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ANNEX 5.10

EFFICIENCY OF THE GUATEMALAN HEALTH SECTOR

GUATEMALA HEALTH SECTOR ASSESSMENT

November 1977

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## Annex 5.10

### EFFICIENCY OF THE GUATEMALAN HEALTH SECTOR

#### I. INTRODUCTION

The efficiency of a system refers to the ratio of the output of the system to the input. In systems of health service, the input consists of many types of personnel, facilities, equipment, and other resources. The ultimate output is the change in health (hopefully an improvement) of a population. In general, however, it is very difficult to attribute to health services alone any improvements occurring in the health status of a population, since so many other influences - food, employment, housing, education, etc. are also involved. Therefore it is customary to measure the output of a health care system at an intermediate point, namely the types and quantities of health services provided (or produced). In other words, what services are produced in relation to the resources made available?

The efficiency of a health care system must be distinguished from its "effectiveness". The effectiveness of a program tells us about its benefits -the results achieved- without respect to its costs (which reflect the input of resources). A program could be very highly effective and yet have low efficiency, if it yielded good results, but at an extremely high cost.

"Efficiency" ~~always~~ considers the costs (or inputs) as well as the results (or outputs). It has an economic dimension, as well

as an evaluative one. Our concern here is with the efficiency of the Guatemalan health care system. Because of the short time available for this study (19 June - 2 July, 1977), the judgments in this report must be regarded only as rough approximations.

By this definition of "efficiency", there seems to be widespread consensus in Guatemala that the health care system is operating at a relatively low level of efficiency. In the first place, it is widely believed that the resources available for the health services are inadequate to meet the health needs of the population, even if they were optimally used. Secondly, and probably more important, those resources that are available are not being efficiently applied.

This report will attempt to clarify the bases for the above judgments and will offer suggestions for improvement.

This will be done as follows:

- (1) Presentation of a descriptive overview of the current health care system and its several components or sub-systems -each relatively independent of the others;
- (2) Analysis of the functioning of the major types of health service, in each sub-system, with evidence of their level of efficiency or inefficiency;
- (3) Suggestions on possible methods for improvements in the short run, along with the rationale of these;
- (4) Recommendations for improvements of efficiency in the long run, through efforts to achieve an integrated and

comprehensive health care system.

The observations presented here are based on the prior work of many observers and the opinions expressed or information offered by many Guatemalan health leaders. In the brief time available it was not possible to assemble final and completely reliable data on all points, but it is hoped that the basic framework of this report may be useful conceptually. At later times, perhaps more accurate data can be collected, and any necessary modifications in the findings or interpretations can be made accordingly.

## II. THE CURRENT HEALTH CARE SYSTEM AND ITS SUB-SYSTEMS

As in all countries, the Guatemalan health care system has evolved along several paths over the years. Each component has separate historical origins that need not be traced for one to appreciate that the current scene is not the result of a logical or rational plan.

Each sub-system is identified with a relatively distinctive pattern of (a) economic support, and (b) mode of delivery of the health services. These are in brief:

- (1) Ministry of Public Health and Social Assistance (MOH)
- (2) Guatemalan Institute of Social Security (IGSS)
- (3) Other governmental health programs
- (4) Organized private or voluntary health organizations (PVO)
- (5) Enterprises -- industrial or agricultural
- (6) The private health care sector -- traditional and modern.

The main features of each of these sub-systems may be briefly described.

### Ministry of Public Health and Social Assistance (MOH)

Since its establishment in 1944, this Ministry has gradually expanded its resources and programs throughout Guatemala. The strongest aspects have been in the national capital, Guatemala City, and the "departamento" in which it is located, but since about 1970 increasing attention has been given to building up services in the rural areas. The services provided are both preventive and therapeutic, and they are furnished through a

network of health posts, health centers and hospitals (discussed below).

Administrative direction of the Ministry of Health (MOH) program is highly centralized in the national headquarters. Some years ago, the nation was divided into 8 health regions, each of which contained 2 to 4 local departamentos, <sup>(1)</sup> but now the regional offices have been abandoned. Instead, the country's 22 political departamentos constitute 24 "areas de salud" or health areas (two of the departamentos have been divided into two health areas, and the others are co-terminous), which report directly to the national headquarters. Each health area has a medical Health Chief, only a few of whom have had public health training. He is theoretically responsible for all MOH activities in his area - both preventive and curative - except for certain "vertical programs" directed from the top. Currently the major vertical programs are tuberculosis and malaria control, although the intention is to decentralize these also.

Most of the MOH services are provided through facilities for ambulatory service, bed care or both. Starting with the most rural and peripheral units, these are (as of 1975) <sup>(2)</sup> :

Health Posts	470
Health Centers	159
Hospitals	37

The health posts are located in rural municipalities of at least 2,000 population. They are staffed essentially by allied health personnel, mainly briefly trained auxiliary nurses; in the last years, some health post staffs have been strengthened with the addition of more thoroughly trained "Técnicos Salud Rural" (TSR or rural health technicians), numbering 212 in 1976.<sup>(3)</sup> The type B health centers are staffed by one physician plus allied personnel, -- sometimes a TSR. The type A health centers have two physicians and a larger number of nurses and other allied health workers; they also usually have a small number of beds for maternity patients, trauma cases, or other patients under observation pending possible transfer to a hospital. The beds in all health centers add up to 161.

In the 37 hospitals of the MOH there are a total of 9,407 beds - counting all types<sup>(4)</sup>. More than 1,000 of these are in a psychiatric hospital and more than another 500 are in a tuberculosis sanatorium (although many tuberculosis cases are also kept in general hospitals.) This amounts to a total hospital bed to population ratio of 1.6 beds per 1,000 in MOH facilities or 1.4 general beds per 1,000 if the mental and tuberculosis institutions are excluded. These ratios are, of course, very low.

The staffing of these hospitals naturally varies with their size; the larger facilities have several doctors and professional nurses, while the smaller ones may have only a few. Even though most of the hospital beds outside the metropolitan capital are in MOH

facilities (rather than under other auspices), about 60 percent of MDH beds are nevertheless in the capital departamento, where about 25 percent of the national population live. The over-all staffing of the non-metropolitan hospital, moreover, is weaker than that in the metropolitan capital. Thus, comparing the nation's two largest general hospitals with two randomly selected small ones, the staffing ratios are found to be as follows:

<u>Hospital</u>	<u>Beds</u>	<u>Personnel</u>	<u>Personnel p-r bed</u>
San Juan de Dios	1081	1436	1.3
Roosevelt	829	1301	1.6
San Benito	92	50	0.5
Huehuetenango	72	30	0.4

Thus, compared with hospital staffing ratios in more developed countries, those in even the large Guatemalan hospitals are low; in the small peripheral hospitals they are extremely low. One must ordinarily expect stronger hospital staff ratios in large institutions serving more complex cases; but the extremity of the under-staffing in Guatemala's peripheral MOH hospitals has substantial bearing on the efficiency of these units, to be discussed below.

#### Social Security Institute (IGSS)

Since 1946, Guatemala - like virtually all other Latin American countries - has developed a special program of health service for steadily employed workers, both public and private, and to a limited extent their dependents. In several respects, however, the population coverage and medical benefits provided by the Guatemalan Institute of Social Security (IGSS) are more

restricted than in most other countries of the hemisphere. As everywhere in the world, social security in Guatemala is financed by earmarked contributions or "quotas" from employers and workers, derived from a percentage of the wages paid. (Ultimately, of course, the money comes from the sale of each enterprise's products to the whole population.) Since the government is also a large employer it pays quotas on behalf of governmental employees, but in addition the basic law requires a special allotment from government, drawn from general revenues (unfortunately, the latter has not been paid so far). All moneys are kept in a social security fund, separate from the national treasury, and they may only be used for medical and other social benefits, decided upon by the social security directors. While these operations come under the general surveillance of the Ministry of Labor, the independence of the social security fund yields a high degree of autonomy and stability to the entire program.

General medical care is currently provided only for workers in the metropolitan Departamento de Guatemala. For the dependents of these workers, health services are limited to maternity service and general health care of the children only until their second birthday (two years). Outside of the metropolitan departamento, services are restricted to the treatment of accident cases, although these include non-occupational as well as work-related injuries; dependents of these workers have no benefits currently. On the other hand, unlike policy in most other Latin American countries, workers in agricultural enterprises are covered for these limited benefits, so long as the the farm or "finca" employs 5 or more workers.

As of 1975, the total number of persons served to any degree by this health program was 741,000 or 13.2 percent of the national population (5,600,000 in 1975). (5) Considering complete medical care - that is, the benefits available to workers in the metropolitan center - the persons served numbered 278,770 or just 5.0 percent of the national population. The other 8 percent were entitled only to traumatological services and, in the capital area, some maternity and infant care.

IGSS provides these services principally through its own facilities. These consist of 35 hospitals with 1767 beds and 20 ambulatory care units. Five hospitals in the metropolitan

center, however, have 955 beds or more than half of the total. Likewise, four relatively large polyclinics in the central city provide much more ambulatory health care than the total of the 16 others limited to accident cases.

While the major concentration of the IGSS program is on curative medicine, it also offers some preventive services. These include the prenatal and post-partum services to pregnant women, immunization of children, and some accident prevention efforts in large factories. In the metropolitan center, there are also occasional chest X-Ray surveys of workers for early detection of tuberculosis. The IGSS program also gives monetary benefits to disabled workers and cash maternity grants; these non-medical benefits account for about 25 percent of the total expenditures.

Although, as noted, the great bulk of IGSS health services are provided through their own facilities, in certain peripheral departamentos services are given through contractual arrangements with MOH facilities. If the number of insured workers in an area is too small to justify establishment of an IGSS hospital or health station, the injured worker gets care at the nearest MOH facilities, for which IGSS reimburses the Ministry of Public Health. About 330 such beds are contracted for in 10 MOH facilities throughout the country.

#### Other Governmental Health Agencies

Without considering details, one should take note of several other governmental organizations or programs that

provide health services or are related to health care in some manner. These include:

(a) The military forces which, in Guatemala as in almost all countries, have a well developed health care program, with their own personnel and facilities. The national police likewise have a special health care program.

(b) In the Office of the President (under the direction of the President's wife) there is a separate social welfare ("Bienestar Social") program devoted mainly to nutritional and related health services for impoverished children.

(c) Below the level of the departamentos there are 327 local "municipios" in Guatemala; many of them, especially the larger ones, take responsibility for water supply, refuse disposal, and other aspects of environmental sanitation. It is also common for municipalities to construct health posts, which are then staffed and operated by the MOH. In the metropolitan departamento, a few small dispensaries are operated directly by municipalities.

(d) For the construction of most hospitals, health centers, and environmental sanitation resources, the Ministry of Public Works is responsible, although architectural plans and financial support come from the MOH or other sources.

(e) The University of San Carlos is a semi-autonomous entity linked to the Ministry of Education and financed almost entirely

by the central government. It is a large institution with a long tradition and great prestige. Guatemala's only school of medicine as well as its schools of dentistry and pharmacy, are in this university. There is an "open admission" policy in these professional schools, so that any secondary school graduate may be admitted, although the great majority fail out and only a small fraction are graduated. Directly relevant to the health care system is a university requirement that before earning the academic degree, every medical student must work for six months at a rural health post.

#### Private Voluntary Organizations (PVO)

A great variety of voluntary organizations, largely although not entirely under religious auspices, offer health services throughout Guatemala. Another recent study estimates 150 of these are health-related, including nutritional programs. (6)

While the ultimate objective of most of these organizations may be religious, they provide at the same time a significant amount of health service (financial estimates are offered below).

#### Enterprises

As a responsibility of private enterprises - industrial or agricultural - a limited amount of health service is provided in Guatemala. At a few large factories in the metropolitan area, there are in-plant health services -- related largely to industrial injuries or occupational diseases--for the workers. (7)

In Guatemala agriculture, a great share of the output is by large "fincas" or plantations, with scores or hundreds of workers. The living conditions of the great majority of these farm workers are extremely poor, and they are most deleterious to health for those who are migratory (an estimated 80 percent of about 500,000). Nevertheless, two Associations of Guatemalan Coffee Growers have taken the initiative to provide limited ambulatory medical services to these workers.<sup>(8)</sup> These are provided through two clinics each of which serves several thousand workers and their families; each clinic is staffed by a full-time physician plus nurses. Although the main support comes from the finca owners, the patient must also pay a small fee for each service. Other special health services, of more limited scope, have also been organized by selected agricultural enterprises and are reported in the study cited above.

#### The Private Health Care Sector

Finally, although very large in its proportions, is the non-organized and private health care sector in Guatemala. While clear information on its extent is not available, one may draw certain inferences from the data available from various sources.

Most ubiquitous is undoubtedly the health service provided by "curanderos" or traditional healers in Guatemala's several thousand small villages, especially in the central highlands inhabited almost wholly by pure-blood Indians. Along with the

traditional healer, usually male, is the "comadrona" or the village midwife who attends the great majority of Guatemalan childbirths.

The number of traditional healers in Guatemala may only be guessed. Of the current national population of about 6,000,000, those living outside the metropolitan center are about 4,500,000. Assuming about one "curandero" for each 500 population would yield an estimate of 9,000. Most of these are, of course, not "full-time" in healing activities, but make their living principally in agriculture or other pursuits. The same applies to village midwives, on whom there are more definite data. The law requires registration of midwives in their municipality, and a 1975 survey of these registers yielded a count of about 16,000.<sup>(9)</sup> Considering that midwives probably work more episodically and less regularly than general traditional healers, the estimate of 9,000 for the latter may not be very far off the mark. Even if we estimate that, in terms of "full-time equivalents" there are only 3,000 "curanderos" (or an average of one-third time each), the number would still exceed substantially the national supply of trained physicians in Guatemala.

While both healers and midwives are essentially part of the private health care sector, the charges made for their services are highly variable. They are often paid by barter, and the amount varies with the affluence of the patient and the

severity of the case. As in scientific medicine, charges are also greater if the practitioner has acquired a reputation for many cures or good service.

Modern and trained physicians are registered with the "Colegio Médico de Guatemala", where the list in 1976 numbered 2560. (10) We know, however, that this registry includes many names of physicians not in the country or even deceased. In 1973 there were 1270 physicians employed by the two major public agencies, MOH and IGSS. Together these programs have increased their medical staffs about 100 per year, so that the 1976 total would be about 1570, leaving a balance of doctors on the registry of about 1,000. Assuming further that about half of these are not actively working in Guatemala, the total of active physicians in 1976 would be about 2,000 or a ratio of one physician to about 3,000 population.

Virtually all Guatemalan physicians, whether employed by an organization or not, engage in private practice. Most of the approximately 600 doctors employed by IGSS are paid for four hours per day, and the balance of their time is mainly devoted to private practice. (11) Of approximately 900 physicians attached to the MOH, most are theoretically "full-time", but it is widely recognized that nearly all engage in a significant amount of private practice to supplement the modest salaries. Of the remaining 500 active physicians, perhaps 60 percent are

engaged in the military services, in the University, in PVOs, or in other ways; this would leave about 200 doctors exclusively engaged in private medical practice. A study by the Colegio Médico in 1972, found that 8 percent of Guatemalan doctors were in exclusive private practice, which would amount to 160-- not far from our estimate. (12) All of the remaining 92 percent spend part of their time in private practice, along with organizational employment. The proportion of time and earnings from private practice typically rises with the doctor's age level.

Another component of the private sector in Guatemala is the private hospital. There are 59 of these, containing about 1200 beds, more than two-thirds in the capital city. Those in the peripheral departments are mainly for private maternity cases.

Private dentistry is probably a larger proportion of the work of Guatemalan dentists than applies to medicine, since the development of systematically organized dental programs is very weak. In 1973 there were 115 dentists engaged altogether in the MOH and IGSS, and 376 dentists in the nation. (13) As in most developing countries, dental care is mainly a relative "luxury" service for a small affluent minority.

Local community pharmacies are still another component of the private health care sector - in fact, a very important one. In Guatemala, as throughout Latin America, a great proportion of the population go directly to a pharmacy for medication to cope

with their symptoms; since a doctor's prescription is seldom demanded, the patient thereby saves the doctor's bill. In addition, of course, thousands of drugs are prescribed by doctors. There are 224 pharmacists in Guatemala, but less than 20 are employed by the two major public programs. Thus, around 200 are probably engaged in retail pharmaceutical practice. In addition, drugs are frequently dispensed at general stores in the smaller towns, without a pharmacist on the premises. The substantial part played by privately purchased medications in the health care system of Guatemala is reflected in the financial analysis offered below.

Finally there are a few other providers of private health service in Guatemala - opticians, prosthetic shops, etc. Altogether, even though most of the health personnel data offered above are approximations, it is clear that the private health care sector in Guatemala is substantial.

### III. FUNCTIONING AND EFFICIENCY OF CURRENT HEALTH SERVICES

Having reviewed the general structure of the Guatemalan health care system, and its several sub-systems, we may now examine its outputs and their approximate costs. The information available on services provided (or utilization rates) and the expenditures involved is fragmentary and incomplete; much of it, furthermore, is not disaggregated into categories that permit meaningful analysis. Nevertheless, some rough impressions may be gathered from the data available.

To the extent possible, the functioning of the system will be presented in terms of the types of services provided. At the end of this section we will present estimates on the aggregate expenditures for these services from different sources.

#### Traditional Medicine

Expenditures for traditional healing and village midwifery, as noted, are part of the private economic sector. Judging by the previous estimates of 9,000 "curanderos" and 16,000 "comadronas", although mostly part-time, the volume of services must be relatively great. Undoubtedly some patients are helped, on the basis of empirical knowledge or psychological responses to confidence in the healer, but we do not know how much. Even though expenditures are relatively low --most services probably require payment in kind or in cash of less than one quetzal-- the efficiency in this sub-system is surely low. The actual rates of utilization and expenditures

for traditional medicine in Guatemala, as well as the therapeutic results, warrant quantified study.

#### Ambulatory Medical Services

The principal data on ambulatory medical services are those produced by the MOH. These are financed by general revenues of the central government, derived from income taxes, import tariffs, excise taxes, etc.

A report furnished by the MOH for 1975 gives information on various ambulatory services provided by health centers and health posts in the nation's 24 health areas.<sup>(14)</sup> Combining figures from several tables in this report yield the data in Table 1. These data combine consultations to physicians with those to paramedical personnel. The basic figures indicate, however, that at the health centers the great majority of patients (about two-thirds) are seen by physicians.

At the health posts, as one would expect, services by the paramedical personnel greatly predominate --about three fourths of the total.

Recalling from the previous section that in 1975 the MOH operated 82 health centers (both type A and type B) and 510 health posts, we may calculate the approximate volume of services per day provided by these basic ambulatory facilities. Regarding the 82 health centers, the aggregate number of consultations of all types comes to 9,655 per center per year. Assuming, conservatively, 250 working days per year, this amounts to 38 consultations per day.

TABLE 1CONSULTATIONS AT MINISTRY OF HEALTH FACILITIES, BY TYPE OF PATIENT, 1975.

<u>Type of Patient</u>	<u>Health Centers</u>	<u>Health Posts</u>	<u>Totals</u>
Maternity	115,492	54,329	169,821
Children	205,849	122,841	328,690
General Adults	<u>470,389</u>	<u>674,972</u>	<u>1,145,361</u>
All Patients	791,730	852,142	1,643,872

Similar calculations regarding the 510 health posts yield an average of 1,359 consultations per post per year. Assuming only 200 working days per year for the posts, since on many days the auxiliary health worker would be away in the community, leaving the post unattended, this would amount to 6.8 consultations per day.

Of course, in addition to the consultations to mothers, children, or general adults, other services are given, such as immunizations, medications, certain laboratory tests, and so on. Nevertheless, one must conclude that these averages of patients served per day --38 by the health centers and 6.8 by the health posts-- appear extremely low. Moreover, relating the grand total of 1,643,872 consultations to a national Guatemalan population of about 5,600,000 in 1975, we derive an average of only about 0.30 consultations per person per year, provided by MOH ambulatory care facilities.

These statistical calculations and estimates serve to confirm the observations reported by many physicians, both in the Ministry of Health and elsewhere. The general consensus is that both the MOH health centers and health posts are greatly underutilized, in relation to their staffing and general capacities. The problem is reported to be much more serious in the rural areas than in the national capital and the few other peripheral cities. Possible reasons for this and corrective actions that might be feasible will be explored in the next section.

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Certain similar calculations may be offered regarding the ambulatory services provided in the IGSS program. In the metropolitan area general medical care is offered to insured workers, along with maternity care for wives and general care for children up to the age of two years. In 1975 the IGSS Annual Report indicates a total of 475,698 consultations of all types to these persons. Because of the three components (workers, mothers, and children) of this insured population, it is difficult to compute an aggregate average rate. For the primary workers, however, there were in 1975 a total of 251,718 consultations of all types at an IGSS health station, polyclinic, or a hospital out-patient department. This would amount to 0.91 ambulatory services per insured worker. While this rate is rather low compared to that in other Latin American social security programs, it may be noted to be three times as high as the national average for ambulatory services in the MOH program.

The rate of ambulatory services provided by the IGSS program outside the national capital, where the benefits are limited to accident cases, is obviously much lower. In 1975 there were 107,494 consultations for trauma among the 271,392 insured workers in the non-metropolitan areas. This amounts to the quite low rate of 0.4 ambulatory contacts per insured worker per year. These services were provided at 28 non-metropolitan ambulatory care units, or an average of 3,821 services per unit per year. Assuming 250 working days per year, the average output would amount to 15.3 trauma services per unit per day. Although higher than the consultation output of the MOH health posts (6.8

per day), which are similarly staffed with one or two auxiliary personnel, the rate of service still appears very low. In an 8-hour working day, this means fewer than two patients seen per hour.

It may also be noted that, among all the trauma cases getting care, about two-thirds are work-related. Yet we know epidemiologically that, in general, non-work accidents are more numerous than those occurring at work. One may, therefore, infer that most non-work accident cases involving insured workers are not even seeking medical care at IGSS facilities.

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A third source of data on ambulatory services is found in the multi-finca clinic program of the Association of Guatemalan Coffee Growers (ACOGUA) noted in the previous section of this report. The first such clinic established in southeastern Guatemala averages 617 consultations per month for a population of about 20,000 persons entitled to service. On an annual basis, this would yield about 0.37 consultations per person per year - again, apparently quite low. Calculated another way, this ACOGUA clinic is served by a full-time doctor plus two auxiliary nurses, who see (assuming 250 working days per year) about 29 patients per day. If we may assume that half of these patients are seen by the nurses and half by the physician, in an 8-hour day the physician would see about two patients per hour -- much less than is considered efficient in organized medical care programs.

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Finally, among ambulatory medical services one must recognize the output of private physicians. At present only the crudest

estimates may be offered. One may recall the earlier estimate of about 2,000 physicians in Guatemala in 1976, and the fact that about three-quarters of these are employed in some type of organized program, predominantly part-time. A conservative estimate would suggest that Guatemalan physicians on the whole average about three hours (some estimate four hours) of private practice per day or about 6,000 medical hours per day in aggregate. In private practice, physicians often work on weekends, holidays, etc., so that we may assume 300 working days per year, or 1,800,000 medical hours per year. Some physicians obviously are busier than others, but blending estimates from several observers one may assume that private physicians average three to four ambulatory cases per hour, or about 6,000,000 per year.

We know that these cases are concentrated in the small (perhaps 5 to 10 percent) affluent fraction of the population, especially concentrated in the capital city. On a national basis, nevertheless, private practice would contribute about 1.0 ambulatory service per person per year in the Guatemalan population of 6,000,000. On the other hand, if we relate these privately financed services to a more realistic population base of 600,000 (10 percent of the national population), the rate would be 10.0 ambulatory services per person per year -- a figure nearly twice that of the United States (about 5.5 per person per year). In terms of equity, this estimate of ambulatory services for the most affluent section of the population may be compared with the rate of 0.30 such services furnished to the mass of the population of low income by the MOH programs -- a ratio of 33 to 1.

### Hospital Services

Data on hospitalization in Guatemala, as for ambulatory care, are available also from the MOH and the IGSS programs. For purely private hospitals, we may make some estimates.

In the MOH hospitals, the Ministry reports for 1973 a total of 154,878 admissions (or discharges), including both short-term general and other hospitals.<sup>(15)</sup> For a population in that year of about 5,500,000, the rate of hospitalizations would be about 28 per 1,000 population per year --very low in comparison with that of other Latin American countries. The average length of patient stay in the general hospitals (excluding long-term institutions) was 18 days (although more recently, in 1976, it has been reported lowered to 14 days). While this figure is long, it is not unusual for developing countries on all continents. Long average patient stays are associated with low ratios of hospital staffing, observed earlier, and also with the poor general health status of patients requiring longer periods for recovery. Long stays also suggest that patients hospitalized are admitted, in a relatively advanced stage of their disease when recovery takes more time.

The occupancy rate of MOH general hospitals in 1973, was also excessively high, reported at 102.5 percent. In other words, on the average day there were more patients occupying hospital beds than the hospital could properly accommodate. This fact is clearly related to the very low ratio of general hospital beds (1.4 per 1,000 population) noted earlier.

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Hospitalization experience in the IGSS programs is very different. The 1,767 beds in IGSS hospitals in 1973 encompass those in the entire country. Beds in the capital departamento, where general medical care is a benefit, numbered 1,257. For the 278,773 insured workers here, this would mean a ratio of 4.5 beds per 1,000. Even allowing for the fact that wives of workers are entitled to maternity care, and children until two years of age may receive general hospital and medical care, this bed supply is still far higher than that in the MOH program. Moreover, judging from the situation in social security hospitals of other countries of Latin America, the hospital personnel per bed are more numerous than the ratios reported earlier in MOH hospitals.

Combining hospitalization of both adult workers and children under two years, there were in 1975 admissions of 14,042 patients. Of these, 8,278 were adults (excluding maternity cases and children) or a rate of 29 admissions per 1,000 insured workers per year. While this rate is almost identical with the MOH rate (28 admissions per 1,000 per year) for the whole country, the exclusion of maternity and child admissions --which are quite numerous in Guatemala nationally--means that for working adults alone the IGSS hospital admission rate must be substantially higher than that in MOH facilities. The average length of stay for general sickness in the IGSS hospitals is 11.6 days, or much shorter than that in MOH hospitals. The occupancy levels are also lower than in the MOH hospitals, at 72.3

percent in the adult wards and 84.6 percent in the children's wards.

The above hospital utilization data apply to the IGSS program for general medical care. For the trauma program, which is nationwide, the facts are very different. Outside the capital area, the IGSS program maintains 841 beds, of which 510 are in its own relatively small hospitals, and 331 are beds under contract in MOH facilities but reserved for IGSS accident cases.<sup>(16)</sup> From the data provided by IGSS it is not possible to calculate the occupancy rate of these non-metropolitan IGSS hospital facilities, but many observers state that it is usually very low. With admissions limited to trauma cases, there is a tendency to admit patients with even minor injuries and to keep them hospitalized much longer than necessary, merely to maximize the occupancy level. In 1975, there were 27,286 trauma patients admitted throughout Guatemala (including the capital and the surrounding departamentos). This constituted about one out of five accidents receiving any care, the total of such cases in 1975 being 132,222.

It would appear, in summary, that the IGSS hospital program in the capital departamento is operating quite efficiently. The average length-of-stay of patients and the occupancy levels appear reasonable. Outside the metropolitan center there is evidently extravagance in the provision of hospital facilities that may only be used for accident cases.

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Finally, we should take note of the 1,208 beds in 59 Guatemalan hospitals under other auspices, predominantly private. While we do not have statistical data on these, it is apparent that their average size is only about 20 beds --much smaller than the 240-bed average size in MOH facilities. In fact, if we consider separately the four principal private hospitals in the national capital, each with about 60 to 80 beds, the remainder must average under 17 beds each. The four principal metropolitan private hospitals are relatively well-staffed and equipped, but they serve only the small fraction of affluent people who can afford the costs --about \$20 per day for the basic room, board, and nursing care, plus additional charges for drugs, tests, operating room use, etc. The smaller private hospitals are less well-staffed, less expensive, and largely devoted to maternity cases.

#### Pharmaceutical Services

Drugs and related pharmaceutical products are largely dependent on importation in Latin America. Even when foreign corporations establish plants for drug distribution in a country like Guatemala, the raw chemicals from which most drugs are compounded must ordinarily be imported. As a result, drugs are a relatively expensive component of health service in most Latin American countries. Moreover, their direct purchase by people, is relatively great, as a presumably less-costly form of relief from symptoms than consultation with a physician, and often less bothersome than going to a hospital out-patient department or a health center.

In the health care sub-systems of both the MOH and IGSS, drugs are included in the over-all health services provided, both at ambulatory care facilities and within hospitals. Data on the amounts of drugs so dispensed are probably available from these agencies, but it may be assumed that being purchased in large quantities they cost less than in retail pharmacy trade. Their costs are, in any event, included within the global figures for MOH and IGSS medical care programs reported later.

Concerning drugs dispensed at the MOH network of health centers and health posts, one hears frequent comments on inefficiencies. The policy evidently is to maintain a central supply depot in the national capital, and from here batches of drugs and supplies are sent to all facilities each month. The content of these shipments is evidently based on standard central lists, and in amounts related to the population theoretically served by each local unit. It is not based on any arrangement for periodic orders or requests submitted by each local health center or health post. As a result, one hears many accounts in Guatemala about very inappropriate shipments -- too little of one type of drug locally required or too much of another. Even when a local health center doctor or other health worker makes a specific request for certain drugs, supplies, or equipment, it is claimed that there are long delays before they are received, and frequent errors in the items sent. Somewhat similar inefficiencies are said to apply to non-metropolitan MOH hospitals. The resultant inadequacies in

the supply of locally needed drugs is blamed by many for the low utilization rates at most MOH ambulatory care units; patients who cannot be given the medications they need, it is claimed, are naturally disappointed and do not return. The whole reputation of the local health unit is then spoiled in the surrounding community.

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In the IGSS program this problem of proper drug distribution is not so serious because the great bulk of drug usage occurs in the metropolitan center. In Guatemala, as in other Latin American countries, however, the drug problem in a social security program is usually abuse by patients. Since privately purchased drugs are relatively costly, some insured patients seek and obtain drugs that they do not take themselves but re-sell to other non-insured patients, or even to local merchants. This practice, if it exists in Guatemala, is wasteful for IGSS and potentially harmful to both the insured patient and to another person who takes a drug without medical advice.

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The most serious problems in pharmaceutical services, however, are in retail trade. As noted earlier, private purchases of drugs in retail pharmacies, or even in general stores -- with or without medical prescription -- are very frequent in Guatemala. Some idea of its great extent is conveyed by the results of a marketing survey of 100 retail pharmacies conducted in 1976 by a Swiss firm. These are reported in another USAID document and indicate that retail sales of drugs in Guatemala probably exceed a value of

\$40,000,000 per year.<sup>(17)</sup> These are exclusive of the expenditures for drugs by the Ministry of Public Health, the IGSS program, or other organized sub-systems of health care which, with rare exceptions (in emergency situations), do not purchase drugs from retail pharmacies. The large dimensions of this component of the total Guatemalan health care system will become more clear below in the overview of costs.

### Preventive Services

There is world-wide consensus that prevention should be emphasized to the maximum in all health care systems. In Guatemala, as elsewhere, the trends over the last fifty years or so have been toward greater proportionate expenditures on hospital services and relatively advanced technology for diagnosis and treatment of disease, rather than on prevention. There is difficulty, however, in defining the exact scope of preventive service and in demarcating a clear line between prevention and treatment. An immunization is unquestionably a preventive procedure, but what about a medical examination made in response to a symptom, during which some other unsuspected disease is detected at an early stage? Much ordinary ambulatory health service can be preventive of more serious advancement of a disease. Prevention is also, of course, dependent on many aspects of environmental control (e.g., motor vehicle safety regulations), of nutritional practices, of habits of life, of housing, of working conditions, and many other factors not customarily defined as health services.

In the MOH program, of course, prevention is expected to receive special emphasis. The 1976 expenditures of the Ministry, in fact, identify 12.3 percent of the funds (about \$4,900,000 out of \$39,900,000) for preventive services. Exactly what this proportion means is not clear, and it may be too low in the light of comments offered earlier. The expenditure statement of the IGSS program, on the other hand, does not earmark funds for prevention, but we know that many of its ambulatory services, especially to mothers and children, are clearly preventive in purpose.

The old adage about "an ounce of prevention is worth a pound of cure" is doubtless true for most infectious diseases and malnutrition, both of which abound in Guatemala. One must, nevertheless, not jump to the conclusion that greater expenditures for prevention or even for the prompt ambulatory care of disease to prevent its advancement, will necessarily reduce the need for expenditures on medical treatment. The fact is that prevention, which is most effective in the youngest years of life and can substantially increase life expectancy, keeps people alive so that they may later acquire diseases that demand treatment. In the more highly developed countries, where prevention of the infectious diseases and malnutrition has been quite effective, the expenditures for medical care have not declined. Instead, they have risen both absolutely and relatively to total health care costs as well as to total costs of living.

The value of greater emphasis on preventive services, therefore, must be based on their effects in extending the length and

the quality of life, not on the hope of financial savings in the provision of medical care.

These comments on preventive services apply also, of course, to other sub-systems of health care in Guatemala --those of voluntary health organizations, the private medical and dental sectors, and so on. The "Bienestar" program in the Office of the President, which had a budget of \$4,300,000 in 1976, is almost entirely devoted to preventive services for mothers and children.

#### Administrative Functions

As for prevention, the meaning of administrative functions in a health care system, and their costs, are difficult to define. To some extent, every organized or even individual setting for health care involves administration, as well as direct provision of services. The 1976 financial statements of the two principal governmental health agencies of Guatemala specifically identify certain expenditures as "administrative," but the lack of such identification in other components of the health care system should not lead us to believe that corresponding administrative expenses do not exist.

The MOH accounts for 1976 specify a cost of \$7,742,300 or 19.4 percent of the total for "administration". Similarly, the IGSS 1976 accounting specifies \$7,886,100 or 18.5 percent for administration. These proportions undoubtedly seem high, when it is realized that comprehensive medical care programs --like that of the Kaiser-Permanente Health Services in California-- are said to devote less than 10 percent of their income to administrative

expenses. Without knowing es are  
derived, such comparisons may not be justified, but it would appear  
likely that any national agencies of government --in Guatemala or  
elsewhere-- would be inclined to understate, rather than over-  
state, their administrative expenditures.

In the discussion of private voluntary organizations (PVOs) providing health services, it was noted that 150 such entities exist. Many or most of these raise funds through campaigns for charitable donations, which invariably entail significant administrative expenses. Moreover, the very existence of so many different and typically small separate organizations, each with its own administrative tasks, must require overhead expenses which could be reduced by the coordination or consolidation of efforts. In the large expenditure for privately purchased drugs, substantial administrative expenses are also hidden. A United States Senate investigation of the major pharmaceutical companies in the 1960's disclosed that 26 percent of the wholesale price of drugs was attributable to advertising and other marketing costs --these being only one element in administration. To a lesser extent, but nevertheless a part of, all private medical, dental, and hospital care is administrative overhead.

In general, consolidation of multiple health functions under unified control achieves "economies of scale" in administrative outlay. While this may appear most obvious for the approximate

20 percent of the two total expenditure amounts, going to administration in the major MOH and IGSS programs, it is doubtless also applicable in some degree to most other components of pluralistic health care systems.

#### Estimated Aggregate Expenditures

As a background for considering ways to improve the efficiency of the Guatemalan health care system, it will be helpful to attempt to summarize the costs of its several components and to observe the relative contributions of each. This is most practical in terms of the sub-system sponsorships reviewed in the previous section, and in the light of some of the comments on their functioning and efficiency offered in this section. Much of the data for this summary are derived from the Robertson report, cited above, and for the missing components estimates are based on information or inferences from other sources.

The basic tabulation is offered in Table 2. Each item is numbered to permit explanation of how the expenditure has been derived. This has been as follows:

1. The 1976 MOH expenditures are reported as \$39,900,000. Of this amount, however, 12.3 percent were for transfer payments on behalf of all governmental employees to the social security system. (The Ministry acts as a "conduit" to pay the contributions of all central government agencies as employers of governmental employees.) This proportion of MOH expenditures must be subtracted to avoid double counting, leaving \$34,980,000.

TABLE 2

Estimated Expenditures for Health Services in Guatemala, by Agency Responsible and by Component of the Private Health Care Market, 1975 or 1976

<u>Agency or Health Care Component</u>	<u>Expenditure</u>	<u>Percentage</u>
(1) Ministry of Health (adjusted)	34,980,000	
(2) Social Security-IGSS (adjusted)	31,677,000	(public)
(3) Presidency ("Bienestar")	4,305,000	
(4) Municipality health expenditures	1,000,000	48.4
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(5) Private voluntary organizations	4,500,000	
(6) Private drug purchases	40,000,000	
(7) Private physician's care	21,000,000	
(8) Private hospitals	5,400,000	(private)
(9) Private dental care	4,500,000	
(10) Private enterprises + Miscellaneous	<u>1,000,000</u>	<u>51.6</u>
TOTAL	148,362,000	100.0

2. The IGSS expenditures for 1976 were reported as \$42,637,000. Of this amount, however, 25.7 percent was referable to cash benefits. Subtracting this proportion leaves adjusted expenditures for medical purposes of \$31,677,000.

3. This expenditure by the "Bienestar" program for maternal and child health services is given in the Robertson report.

4. This estimate of \$1,000,000 spent by the municipalities is somewhat arbitrary, but we can be confident that the amount is relatively small.

5. The figure of \$4,500,000 for health-related purposes is estimated by the Keaty's in their recent study of these 150 private organizations.

6. The \$40,000,000 estimate for private drug purchases has been derived from a marketing study in 100 community pharmacies, cited in the text earlier. Robertson considers this to be more likely an underestimate than an overestimate of this component.

7. The estimated expenditure of \$21,000,000 for private physician's care has been derived from a blend between two different methods of tackling this problem. One method was based on combined estimates of two knowledgeable physicians about the average monthly income of sets of Guatemalan doctors in four different brackets of earnings. This method yielded a figure of \$25,200,000. The second method was based on the estimate earlier that private physicians give 6,000,000 ambulatory consultations per year, and at an average of \$3 each (to be conservative) this would yield \$18,000,000 for ambulatory

service. In addition, the supply of about 1,200 hospital beds --assuming an occupancy of each bed 300 days a year (about 82 percent) and a short average stay of 6 days-- would yield roughly 60,000 private in-patient cases per year; at a conservative average of \$50 per case, this would yield medical income of \$6,000,000. Added to the estimated earnings for ambulatory care, the sum is \$24,000,000--remarkably close to the estimate of \$25,200,000 by the first method. The lowered figure of \$21,000,000 is used simply in the interests of conservatism, with respect to this entire estimation process.

8. The figure of \$5,400,000 for private hospital care is derived from an estimate of 360,000 hospital days of care in the 1,208 private hospital beds at an over-all charge of \$15 per day. We know that in the larger metropolitan private hospitals, daily charges are well over \$20, but in the many smaller maternity-focused hospitals the charges are less, leading to the estimated average of \$15 per patient-day.

9. Private dental costs are based on the official registry of 376 dentists in Guatemala and an estimate from two observers that their average private earnings are \$1,000 per month -- yielding an annual figure of \$ 4,500,000.

10. Finally, the estimate of \$1,000,000 spent by private enterprises for medical care and for miscellaneous other purposes (eyeglasses, prothetic appliances) is somewhat arbitrary, but conservative in the light of deficient information.

Altogether we may note that this analytical exercise yields an estimated expenditure for health purposes in Guatemala of about \$148,362,000 in 1976. No allowance has been made in the private sector for traditional healing which, while relatively inexpensive, would doubtless raise this figure higher if included. Nor have the health expenditures for the military forces or police been considered in the public sector. The expenses of constructing water and sewerage systems have also been omitted as only indirectly related to health, and the university training of health personnel is not counted, since this is customarily attributable to the education sector.

Of the total, somewhat over half is found to be in the private sector and, therefore, less amenable to planning than the lesser half in the public sector. It is important to recognize, furthermore, that the Ministry of Public Health's expenditures account for only 23.6 percent of the total. Thus, if a substantial improvement is to be achieved in the efficiency of Guatemalan health services, attention must be given to far more than the performance of the MOH program.

In spite of these difficulties, there are a number of actions that might be taken in the public and organized health care programs which could improve efficiency in the short run. For greater long-term improvements in efficiency, more extensive action would be necessary. Both these levels of recommendations are offered below.

#### IV. RECOMMENDATIONS FOR IMPROVEMENTS IN EFFICIENCY

Consideration of the functional features and certain difficulties, observable in each component of the Guatemalan health care system just reviewed, leads to suggestion of possible steps toward improved efficiency. Our goal is to attain a greater output of needed services in relation to the input of resources. Recommendations are offered in this section first for improvements in the short run; after this are offered thoughts for improved health services in the long run. Before proceeding to these recommendations, a brief listing of the major problems, evident in Guatemalan health services, may be listed.

##### Major Problems

Based on information from numerous sources, the following problems are widely recognized:

(1) The rate of utilization of ambulatory care facilities in rural areas is low. This applies to health centers and health posts of the MOH, as well as to health stations (for accidents) of IGSS. As a result, the health personnel are used at less than their full capacity and the cost-per-unit of service must be unreasonably high.

(2) General hospitals of the MOH, both in the metropolitan center and in the rural departamentos are over-crowded. Their average length-of-patient-stay is very long and their personnel-to-bed staffing ratios are low.

(3) Hospitals of the IGSS are well occupied in the metropolitan center, but are seriously under-utilized in the peripheral departamentos, where only trauma cases are served.

To maximize rural hospital occupancy, minor trauma cases are kept hospitalized longer than necessary, despite the wastage of this practice.

(4) The availability of needed drugs and supplies, in both ambulatory care units (especially health posts) and hospitals of the MOH outside the metropolitan center, is often inadequate.

(5) The professional linkages among health posts, health centers, and hospitals-while theoretically intended to be continuous are, in fact, very weak. This has many negative consequences for the efficient performance of personnel and the quality of health services.

(6) Physicians seldom work for the full allotment of time for which they are paid each day in the health centers, and to some extent in the hospitals. As a result, their output of service or "productivity" per hour paid is low.

(7) Medical students, who function as "doctors" at health posts for six months of their university training, are poorly supervised, so that their potential for service is seldom realized.

(8) The concentration of physicians in the metropolitan center and the shortage in rural areas, while long a serious problem in Latin America, is growing even worse in Guatemala. Increasing numbers of new medical graduates continue to settle in the capital city, where the doctor supply is already saturated.

(9) The functions and role of the newly trained rural health technicians (TSR's) have become unclear, especially in relation

to the tasks of auxiliary nurses at the MOH health posts. The skills for which they were trained are not being properly used.

(10) Insofar as categorical expenditures can be identified, those allotted for preventive and ambulatory services are low, in relation to those devoted to hospitalization.

(11) Expenses for administration in the MOH and IGSS programs are visibly very high. While less visible in other sub-systems (private and public), they are also probably excessive because of the multiplicity of agencies and individual health care providers.

(12) The access to health care of several hundred thousand workers (and their families) on agricultural farms is extremely poor, as are their basic living conditions.

(13) The Health Area Chiefs, who are theoretically responsible for all MOH activities in their 24 territories, are poorly trained for their mission. Likewise, they are entrusted with little authority for carrying out their responsibilities. Many of the problems noted above follow from this basic problem.

(14) The exceptionally large private economic sector of medical care creates not only enormous social inequities, but it generates a vicious circle of incentives that continuously weaken the public sector of health services.

Short-term Recommendations

In response to the above brief summary of major problems, certain short-term recommendations may be offered. In a sense, they boil down to the application of two basic administrative principles:

- a. Reasonable management of resources,
- b. Central planning and decentralized implementation.

Some proposals for improved efficiency inevitably overlap with others. Likewise, certain of the problems listed above require several actions for their solution, while certain actions may help to correct several problems.

1. The low utilization of MDH ambulatory care units in rural areas is attributable to several factors, most of which add up to: a lack of confidence by the people in the benefits of these units. It is recommended that, in association with each health post and health center there should be organized local "Community Health Councils" chosen by the people themselves. These councils should be consulted on the health needs perceived by the population. They should have a specific role in selection of persons to serve as "health promoters" for encouragement of people to make use of the health facility. Health promoters should be paid by the local community; a source for this might be very small charges (e.g. 10 - 20 cents) collected from persons attending the health post or center. Thus, the health promotor would have incentive to maximize his or her efforts.

2. To cope with the problem of transportation, all health post personnel should have a schedule of visits to surrounding villages or settlements once a month or oftener. Such "mobile clinic" services would also spread the message about the availability of the health post (between the monthly visits).

3. To enhance the technical capability of health posts, each should be staffed ultimately with a TSR, rather than an auxiliary nurse. The auxiliary nurse should be stationed at health centers (Types A and B), where she can function as a true "auxiliary" - helping the doctor and working under supervision. She should also be trained to make home visits in the surroundings of the health center, as necessary. Since health posts serve at least 2,000 people and usually more, they should be staffed with a health worker of at least the training and technical knowledge of a TSR. As noted earlier, the health post TSR should be aided by a health promoter and backed up by a Community Health Council. It should be emphasized that the functions of the TSR at the health post must be both therapeutic (clinical) and preventive. In accordance with his training he should treat the sick but he should also promote improved environmental sanitation and health education on diet, hygiene, etc. World-wide experience suggests that rural people are more receptive of preventive services, if they are furnished by the same person who effectively treats their ailments. Yet, the TSR must be careful not to allow the demands for

medical care to stand in the way of his essential preventive activities.

4. Linkages --professional and administrative-- between health posts and health centers should be forged and carried out systematically. Visits (of 2-3 hours) should be made to the health post at least fortnightly by a physician from the nearest health center, for both supervision and consultation. Isolating the TSR or any health worker at a health post is destructive of motivation and quality of performance.

5. Similar linkages should be developed in each health area between the health centers and the main health area hospital.

A doctor from the hospital should visit each health center, for supervision and consultation, at least once a week. Likewise, the health center doctor or doctors should be invited to visit the hospital for 2-3-day periods once a month, for his professional stimulation and technical assistance.

6. To oversee the implementation of these linkages, each health area should be headed eventually by a physician with adequate public health training. Only with such training can one expect the type of leadership required. Correspondingly, these Health Area Chiefs must be entrusted with responsibility to supervise the dynamic relationships recommended. If this health official has any clinical responsibilities in the health area hospital, they should be minimal. For administration of the hospital's business affairs there should be an Administrative (non-medical) Officer.

7. In order to provide incentives to Health Area Chiefs, good work should be rewarded with salary increments. Records should be kept on attendance at health posts and health centers in each local health area. The central Ministry of Health should compile rates for each area, based on the area population as denominator. Annually, awards and salary increases should be given for both (a) the area with the highest utilization rate, and (b) the area with the greatest degree of improvement over the previous year. Such competitive incentives are, of course, subject to abuse, and the central MOH must be alert to detection of any falsified records.

8. In the health centers, the doctors must have time to make the periodic visits to health posts recommended above. This can be achieved only by their making adequate delegation of tasks to the auxiliary nurses. In larger health centers every effort should be made to assign a fully-trained professional nurse.

9. To encourage proper organizational linkages among ambulatory care units (both health posts and health centers), patients living more than a short distance (perhaps 5 kilometers) from a hospital should be accepted in the hospital OPD only on referral from an ambulatory unit. Exceptions should, of course, be made for true emergencies, but at present many patients simply by-pass the nearby health post or health center, going directly to the hospital for any and all problems. This not only leads to excessive pressure on hospitals, but also accounts in part for the low utilization of the ambulatory units. The pattern of referral recommended would counteract this wasteful practice.

10. Also, to encourage the proper linkages among facilities, transportation (simple ambulances) should be provided at each health center to move patients, as required, to a hospital. There should also be radio communication between all health posts, health centers, and the hospital.

11. In response to the drug distribution problem noted earlier, the system of shipments from a central depot to the peripheral units obviously requires revision. It may be sensible

to send out certain batches of drugs and supplies monthly, without an order being sent in, but provision should also be made for responding properly to regular monthly orders sent in from the health posts and health centers. One of the health center doctor's responsibilities should be regular submission of these orders, based on his weekly visits to the health posts.

12. Regarding the use of health promoters to attract increased attendance at the ambulatory care units, an effort should be made to recruit some of these from "curanderos" who are not too old to change. The hazards of such a policy are obvious, but in Africa and elsewhere, the World Health Organization --well aware of the difficulties-- has recommended liaisons between modern and traditional health care providers. Perhaps some role can be found for the traditional healer, in actual care of the patient, insofar as most illnesses have a psychological component.

13. The problem of doctors "short-changing" the MOH or IGSS programs by spending less time than they are paid for, is difficult to tackle. One possibility is to pay, not on a schedule of 2 or 4 hours per day or the like, but rather on the basis of the hours actually worked each day. A "punch-clock" would obviously not be feasible, but one might expect that, with diligent supervision from the Health Area level, honest reporting on a "monthly timesheet" might eventually be achieved. Relating the number of patients seen to the hours of work reported would offer a rough basis for identifying deviance.

14. The salaries of doctors and other health personnel should be equalized across the MDH and IGSS programs, as closely as possible. It is noteworthy that the Colegio Médico favors such a policy.

15. Correction of overcrowded hospitals can hardly be expected without decreasing lengths-of-patient-stay, and the latter can hardly be achieved without increasing the ratio of hospital personnel to patients. To process the diagnostic work-up of patients rapidly and to give treatment without delays requires more hospital personnel than are now found in Guatemalan hospitals, both small and large ones. Inadequate laboratory staff or non-operating X-ray equipment, for example, cause frequent bottlenecks in the management of cases. While such personnel increases would also raise expenditures, they would increase efficiency, since more patients could be served per year in the same number of beds. For reasons offered in the previous section, one should not harbor the illusion that strengthened ambulatory services will necessarily lead to reduced hospital utilization; some hospital admissions may be prevented, but a greater number are likely to be promoted as a result of case-detection. Some post-acute hospital patients --both children and adults-- could be discharged to "midway" facilities for extended care; this would apply, for example, to a child recovering from a severe malnutrition syndrome or to an old man recovering from a stroke. A few such convalescent facilities could be built adjacent to general hospitals on a trial basis.

16. In the coordinated use of rural hospitals between the MOH and IGSS, economies may be achievable. At present, IGSS has contracts with some ten MOH rural hospitals for care of insured trauma patients. The converse type of contract might be concluded in places such as Escuintla, where the IGSS hospital is half-empty, while the MOH hospital is badly overcrowded. Comments are frequently made about "duplication" of hospital facilities in Guatemala, but this is not the problem so much as incoordination and wasteful use of the facilities available.

17. The proper maintenance of hospital equipment is needed throughout Latin America. Recommendations on this subject, relevant to efficiency also, is the subject of another USAID report.

18. Economies and efficiencies in the operation of the scores of voluntary health organizations in Guatemala would be achieved by the efforts of a national council of such agencies, as recommended in another USAID study. It is also recommended that the location and functions of these agencies be subject to review by the MOH, so that their services are coordinated with those of the Ministry, filling gaps rather than duplicating efforts at certain locations. (There are enough non-covered areas in Guatemala to provide service opportunities to everyone)

19. It is recommended that personal health service coverage to farm workers and their families on fincas be achieved through extension of the IGSS program. As a result of recent governmental decisions, according to a top IGSS official, it is expected that such coverage will be extended to six Departamentos in the southern region of Guatemala by 1979. These areas contain 1467 agricultural enterprises, with more than 308,000 agricultural workers. It should also be noted that even migratory agricultural workers are legally entitled to social security protection, once they have worked for more than 60 days in "covered employment". This employment need not be with one finca-owner. The IGSS officials are said to be undertaking an educational program (by radio) to inform Indians (in their own language) about their entitlements.

20. In the now inadequately covered agricultural areas of northern Guatemala, it should be noted that the new health program, supported by a large BID loan, is intended to reach people in the hundreds of municipalities of under 2,000 population --not served by current MOH health posts. The staffing needs of the 173 health posts and 55 health centers contemplated for this region will, of course, be large, but the new construction should hopefully give impetus to the MOH to meet these needs.

#### Long-term Recommendations

Just as the above short-term recommendations involve two basic principles (good management and decentralization), long-term improvements in health care efficiency involve two other basic principles:

- a. Strengthening the over-all public sector of health care,
- b. Achieving maximum integration of services.

It is not utopian to formulate long-term recommendations for Guatemalan health services, even though their effectuation would obviously depend on larger political developments. These long-term recommendations should be presented, if only to protect health leaders against frustrations at what may be, in fact, the limited accomplishments possible through effectuation of the short-term recommendations.

1. Successful implementation of the above 20 recommendations would, in the long run, require enlargement of the public sector of health services. The customary method of reaching such an objective is to increase taxes which can channelize funds toward

meeting socially desired objectives. The report by Professor Robertson, cited earlier, has suggested various ways that this might be done within politically realistic assumptions. It would be illusory to overlook the eventual need for such modifications in tax policy, if efficiency in the use of health resources is to be successfully achieved.

2. The majority of financial resources now apparently absorbed by the private health sector in Guatemala has been noted earlier. It could hardly be expected to change this by any deliberate restrictions on private medical practice, the private purchase of drugs, or the like. On the contrary, the private spending which impedes so much efficiency can be realistically influenced only by deliberate strengthening of public resources, so that the market (or demand) for private services declines on its own. This strategy has been basically successful in most Western European countries, and with a lesser market of affluent purchasers in Guatemala, it should succeed all the more readily -- if applied.

3. By decision at the highest level (the President), the two major public programs of health service -- MOH and IGSS -- should eventually be integrated. This has been the trend in several Latin American countries, and beginnings in the way of coordinated activities have been made in Guatemala. Contractual joint use of one hospital has been a long established practice of the two agencies in Guatemala. Recently the planning of new hospital construction has been done by a joint MOH-IGSS committee.

Approaches differ; in Chile there was complete integration of the two systems in 1952 after their separate operation for 30 years. In Costa Rica integration has recently been achieved by assigning all personal health service facilities to Social Security, while the Health Ministry does environmental sanitation, health education, planning, regulating, etc. Panama has used the strategy of integrating, on a province by province basis. Colombia is now actively moving toward integration. If a Presidential decision is made, Guatemala could surely design its own strategy. Such action would not only save clearly on the large current administrative costs of both agencies, but it would facilitate efficient use of scarce resources throughout both sub-systems of health care.

4. While we know it is much easier said than done, Guatemala should move toward a merit system in appointment of all health personnel below the level of the elected Minister of Public Health. Far too many appointments are now made on the basis of political affiliations, without regard to qualifications for public health roles. This is especially important at the level of Health Area Chiefs.

5. Since professional education is publicly financed in Guatemala, it would be reasonable to require a period of one or two years of rural service of all graduate physicians, as now done by many countries to cope with the maldistribution problem. Higher salaries and other fringe benefits should be offered to hold

physicians in rural areas, as done in the Scandinavian countries. An alternative policy would be to bar new medical graduates from settlement for five years, or thereabouts, in the capital city, as Quebec, Canada, does regarding the city of Montreal or as Tunisia does regarding the city of Tunis. (It may be noted that many doctors in Guatemala City are barely making a living, in light of the overcrowded profession there.)

6. Eventually, it should be the objective to grant some degree of authority over all public and quasi-public (such as voluntary health agencies) health services to the Area Health Chief. It is only at this local level that real integration can be achieved, and with it improved efficiency.

7. For effective administration of 24 Health Areas of such broad scope, supervision from one national center would not be feasible. Therefore, a second echelon of 6 or 7 health regions should be reinstated (as existed previously), each region containing 3 to 5 Health Areas and about 1,000,000 population. The staff of each of these Regional Health Offices should be small, but very highly qualified.

8. Regardless of the multiple sources of public funds --general revenues, social security, foreign aid, or philanthropy-- their expenditure should be funneled through the local Health Areas. Only through such a policy can the available health care funds be used with maximum efficiency.

The social and political constraints against these long-term recommendations, and the difficulties of implementing, even many of the short-term ones, are obvious. But one must face alternatives.

The world is in turmoil and the demand for "human rights", as they are being conceived with widened meaning by President Carter, is growing everywhere. Expanded human welfare, including access to reasonable health services, is one of the prices for social stability.

Guatemala is one of the family of nations in Latin America. Its health record in that assemblage is not good. National pride should be a further impetus for health service improvements.

Finally, one need not labor the basic importance of health progress as an element in economic development. Economists have come to accept increasingly the argument of Gunnar Myrdal, a quarter-century ago, that health expenditures are more reasonably to be regarded as social investments than as individual consumption. A healthier Guatemalan population can be better prepared to carry forward the movement for general economic development.

## Annex 5.10

References

- 1) World Health Organization, Fifth Report of the World Health Situation, "Guatemala", pp. 106-108, Geneva 1975.
- 2) Ministerio de Salud Pública y Asistencia Social, Proyecto: Aumento de Cobertura de Servicios de Salud, Red de Servicios Por Areas de Salud, Guatemala, Julio de 1975, Cuadro No.24.
- 3) Unpublished data of the National Economic Planning Council, 1976.
- 4) Ministerio de Salud Pública y Asistencia Social, República de Guatemala Recursos Humanos y Distribución de Camas en Instituciones de Salud Pública, Año 1975, pp. 166-167.
- 5) Instituto Guatemalteco de Seguridad Social, Informe Anual de Labores 1975, Guatemala City, Agosto de 1976.
- 6) Charles A. Keaty and Geraldine A. Keaty, A Study of Private Voluntary Organizations in Guatemala, USAID, May 1977 (unpublished).
- 7) Information available from Dr. W. Ascoli of Guatemala City.
- 8) Gordon D. Brown, Extension of Health Services to Farm Workers in Guatemala, USAID, June 1977.
- 9) P. Harrison, "Maternal-Child Health Study", USAID, 18 May 1977 (unpublished document).
- 10) Dr. A. Viau, personal communication.
- 11) Dr. J. Aguja, Director of Medical Services, IGSS, personal communication.
- 12) Colegio de Médicos y Cirujanos de Guatemala, La Expectativa de Quehacer Médico Guatemalteco, November 1972.
- 13) Dr. H. Figueras of the National Economic Planning Council, personal communication.
- 14) Dirección General de Servicios de Salud, Memoria Anual de Actividades de Areas de Salud 1975, Guatemala, 1976
- 15) República de Guatemala, Ministerio de Salud Pública y Asistencia Social, Diagnóstico de la Situación de Salud a 1973, Guatemala, Mayo de 1974.

- 16) Derived from data in: M. I. Roemer and A. Ormosa, Health Service Coordination in Guatemala, Washington: American Public Health Association and USAID, June 1975.
- 17) Robert L. Robertson et al, Financing the Health Sector of Guatemala, USAID, June 1977, unpublished document, pp. 13-14.

Persons Consulted

In sequential order, the persons with whom I was privileged to have informative discussions were as follows:

1. Dr. E. Croft Long, Head of Public Health Division, U.S. Agency for International Development, Guatemalan Mission (USAID).
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3. Arthur Silver, USAID Programs Officer.
4. Norma Parker Hill, USAID Loan Program Officer.
5. Dr. Carlos Estrada, Head of Health Planning Unit, National Office of Economic Planning.
6. Dr. Guillermo Chávez, National Office of Economic Planning (CNPE).
7. Dr. Alberto Viau, Vice-President of National Academy of Medical, Physical, and Natural Sciences.
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9. Dr. Angel Paz Cojulin, Director General of Health, Ministry of Public Health and Social Assistance.
10. Dr. Jaime Solórzano, Chief of Programming Division, Ministry of Public Health (MOH).
11. Dr. Julian Aguja, Director of Medical Services, Guatemalan Institute of Social Security (IGSS).
12. Milton Zepeda, Chief Actuary, IGSS.
13. Dr. Hugo Figueroa, Health Planning Unit of CNPE.

14. Dr. Juan Jacobo Erdmenger, Division of Programming, Evaluation and Statistics, MOH.
15. Dr. Carlos Ochoa, Zone Director, Pan American Health Organization.
16. Dr. Juan Aguilar, President of the Guatemalan Public Health Association.
17. Dr. Guillermo Arroyave, Institute of Nutrition of Central America and Panama (INCAP).
18. Dr. Hernan Delgado, INCAP.
19. Dr. Julio Díaz Castillo, President of the Colegio Médico de Guatemala and Medical Director of IGSS General Hospital.
20. Dr. Carlos Cossich Marquez, President of the National Academy of Medical, Physical, and Natural Sciences.