regional disparities still existed, a great effort was made to diminish them, and consequently, the ratio of beds per 1000 population declined in Havana from 14 per 1000 in 1958 to 12 per 1000 in 1969; during the same decade, the ratio increased in all other provinces, particularly in the indigent ones, i.e. Camaguey (2.4 per 1000 to 5.5 per 1000) and Oriente (1.6 per 1000 to 3.7 per 1000) (37). This type of change is but one example of the equalization program according to which 47.4 per cent of new hospital beds were placed in the province of Oriente, while far fewer were allotted to Havana (the rate of increase of hospital construction during this decade was only 8 per cent in Havana compared with 184 per cent in Camaguey and 147 per cent in Oriente). Another goal of the equalization policy was to increase the number of health centers in areas previously lacking health services. Thus, of the 236 new health centers which were built, over 50 per cent of them were allocated to the rural areas where they were totally nonexistent before 1958.

3. There was an increasing reorientation of the entire health services system from the hospital to the community. Inheriting a situation where there was a tremendous scarcity of health resources (both manpower and facilities), the government adopted a policy of centralizing the limited resources at the provincial centers first, and at the regional centers afterwards. But, parallel to the centralization of hospital care (care of the horizontal patient) at the provincial and regional levels, there was a decentralization of ambulatory care (care of the vertical patient) from the hospital outpatient departments to the health centers, along with the creation of a large number of these centers, in order to offer health services to all communities in the country.

As evidence of the success of this effort, figures show that in 1964, 32 per cent of all medical visits occurred in the health centers, and by 1969, the percentage had increased to 65 per cent. While the centers still seem to operate as annexes to the hospitals, it is likely that they will evolve as separate entities and function as the basic unit within the entire health sector since more resources are steadily being allocated to them as they continue to expand. This change seems to be the policy of the Ministry of Health (38).

4. An overall increase in the utilization of health services by the total population accompanied the process of regional equalization. Indeed, the patient bed-days per 100 inhabitants per year increased from 82 in 1964 to 92.6 in 1969 (the highest rate in Latin America) and the number of patients admitted per 100 increased from 10 in 1964 to 12 in 1969 (37). With regard to ambulatory visits to physicians, the figure increased from



2.01 in 1963 to 4.06 in 1969, with the highest proportion of increases among children under one year of age (4.7 in 1967 to 6.8 in 1969). Again, the greatest increases occurred in the indigent regions such as Camaguey and Oriente, where the rate of increase from 1963 to 1969 was 185 per cent, as contrasted with Havana, where the rate of increase was 83 per cent for the same time period (38).

### *Human Resources Development in the Health Sector*

**Physicians.** In 1959, there were 6,300 physicians in Cuba, 65 per cent of whom were located in Havana. After the change in government and subsequent nationalization of the health services, approximately 3,000 physicians left the country during the five years following the Revolution (33). In response, the new government launched a massive campaign to attract university students to the medical profession. As part of the campaign, physicians were and are paid the highest salaries of all professionals in Cuba and are given special privileges such as double gas rationing within the overall policy of rationing. Moreover, they seem to enjoy the highest prestige of all professional groups. Besides this campaign, a national policy begun in 1960 established a system of free education, including university studies. All students, following completion of their baccalaureate degree, could study any career of their choice, without restriction by quotas or monetary constraints. Consequently, the total number of university students increased considerably; the number of medical students rose in particular, due to the great attractiveness and popularity of the medical career. In 1970, applicants to medical schools represented 30 per cent of all applicants to university programs.

The result of this intensive effort was that 5293 new physicians were trained between 1959 and 1970, bringing the total number of practicing physicians today to over 7000. Of these physicians, 600 are in part-time private practice and 80 in full-time private practice; most of these are in Havana and were in practice before 1958. All physicians in the public sector are salaried; salaries are the same for all specialties, with variations only for individual seniority and years of service.

The new physicians were distributed throughout the island following the aforementioned policy of regional equalization, according to a mapping of manpower needs within the country. In this way, job opportunities were made available in underdoctored areas, while positions were closed in overdoctored areas (similar to the process of equalization of medical manpower followed in 1948 in Great Britain in the National Health Service). Consequently, the proportion of physicians in the capital was reduced from an initial 65 per cent in 1958 to 55 per cent in 1968 and to 42 per cent in 1971. At the same time, there was a steady increase in the number of physicians in rural areas, with the lowest physician-population ratio today at one physician per 3000 inhabitants.

Along with the changes in the quantity and distribution of physicians, a program was initiated to upgrade their quality, as well. In 1962, all physicians in Cuba were classified into three categories according to their years of experience, publications, and so forth, by committees of peers composed mainly of professors in the different specialties in the medical schools. The categories were either general practitioners or specialists of the second or third degree. Today, specialists of the second degree are the board certified physicians who have completed their residencies. After five years of second degree classification, they may apply for the third degree classification, with approval dependent on their work, publications and other criteria defined by the peer review committee of each specialty.

To this observer, it seems that there are two factors which were especially significant in the process of medical manpower planning in Cuba over the last decade.

1. As a crisis response by the government to the flight of 3000 physicians from the island, many new physicians were trained to replace them in a very short period of time. As was said earlier, incentives were provided to encourage university students to choose medicine as their career and there was also an enlarged pool of applicants due to the new government's policy of free university education.

Also, because of the new open-admission policies, the recruiting base for the medical profession changed radically and large numbers of middle-class women,<sup>5</sup> who traditionally (before 1958) chose nursing or teaching as their careers, shifted to medicine; thus, in 1970 50 per cent of all medical students were women.

Once having replaced and even exceeded the number of physicians who left the country, the central administration began to be concerned that the great effort to train medical manpower may have created a relative manpower imbalance within the overall development of human resources in a country which also has a great need for veterinarians, engineers, architects, and others. To remedy this, as a first step, a quota was established in 1971 which reduced the number accepted by the medical schools to 20 per cent of all university applicants. Also, more attention is being given to the development of new types of personnel such as medical or dental assistants (sometimes against initial opposition from the medical or dental profession), and to the upgrading of other personnel, such as nurses, who could assume a larger load of the clinical responsibilities of the physicians under their supervision.

2. The government encouraged physicians, particularly those from academia, to participate in the planning and administration of health services. In so doing, advisory planning task forces composed of physicians were created at the ministry level to establish the norms, standards, and programs that would serve as guidelines for the design of the health sector. The consequences, strengths, and weaknesses of this policy, as seen by this observer, are described later in the section on the planning process in the health sector in Cuba.

*Dental, Paramedical, and Auxiliary Personnel.* Besides the marked increase in the number of physicians, there was also a significant increase in the number of dentists, from 250 in 1958 to 1081 in 1967. In addition, the number of paramedical personnel in all branches of the health services grew, although somewhat less remarkably. With regard to registered nurses, the figure rose from 2500 in 1958 to 4373 in 1968. When compared with the growth rate of other health professions, the rate for nursing manpower is small, and seems to be the result of the opening of the medical profession to women who, as mentioned before, previously entered the nursing field. Also, and not unlike the situation in other countries known to this observer, nursing in Cuba today is in a period of "soul searching," with new policies currently being explored by the Ministry to make the nursing career more attractive. To this effect, there are plans for upgrading the training program to a university degree program and for improvement of the nurses' working conditions.

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<sup>5</sup> The term "social class" is used here not as defined by its relationship to the ownership of the means of production (which are publicly owned today) but as the set of values and norms identified with the previous social structure of Cuba, norms and values which still remain in Cuba today.

Besides the concern shown for the medical and paramedical personnel, a considerable effort was made to increase and upgrade the auxiliary personnel. From 1959 to 1968, 7660 auxiliary nurses, 796 x-ray technicians, 1755 laboratory technicians, 931 auxiliary technical sanitarians and 346 dental assistants were trained; prior to 1959 no training programs for these professions were in existence. As part of the overall policy of upgrading personnel, even witch doctors (*curanderos*) were integrated within the health services system and were included on the Ministry's payroll. After a training period of two months, they were given positions as educators and assistants to auxiliary personnel working in the health centers (39).

To summarize the development of human resources in the health sector in Cuba, it seems that there was impressive growth in all categories of health manpower, but that the highest priority was given to the training of physicians. However, considering that a great percentage of physician tasks could be assumed by nurses or other personnel, and that the training of a nurse (three years after secondary school) is much less costly than the training of a physician (15 years after secondary school), it seems that the emphasis on training physicians as opposed to paramedical personnel may not have represented the best use of the country's resources in the past. But overwhelming political considerations (the crisis response to the loss of almost half the country's physicians) may explain that policy. At the time, response by the national leadership to this exodus of physicians was not to substitute them with less-highly trained personnel but with other physicians, since the leadership was committed to the principle that the Cuban Revolution could not offer less, but rather would have to offer more than the previous government. As the goals of replacing those lost numbers are being achieved, however, the priorities are being changed and the medical manpower pyramid is now increasingly being enlarged at the base with auxiliary personnel and at the middle with paramedical personnel (at an impressive rate, by any standards of comparison). Consequently, growth at the top of the pyramid, with medical personnel, has recently declined.

### *Medical Education*

Along with the active recruitment of new physicians, an upgrading of practicing physicians (already mentioned) was begun. Also, medical education was changed and improved, establishing:

- a one-year internship after the existing five years of medical school
- two years' compulsory rural medical service, with practice in rural hospitals and/or rural health centers
- 42 residencies, of two to four years' duration, aimed at training physicians who could then apply for certification in the specialty boards or classification as specialist of the second degree.

The educational ladder in Cuban medical education today involves seven years of primary school, three of secondary school, three of the baccalaureate program, and six years of medical school. Of the last six years, the first two are devoted to the basic sciences, which include, among other courses, epidemiology, statistics (taught by the department of epidemiology), and social medicine (health services administration). The

next three years are for clinical work and the sixth year is the internship, which was established in 1963 (see Figure 2).

The curriculum for the first five years of medical school was changed in 1968 in the Medical School of Havana in such a manner that the teaching, which was formerly done by departments (e.g. pediatrics, obstetrics) is now done by systems (e.g. circulatory system, nervous system) and all the departments participate in the new scheme. Motivated by pressure from the student body, the new approach seeks to avoid the duplication inherent in the older, traditional method.

There are different kinds of internships, and the one the student selects is determined by the specialty he intends to choose for his residency. Besides the clinical rotating internships, there are straight internships in internal medicine, surgery, pediatrics, ear, nose, and throat, and other specialties. As part of his training, the intern, as well as the senior medical student (the fifth-year student), must attend two sessions a week at the health centers, where he works under the supervision of the residents, with each session lasting four hours. Also, during the fourth, fifth and sixth years, medical students must work in the sugar cane camps where they are responsible, along with a nurse and an auxiliary technical sanitarian, for all health services for approximately 2000 sugar cane workers.

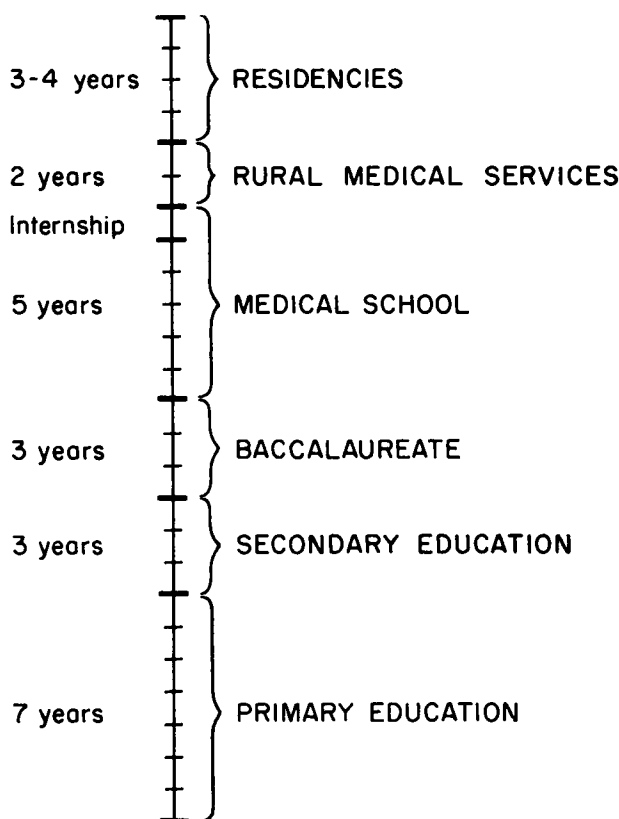


Figure 2. Medical training

The choice of internship is made in the fifth year of medical school, at which time the student applies for an internship that is "open," with the availability of internships regulated by the Vice-Ministry of Medical Care and Teaching within the Ministry of Health. (The first five years of the medical curriculum are administratively run by the medical schools which are part of the university and are administratively dependent on the Ministry of Education. The internship and residency programs, along with the rural medicine program, are administered by the Ministry of Health.) Once the internship is completed, the new physician must work for two years in the rural medical service, either in a rural hospital or rural health center.

In 1970, 80 per cent of the new physicians, having completed their rural medical service, continued their training in the residency programs which encompass 42 specialties—38 in medicine and 4 in dentistry. The residency must be in the same specialty as was studied in the internship and is done either at the teaching hospital or the national research institutes. Also, all clinical residents must spend three sessions a week at the health centers or polyclinics. For those who choose one of the four public health specialties (epidemiology, hygiene or sanitation, nutrition and health services administration), study at the National Teaching Unit of the Ministry of Health is required. Worth mentioning is that only the top 10 per cent of the class and those who have shown particular dedication in the internship and rural medical service are accepted for the four public health residencies.

The residencies vary from two years (public health residencies) to three or four years, and lead to board certification or the classification of second degree specialist. After a minimum of five years of practice, and depending on number of publications, experience, and special courses and other continuing educational measures, the classification of third degree specialist may be granted by a peer review committee for each specialty.

#### *Additional Comments on Medical Education*

Of all developing countries, Cuba seems to be one of the most innovative and experimental with regard to new schemes of education. Indeed, the radical change in the economic infrastructure of the country as a result of the Cuban Revolution has generated a new spectrum of opportunities, particularly at the educational and institutional levels. However, this great opportunity and challenge may, in the opinion of the author, also involve great risk. For unless educational and institutional change follows the change of the economic infrastructure, these institutions may be perpetuating values that date to a previous infrastructure and may conflict with the development of that change. This historical experience applies to the health sector as well as any other social or economic sector. Actually, beginning in 1959, the organizational and administrative infrastructure of the health services in Cuba changed substantially. Medical education, however, did not change until later, during the years 1963, 1965, and 1968. Indeed, it may be said that the steps taken to upgrade medical education, i.e. internship programs, rural medical services and residency programs, were taken within the conceptual framework that existed prior to 1959, and were designed only to upgrade rather than to produce a new type of physician. The medical curriculum in the medical schools was very similar to that of the years prior to 1959. And, it seems that the emergency situation produced by the flight of physicians and the need to replace them did not favor an evaluation and restructuring of the medical curriculum.

As a provisional measure, the syllabus was left intact, and the solution was one of numbers of physicians and not of new types. However, it is to the credit of the Cuban Revolution that provisional measures did not become (as often happens) lasting ones. In this respect, a more coordinated curriculum evolved in 1968.

Moreover, prior to and in addition to the curriculum change, two other developments had substantial impact on the emergence of a new type of physician. First, there was the increasing orientation of the health services system toward community care, with the hospital departments of the teaching institutions taking responsibility for the integrated care of defined populations. This occurred simultaneously with the extensive construction of health centers, which became an increasingly important academic base for teaching. Actually, the percentage of the curriculum time that senior students (those in their fourth and fifth years of medical school) currently spend in the health centers under the supervision of the interns and residents, seems to indicate that the Cuban medical curriculum is among the most community oriented of those known to this observer.

Second, the teaching of epidemiology and social medicine was increasingly done by clinicians working in the clinical departments with support from the epidemiologists working in the department of epidemiology. This followed a deliberate policy by that department of maximizing its influence on the medical students through the clinical departments.

Last, but not the least important factor, is that the community orientation of the new physicians seems to have been strengthened by the emphasis on social motivation and social concern that appears in most of the educational systems in Cuba today, including university and medical education.

### *Medical Teaching Institutions*

Today in Cuba there are three medical schools (only one existed prior to 1958), and these are part of the medical complexes at the provincial centers. However, regional hospitals and health centers are also used as teaching units within the medical teaching system. A characteristic of the teaching staff of the medical schools is that as part of their teaching responsibilities, they must also provide services. The teaching institutions, like any other unit within the health services system, are responsible for defined populations and are integrated within the regional scheme mentioned before. For the most part, research is centralized in the National Institutes of Research within the Ministry of Health, institutions similar to the National Institutes of Health in the United States.

Within the Ministry of Health, in the Vice-Ministry of Medical Care and Teaching, is a National Teaching Unit that in practice operates as the School of Public Health for the country. Its faculty have administrative appointments within the Ministry as well as academic appointments.

The basic training programs offered by the Unit are the public health residencies which are designed to train epidemiologists, sanitarians, nutritionists, and health services administrators. Designed as two-year programs, the first year is spent on courses which are similar to those taken in an American M.P.H. or British or Canadian D.P.H. program, while the second year is spent mostly in practical work in the different branches of the health services, the work varying with each type of residency. Most of the students are physicians, although there is increasing conviction that with regard to some professionals, such as technical sanitarians, a better use of resources would be to train engineers instead

of physicians to this profession. However, this shift is still not possible today because of the dearth of engineers.

The National Teaching Unit is also the top authority and policy making body with regard to the training of paramedical and auxiliary personnel. Administratively and functionally dependent on the National Teaching Unit are the provincial teaching units or schools (one in each province), established to train paramedical personnel (physical therapists are the exception, as they are trained at the National Teaching Unit), and the regional teaching units or schools (one in each region), designed to train auxiliary personnel for the health services.

### *Internal Mobility within the Health Field*

A characteristic of the educational programs for the health professions is the upward mobility built into the programs so that no one degree or career is closed to advancement. For example, a graduate of the auxiliary nurse program (a one-year training course at a regional school) may, after one year's experience as a pediatric or general auxiliary nurse, take two years of additional training in a provincial school and become a pediatric or general nurse. The other route to the nursing degree is the three-year training program at a provincial nursing school following secondary school completion, with subsequent specialization in pediatrics, general nursing or obstetrics-gynecologic nursing. The nursing degree is equivalent to a pre-university or baccalaureate degree.

The nurse may specialize further at the Ministry's National Teaching Unit in public health nursing (after one year of experience), anesthesiology, or intensive care (after two years). Another option which will be offered in the mid-1970s will be for the nurse to obtain an academic, university-based nursing degree (after three years), and it is proposed that with additional study, the nurse who has this type of degree could become a physician.

Besides this vertical mobility, the training of Cuban health professionals is characterized by a horizontal mobility which allows for movement while in training from one specialty to another or even from one profession to another. This is primarily true of the medical schools, where the attrition rate is very high (almost 50 per cent of the freshman class does not finish), and many students are able to shift to the biological sciences or veterinary medicine, since a considerable number of the courses are coordinated and considered interchangeable. Actually, because of the disproportionately high number of physicians being trained in relation to other professionals, the Ministry is presently encouraging the horizontal movement of students from medical school to other professional training programs, particularly veterinary medicine.

## THE HEALTH PLANNING PROCESS

### *Brief Notes on the Socioeconomic Planning Process*

Before describing the socioeconomic planning process in Cuba, the term planning should be clarified. Indeed, planning is one of the terms most frequently used in current socioeconomic literature. But because of its various meanings, its use is often misinterpreted, and thus a definition of this term is required. According to this author, planning is a function in decision-making and the latter is defined as the process of choosing goals

and objectives, selecting the alternative to be implemented, and effecting its actual implementation. Within this overall process are included the three functions of planning, evaluation, and implementation. Specifically, planning defines the objectives, and the alternatives to reach them, from which the decision-makers will choose; evaluation involves determining to what degree the alternative chosen has achieved its objectives and analyzing the effect of its various components; and administration or implementation involves the actual carrying out of the chosen alternative. It is hoped that this somewhat schematic presentation of the decision-making process will help the reader to better understand the observer's perception of the decision-making and planning processes taking place in Cuba today. For a more detailed description of the author's perception of planning, see reference 40.

### *The Decision-Makers*

The ultimate political and decision-making power in Cuba rests with the Communist Party and mass organizations, while planning, administrative, regulatory, and supervisory activities are the functions of the central and local government.

There were 70,000 Communist Party members in Cuba in 1969. One of the Party's main functions is to lead the mass organizations and coordinate the administrative and planning agencies at each level of government. The top authority within the Communist Party is the Central Executive Committee composed of 100 members elected by the six provincial executive committees, which have been elected by the regional executive committees, in turn elected by the sectors' executive committees, which, lastly, have been elected by the executive committees of the productive units. The smallest political unit within the Party is a productive unit (which is any employing agency) such as a university, factory, or hospital. Members of the Party must be elected as "exemplary workers" by the employees of the productive units before they can be appointed into the Party (41).

Besides the Communist Party, there are several mass organizations that participate (under the leadership of the Party) in the decision-making process. As will be described later in this article, these mass organizations actively participate in the health field. Among these organizations are:

1. *Committees for the Defense of the Revolution*, elected in housing blocks by the citizens living there, currently have a membership of three million people. Established after the Cuban Revolution, the main objective of these Committees was the mobilization of the population against foreign and internal enemies of the Revolution. Today, however, their responsibilities include, among others, assisting with the immunization campaigns, the fight against flies and mosquitos, cleaning and repair of streets, and construction of schools and parks.
2. *The Federation of Cuban Women*, a voluntary organization of adult women founded in 1960, has taken an active role in campaigns for eliminating illiteracy, creation of child care centers, the integration of women into the labor force, and sponsoring of special agricultural programs, such as tractor-driver courses.
3. *The Association of Small Farmers*, founded in 1961 after the first agrarian reforms, includes the small landholders who either obtained land through the agrarian reforms or held it previously. It functions as an agricultural fraternity or trade



union, protecting the interests of small farmers, and actively participates in campaigns related to rural health services.

4. *Trade Unions*, whose purpose is to defend the rights of the workers, stimulate production, and participate in programs to promote occupational health.

These mass organizations exist at the local, regional, provincial, and national levels, and representatives of each meet together at each level in People's Councils. The councils have various committees, one of which focuses on health, and is referred to as the People's Commission on Health.

*The Planners.* For socioeconomic planning, the National Planning Office (JUNPLAN) is the top agency in the country. This office also contains the National Unit of Statistics (which has provincial and regional statistics offices, as well) and can be considered as the technical staff of the political bodies, particularly of the Central Executive Committee of the Communist Party. Among its functions at the national level are the coordination of the long- and short-term plans (prepared by the Ministries) of the various social and economic sectors and integration of these plans within a national socioeconomic development plan. The national plan determines the final amount and type of resources to be allocated to the various ministries.

At the provincial and regional levels, coordination of the different (provincial and regional) plans prepared by the provincial and regional directions of the ministries is done by the Institute of Physical Planning and Regional Development, which, in practice, works as the technical staff of the provincial and regional political bodies (the provincial and regional executive committees of the Party and the mass organizations).

For example, if a regional office of the Ministry of Health wants to establish eleven new health centers in a region, the final decision will be based on the availability of construction manpower and equipment (which will be determined by the Ministries of Labor and Construction) within that region, and by the overall plans of regional development that have been defined and prepared by the regional office of the Institute of Physical Planning and Regional Development (which makes the final decision as to the number and location of health centers), and approved by the regional, provincial and national political bodies. For an excellent review and critique of planning in Cuba, see reference 16 and chapter 5 of reference 17.

Figure 3 shows the different bodies that participate in the decision-making and planning process as perceived by this observer.

A unique characteristic of the planning process in the health sector in Cuba is the absence of budgeting. In 1965, use of the budget as a tool for the control of allocation of funds was discontinued as part of a government campaign against bureaucracy. Today, instead, nonmonetary resources are allocated to the various ministries from JUNPLAN, and from there to the different institutions at the national, provincial, regional, and local levels. The Division of Planning and Evaluation in the Ministry of Health prepares the final list of resources to be allocated to the provinces and regions based on the norms, procedures and programs defined by the advisory planning groups as well as on the requests for resources submitted by the provincial and regional directions of the health services. A hospital, for instance, does not receive a specified amount of Cuban pesos for various items (e.g. soaps, linens) but rather receives the items directly. In this way, the use of money as an interchangeable unit in the transactions within the health sector has

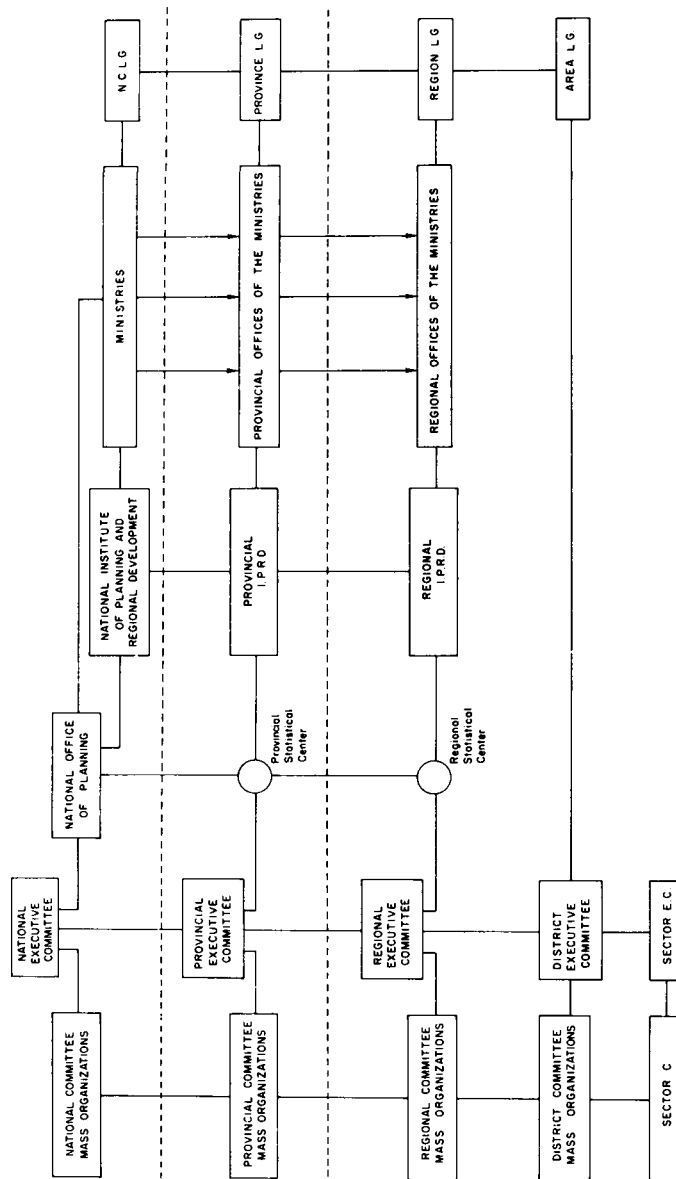


Figure 3. The socioeconomic planning process in Cuba

disappeared. Initially, the decision to eliminate budgeting was the result of the victory by the group led by the then Minister of Economy, Che Guevara, in the early 1960s.<sup>6</sup> The motivation for this action was to diminish monetary transactions in the economy and also to lessen the bureaucracy's control over the budget.

But although it was ideologically appealing to the Cuban leadership to diminish the importance of budgets and money, working without an interchangeable unit proved so administratively cumbersome that the leadership seems to have decided to return to the budget as the control and accounting tool in planning and programming in 1972.

### *Planning in the Health Sector*

The process of decision-making and planning in the health sector is similar to that of the other sectors, and as such involves the political bodies (the Communist Party and the mass organizations), and the administrative, planning, and supervisory bodies (the Ministry of Health and its provincial and regional agencies). In theory, the health services are administered, planned, and supervised by the Ministry according to the priorities established by the political bodies at the national, provincial, regional, and local levels.

The top administrative planning and supervisory agency is the Ministry of Health, which has provincial and regional offices attached to it. The Minister and Vice-Ministers are political appointees and members of the Central Executive Committee of the Communist Party. The Ministry is divided into two vice-ministries: Hygiene and Epidemiology (the equivalent to the U.S. environmental and epidemiological intelligence services) and Medical Care and Teaching (equivalent to the U.S. personal health services and health manpower). Besides the two vice-ministries, there is the Division of Planning and Evaluation which contains three offices: one on norms and procedures, which coordinates the different norms and procedures established by the advisory planning groups of the two vice-ministries; another on planning, which theoretically develops the alternative plans and programs from which the Minister and Vice-Ministers of Health may choose, and a third on statistics for collection and analysis of national data (biostatistics and administrative information) for planning purposes. The structure of this division has recently been modified, but the distribution of functions specified above was not affected.

At the *provincial level* and directly responsible to the Ministry are the Provincial Directions of Health which have an administrative structure similar to the Ministry of Health. There are two Subdirections, one on Medical Care and Teaching and another on Environmental and Epidemiological Services. They also have Divisions of Planning and Evaluation that function at the provincial level like the same division in the Ministry at the national level.

The Provincial Directions of Health are responsible for planning the health services for the province, and also are administratively responsible for the direction of the provincial hospitals centers.

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<sup>6</sup> The decision regarding budgeting also reflected the debate within the Cuban leadership as to the advisability of centralized financing versus self-financing for each institution. Centralized financing, championed in the mid-1960s by the Ministry of Economy headed by Che Guevara, in essence means applying the system of economic accounting which prevails in a single enterprise to the Cuban economy as a whole; self-financing, championed by the Ministry of Foreign Trade, is a system where economic enterprises operate autonomously (with respect to their financing) and their management is indirectly controlled by the credit institutions, with the central bodies only exercising overall financial control. To follow these two different points of view, see references 42 and 43.

At the *regional level* and directly responsible to the Provincial Directions of Health are the Regional Directions of Health, which have an administrative structure similar to the Provincial Directions and the Ministry of Health. Again, there is a subdivision of Medical Care and Teaching, another on Environmental and Epidemiological Services and a Division of Planning and Evaluation. At the provincial and regional levels, there are other divisions besides Planning and Evaluation which are in charge of supportive services needed for the actual delivery of health services in the different hospitals and health centers within the region.

The Regional Directions of Health are responsible for planning the health services for the region and for administration of the regional hospitals and health centers. According to the scheme, the directors of these institutions are administratively under the regional director of health services. Worth noting is that each institution within a region is administered independently but is directly accountable to the regional director. Thus, the director of the health center is administratively under the regional director of health services and not under the director of the regional hospital. This administrative structure in the Cuban regionalized scheme differs from other regionalized systems such as those which operate in Puerto Rico or Chile, where the health center is administratively dependent on the hospital (44).

The operation of each institution (whether hospital or health center) is directed by an administrative executive committee composed of the director, heads of the different clinical, paramedical, and auxiliary services, and representatives of the employees and of the local membership of the Communist Party. The top administrative authority within each institution is the director, who is also chairman of the administrative executive committee.

Parallel to each administrative unit at the area, regional, provincial, and national levels are the political and decision-making bodies—the People's Commissions on Health—which seem to participate actively in implementing programs and health services plans at the local and national levels (see Figure 4). These commissions, as indicated previously, are formed by the mass organizations and led by the Communist Party. At every level, the commission is chaired by the director of each administrative unit (health center, regional and provincial centers).

At the local or area level, these commissions are responsible for mobilizing the population in order to implement the health centers' programs and plans, and for assisting in street cleaning, immunizations and control of infectious diseases, voluntary blood donation, and health registration of the entire population, among other activities. (All the inhabitants of an area must be registered at a health center and must have certain health examinations and immunizations regularly.)

Besides these activities, each mass organization within the commission is responsible for assisting in specific health programs. For example, since 1958, the Committees for the Defense of the Revolution participated in projects focused on health education, environmental upgrading, and the control of mosquitos; the Federation of Cuban Women with day care centers; the trade unions with occupational medicine and food safety and control; and the Association of Small Farmers with control of tuberculosis and occupational rural health.

The local people's health commissions elect a regional people's health commission which assists and advises the regional director of health; from that group, a provincial people's health commission is elected, which assists and advises the provincial director of

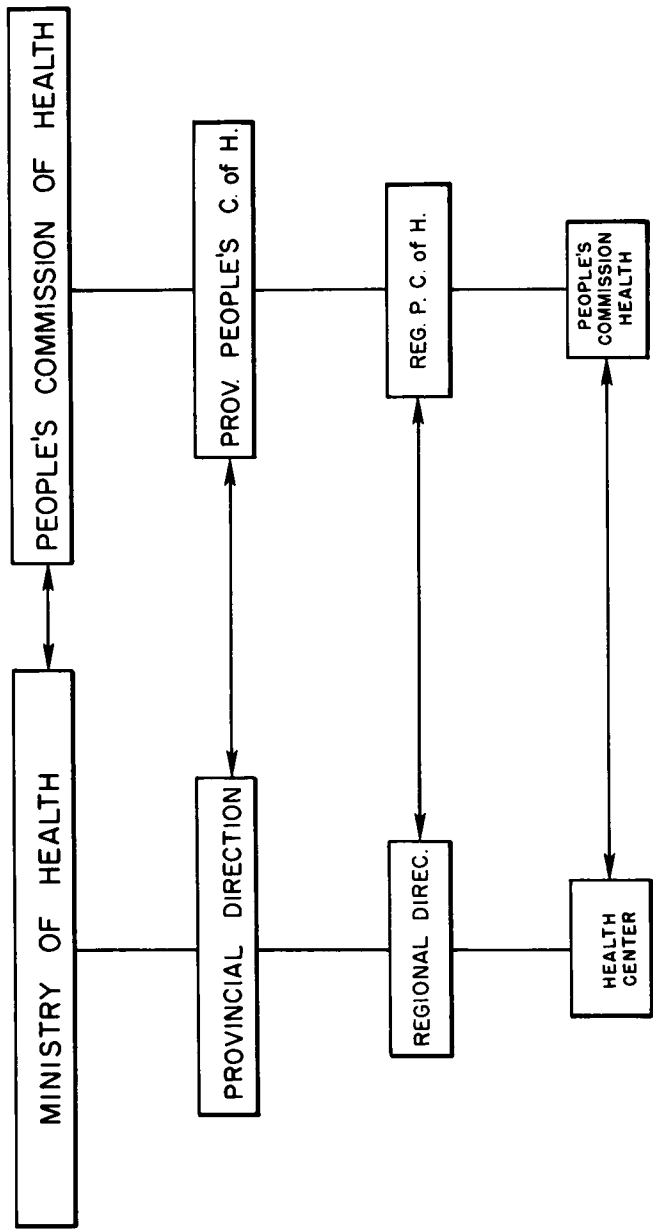


Figure 4. Relationship between planners and decision-makers in the health field

health. At the national level, there is the National Commission on People's Health, which is the top citizen advisory council in health matters in Cuba.

### *The Planning Process*

Each vice-ministry has several advisory planning task forces or groups that, in practice, act as the top planning and evaluating authorities for the different sectors into which each vice-ministry is divided for planning purposes, e.g. pediatrics, obstetrics and gynecology, internal medicine, ear, nose, and throat, radiology, among others, in the Vice-Ministry of Medical Care and Teaching (this composite of separate sectors very closely follows the distribution of departments in teaching hospitals and medical schools), and water, sewage, and others in the Vice-Ministry of Hygiene and Epidemiology. As mentioned earlier, these task forces are primarily composed of professors and chairmen from the main departments of the medical schools who are appointed by the Ministry and considered to be the top authorities in each sector. This structure is repeated at the provincial and regional levels. The region is the lowest planning unit within the planning process (see Figure 5).

These task forces seem to be the actual planning bodies within each vice-ministry and are responsible for developing the norms and procedures to be followed at the national, provincial, and regional levels of the administration. The process in which norms are established follows a cyclical pattern aimed at securing participation from other members of the medical profession at the provincial and regional levels. At the beginning of the process, the national task forces at the vice-ministry level allocate to the task forces at the provincial level the responsibility for preparing the norms and procedures. From there, the provincial task forces, in turn, give the assignment to the regional level, so that a task force on pediatrics in a region of Oriente Province, for example, may be assigned the job of preparing the norms and procedures for care of a certain group of pediatric conditions. These norms and procedures, prepared by the regional task force, are then submitted to the task forces at the provincial and finally national levels. Following discussions at the regional, provincial and national levels, a national congress composed of some members from the various task forces is appointed to discuss and approve the norms and procedures for that sector. Within each task force at each level there are usually several committees preparing norms and procedures for different groups of conditions that would fall within each sector. The norms and procedures are then sent to the corresponding Vice-Minister and are approved by him directly or by the Minister.

These norms and procedures are reviewed every three years and are mostly clinical in nature (e.g. how to treat a metabolic condition in children), although increasing attention is also being paid to norms in the field of medical care (e.g. patient-days per each condition or group of conditions). Using the national norms and procedures as guidelines, the advisory planning task forces at the national level prepare various programs for each health sector, in consultation with the provincial and regional health planning agencies.

At the national level, the Division of Planning and Evaluation of the Ministry of Health is supposed to coordinate these multiple sectorial programs and allocate resources to each program from the overall resources provided to the Ministry by JUNPLAN.

Once approved by the Ministry, the plans and programs generated by the task forces are implemented by the administration at the different levels (provincial, regional, and area). As mentioned earlier, the people's commissions on health and the mass organiza-

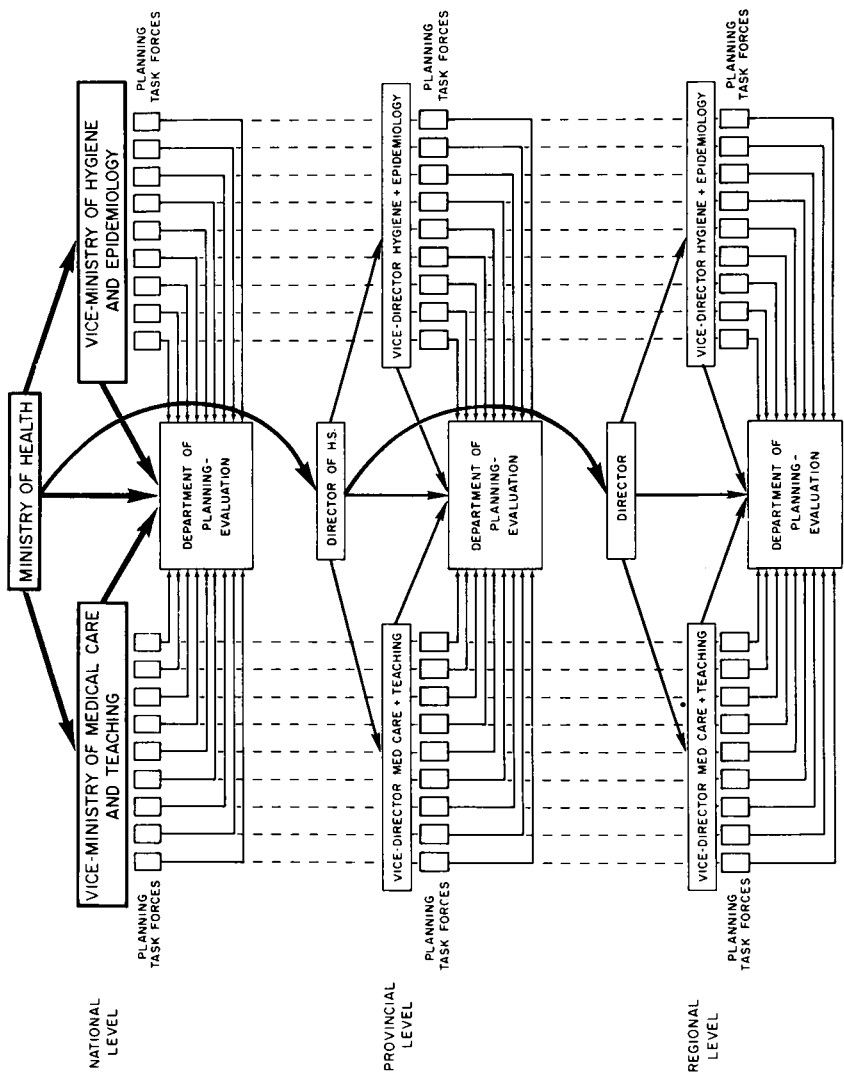


Figure 5. Structure of the health services planning process in Cuba

tions help to implement the programs, and in so doing, fulfil a main objective which seems to be to involve the entire population in the health programs. Their participation and ability to mobilize the public seems to explain the success the country has had in controlling most epidemics. One outstanding example of this mass mobilization was the control of poliomyelitis; according to the annual PAHO-WHO reports, because of the involvement of these commissions, 80 per cent of all Cuban children under 15 years of age (over two million children) were vaccinated with polio vaccine in 11 days in 1962. In 1969, a similar task was accomplished in just 72 hours, and in 1970, it was completed in only one day (45).

According to this observer's perceptions, it should be emphasized that although the mass organizations participate in implementing the plans and programs, particularly at the local level, they are not usually involved in preparing the plans. Rather, plans are formulated at the regional, provincial and national levels by the regional and provincial directions of health, and primarily by the Ministry of Health. Within these directions and the Ministry, the advisory planning task forces, described earlier, are the groups most heavily involved in preparing the plans within the framework defined by the Ministry of Health, the political bodies, and mainly by the Central Executive Committee of the Communist Party. Thus, it appears that preparation of the plans is centralized at the Ministry level with a heavy professional input, and implementation is decentralized at the local level, with widespread public participation.

Physician involvement in the planning process has not only served to reassure these professionals and give them confidence in a situation of profound change, but also seems to have afforded them a real sense of participation. This cooptation of the medical profession into the decision-making process by the decision-makers or political body is an almost universal phenomenon in those settings where substantial changes have occurred within the health sector. In the proposed restructuring of the National Health Service in Scotland, for instance, the White Paper (35) suggests that:

the medical profession must play a full part in relation to the policy and management of the health service and will need an organization to enable it to do so.

Consequently, this report continues by suggesting the creation of national medical advisory machinery with strong links with the medical profession at the area, district, and division levels (somewhat equivalent to the area, regional, and provincial levels in Cuba), and similar to the structure already present in Cuba where the advisory planning groups operate at each political level of the administration.

However advisable it may be, this active involvement of the medical profession in the decision-making and planning processes is not without risks. For example, it is this observer's impression that the highly categorical approach taken within the planning process in Cuba may be in great part due to that professional involvement. Indeed, the programs generated from within these advisory planning task forces are categorical or disease oriented, in that they are devised for the control of specific diseases, e.g. cardiovascular diseases, syphilis, thereby reflecting the "disease orientation" of most physicians. And it has been this observer's experience that this approach is most likely to appear in the planning process whenever the medical profession (primarily the academicians) has had a definitive voice in the planning. The reasons for this orientation are varied, but the kind of medical education to which physicians are exposed is a primary factor. Until recently, medical education in Cuba (as in most other countries and



continents with which this observer is familiar) was "disease oriented," with the teaching of the medical curriculum focused on categorical groups of diseases. A consequence of this approach has been, as Karl Evang (46) has noted, that clinicians tend to interpret health as a mere lack of disease or groups of diseases. Active physician participation in the planning process may thus determine this categorical delineation which implies a limited approach to the phenomenon of individual and community health. However, it is hoped that innovations in Cuban medical education may alter that approach and thereby dilute and even change the categorical biases of the medical profession.

A last point with regard to the categorical approach in the planning process is that methodologically it often leads to "bottlenecks" and a lack of coordination which sometimes impede the planning process. Although coordination is the task of the Division of Planning and Evaluation, it may become unmanageable because of the myriad requirements generated by hundreds of vertical categorical programs.

Another problem that may arise in the planning process related to the physicians' dominance in that process is that their priorities are not necessarily the same as the priorities of the general public and occasionally even conflict with them. But it is interesting that when this conflict has arisen in Cuba, patient and community views have generally prevailed. One example of this was the policy of allowing mothers to live-in at the hospitals with their hospitalized children. Initially, the physicians and nurses were much opposed, voicing their concern that a mother might be more of a nuisance than a help in the hospital setting. Nevertheless, in response to public demand, the policy was initiated, and besides being highly popular, it resulted in a shorter length of stay for the children, as well as a considerable saving in nurse-hours.

To summarize, it appears that in Cuba, the medical profession generally advises and decides on the priorities within the health sector, but final authority and control rest with the political bodies. This may explain why, when a conflict arises within the health sector, it is resolved by the political body (mainly at the central level) and the resolution is increasingly in favor of public preferences.

The reasons for this shift in the balance of authority from the medical profession to the public bodies are complex and varied, but a few should be mentioned here. First, due to the great production of physicians over the last decade, which resolved the crisis situation caused by the mass exodus of physicians following the Revolution, it is possible that the privileges enjoyed by that professional group are being redefined.

Another reason for change in the balance of authority may be similar to one also found in developed countries, i.e. the existence of a better educated and more sophisticated public which demands greater participation. A third reason that could be hypothesized is the change in the type of morbidity in Cuba and the effect that this change may have had on the decision-making process in the health sector. Indeed, it is this author's opinion that there is historically a close relationship between the type of morbidity prevalent in society and the type of intervention in the process of decision-making. When the morbidity is acute, its causes are less complex and usually better understood by the medical professional than when the morbidity is chronic. Also, the strategy for its cure is more easily defined and straightforward, and the public assumes that the professional knows that strategy best, thus delegating to him its control. When the morbidity is chronic, however, the strategy is not so clear or simple. The relationship of cause and effect explaining the morbidity is more complex; and the strategy is not so much of cure but care. In providing this care, with its social and medical implications, the public is less

willing to delegate exclusively to the physicians the "expertise" of care. In the complex strategy of providing care (as different from cure), the public considers the expertise to be more broadly distributed among professionals and the public, and the exclusiveness of physician expertise (trained to provide cure more than care) is being increasingly questioned.

It is this author's perception that in Cuba, as in developed countries, the exclusiveness of the medical profession in the process of decision-making and planning is increasingly being questioned by the public and its political bodies. Simultaneous to this questioning has been a demand by the public and its political bodies that the medical profession relinquish some of its control in the decision-making process to allow for broader participation and control by the public.

### FINAL COMMENTS

To emphasize the personal nature of these comments, I have forsaken the academic convention of speaking in the passive voice and have shifted to the more direct and informal first person. Throughout these notes I have, too briefly perhaps, described what I thought were the main features of the interesting developments occurring in the health sector in Cuba, commenting (sometimes with criticism, occasionally with praise) on my perception of those developments. An interesting question is to what extent those developments may be generalized to apply to other countries. Needless to say, each country evolves its own unique philosophy of development, adding to the diversity and richness that characterize human experience. However, this diversity does not deny, but rather accentuates the universality of some principles that unify these varied experiences.

In this regard, the Cuban experience, like any social phenomenon, contains some features that seem to underline overall principles in health planning. First, it seems to have shown, once again, that public health campaigns—health campaigns for the public—in developing countries cannot succeed unless there is massive public participation in their implementation. The impressive progress witnessed in Cuba, for instance, in the reduction of most infectious diseases, would not have been feasible within the rather limited time period were it not for the massive participation of the Cuban population in the public health programs. This involvement—the mobilization of the public by the mass organizations—explains, for instance, why practically all children in Cuba in need of immunization against polio were vaccinated in just one day.

Second, the Cuban experience puts a question mark on the well accepted argument used by some health planners that a lack of resources prevents the provision of health services to entire populations in most developing countries. Contradicting this argument, Cuba, a small country, which besides being poor is subject to a strict economic blockade by her natural economic partners in the Americas is, in fact, providing comprehensive health services (not without great sacrifice) to the whole population without direct payment involved, as the result of its philosophy of equalization and comprehensiveness in health care. Moreover, the Cuban experience seems to indicate that the lack of health services coverage in most developing countries may be due not so much to the scarcity of resources (in health and other sectors) but to the ill distribution of these resources within and outside the health sector. Because of its social and economic commitment to equalization, the Cuban government is redistributing its health resources, both old and new, thus minimizing the striking inequalities so apparent before the Cuban Revolution

and still prevalent in the majority of developing countries, and thereby providing health services to the whole population.

The uneven distribution of social and economic resources in most developing countries seems to be the outcome of the highly uneven control by different social groups and classes of the elements of the decision-making process in these societies. In the light of the Cuban experience, it would seem unlikely that a redistribution of resources (within and outside the health sector) would have occurred without substantial redistribution of the decision-making power of these groups and classes. This redistribution has necessitated an initial redefinition of the social groups which hold the decisive controls and thus determine the distribution of resources. The nature and type of this redefinition varies according to the historical characteristics of the particular country. But regardless of the unique form it assumes, the applicability of this principle in social dynamics is as apparent in the health sector as in other sectors. And, in this respect, the redefinition of social groups and their decision-making power (which is taking place in Cuba) with all the economic, political and social ramifications that this change implies, seems to have been a requirement and consequence of that country's commitment to health as a human right.

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