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AN INCENTIVE-BASED AND INTER-INSTITUTIONAL COMMUNITY ORIENTED PRIMARY HEALTH CARE SYSTEM FOR INFORMATION, TRAINING, AND SERVICE DELIVERY

A HEALTH SECTOR ASSESSMENT

PREPARED FOR USAID/GUATEMALA

THE INSTITUTE FOR RESOURCE DEVELOPMENT

AT WESTINGHOUSE

AND

THE VECTOR BIOLOGY AND CONTROL PROJECT/USAID

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EXECUTIVE SUMMARY

Current (1986) health conditions in Guatemala provide dramatic evidence of resource shortages and of imperfect use of the scarce resources available. Key indicators of Guatemalan health show high infant mortality, low life expectancy, high incidence of communicable and chronic disease, malnutrition, and high fertility, than the same rates recorded for Latin American countries. Accordingly, Guatemalans are deprived of one of their most basic human rights -- that of a reasonable standard of health.

USAID/Guatemala, fully cognizant of these remediable shortcomings, engaged the Institute for Resource Development/Westinghouse to recruit an international team of experts to produce a health sector assessment for Guatemala. The team included a specialist in primary health care and family practice, an epidemiologist, a malariologist, a health economist, a medical logistician, and an anthropologist. The result of the team's efforts is a truly joint report.

The 1986 Guatemalan health sector assessment serves to update an earlier multi-volume evaluation of health conditions performed in 1977. The decade following the 1977 assessment saw many changes in Guatemala. The country passed through a succession of military dictatorships and a spasm of violence during the early 1980s remarkable for its ferocity. Following a constitutional convention, in 1985 the military voluntarily ceded their authority to a democratically elected president (for the moment, a greater degree of civil tranquility and political democracy have returned to Guatemala). Thus Guatemalans together with the international agencies dedicated to promoting their welfare now find themselves at a crucial juncture.

The uniqueness of the present moment lends extra urgency to the conclusions and recommendations of this assessment. Actions impossible even in the recent past may now be possible.

The present report consists of 16 chapters that deal with Guatemalan health problems in a systematic and practical way. This Executive Summary includes only the <u>most important recommendations</u> for USAID/Guatemala action, that is, those to which <u>first priority</u> should be attached. <u>Other recommendations</u> about desirable activities with <u>lower priority</u> are not mentioned here but are reviewed in detail in their respective chapters in the text of the report.

The first chapter begins with a consideration of the desirable policy dialogue in five areas. It recognizes that <u>USAID's most influential role</u> may lie in its leadership in sponsoring <u>policy dialogue</u>, rather than in brute force "move-the-money" efforts.

Accordingly, the first chapter urges dialogue on the replacement of short-term objectives (specific diseases, big-push campaigns) with longer-term goals. Similarly, immediate program needs must be subject to longer-term health-system objectives, to permit global coordination to replace partial approaches. The USAID is urged to build on local strength rather than seeking to create institutions from the ground up. Urban and rural considerations are explicitly introduced as relevant to any Guatemalan policy dialogue. The health situations in peri-urban areas surrounding Guatemala City are examined as a special problem case. Finally, the interactions between public providers of health care and the private sector are also reviewed.

Problems specific to Guatemala are considered throughout the introductory chapter. Examples include oral rehydration therapy, immunization, child survival more generally, the fiscal sustainability of health programs, the organization and administration of the Ministry of Health, the extent of coverage of health programs and their uneven distribution, and the problems of coordination between public and private health providers -- all within a Guatemalan context. An active policy dialogue between USAID, the Guatemalan health authorities, and other national and international agencies is recommended as an integral part of any effective health strategy.

The first chapter concludes by introducing basic policy recommendations in eight important areas -- areas whose detailed examination consumes the remainder of the report.

Incentives. The first recommendations, again within a context specifically Guatemalan, urge the adoption of incentives in health planning and health delivery. Carefully crafted sets of incentives should apply both to providers and to consumers. These incentives may be monetary and non-monetary. A Guatemalan Health Maintenance Organization is moving toward paying its physicians based upon the number of plan members for whom they assume responsibility -- a "wellness incentive", while providers in Ministry of Health clinics may be rewarded for data collection by prompt and accurate return of results.

Patient incentives range from a month's free membership in Salud Total for enrolling another member to a vaccination card for the mother of a child covered by an immunization program.

Multi-institutional setting. The Guatemalan health system contains a variety of institutions. Public sector providers include most prominently the Ministry of Health and the Guatemalan Social Security Institute. In the private sector, hospitals, clinics, pharmacies, private medical practices are present. They are supplemented by more than 150 private voluntary organizations, United Nations dependencies,

and other international agencies. The report recommends that effective extension of health care exploit the possibilities for leverage and coordination present in these diverse institutions -- institutions that at present operate independently of one another, with all the possibilities for gaps and duplication implied by such independence. The close connections between multi-institutional cooperation and the areas of important policy dialogue mentioned earlier in the chapter now take on added significance.

Community orientation. A third set of recommendations, which like all the others, is explored in more detail in succeeding chapters, deals with the desirability in Guatemala of a community-oriented focus. Many of the problems of the present system appear to stem from a highly centralized, top-down administrative approach. Such an approach neglects or even suppresses the rich cultural diversity of the country. Processes of goal-setting and health management are stripped away from the intended beneficiaries. The recommendations also explore preliminarily the issues of community responsibility and community participation.

Primary health care. The fourth family of recommendations deals with primary health care. Guatemala is far from unique in paying lip service to primary care at the same time that it tilts its budgetary allocations toward tertiary care. A renewed focus on child survival is clearly an important element in Guatemala's primary care strategy. In addition, the assessment emphasizes that strengthening primary care will occur only when midwives, volunteers and other para-medical personnel are incorporated more fully into the delivery system.

Disease prevention. The fifth set of policy recommendations is concerned with disease prevention and health promotion. These concepts are fundamental to a country like Guatemala, with a high incidence of preventable diseases. Unfortunately, Guatemala at the present time invests only a small percentage of its total health resources in prevention. Approximately 80% of expenditures by the Ministry of Health are for secondary and tertiary hospital care. Despite an active accident prevention program, the Social Security Institute (IGSS), has few prevention programs and has recently curtailed one of those. Some success may be noted in national immunization campaigns, although the last one, held in 1986, was flawed, perhaps due to a strike by health workers. The greatest need in Guatemala today is for effective and targeted programs in disease prevention for those diseases contributing most heavily to morbidity and mortality indices.

Health information. The initial chapter continues by recommending improvements in Guatemala's health information network. Existing information gathering, processing, distribution, and evaluation are deficient. These deficiencies, in turn, erect substantial barriers for

rational and cost-effective approaches to improving health care. More than the Ministry of Health is involved, although its position as the cornerstone of the health system leads the report to focus on its information problems. The biggest gap (and thus the clearest recommendation for more information), however, lies in the private sector, comprising at least half of the Guatemalan health delivery system.

Human resources. Guatemalan human resource questions occupy a prominent part of the assessment. Both formally trained medical personnel and traditional practitioners are reviewed. Strong recommendations deal with the training of paramedical personnel in selected categories (rural health technicians, midwives, auxiliary nurses). More effective use of medical students in their obligatory period of service and a plan to initiate a residency in family medicine have considerable attraction and deserve international support.

Service delivery. The first chapter concludes with an eighth set of recommendations. These center around questions of Guatemalan service delivery. The report recognizes that good information, well-focused training, and the like are meaningful only if health services can be delivered in a timely and efficient fashion. But traditional service delivery has failed to concentrate on primary care or preventive medicine or paramedical personnel or usable information or most of the other subjects of the previous recommendations. The report includes a series of recommendations whose goal can be summarized as a re-dedication to the end product of medical care: improved service delivery to all Guatemalans.

The assessment's second chapter provides more detailed background on Guatemalan health conditions. The demographic situation with its high fertility and infant mortality, the corresponding youthful age distribution of the population, the chief causes of infant deaths (pre-natal mortality, respiratory diseases, digestive-system illnesses, and infectious and parasitic diseases), and the rural-urban distribution of the population are reviewed. The chapter also examines in detail the stated health priorities published in official documents of the Ministry of Health, the Pan American Health Organization, and the Kissinger Commission. Supplementary interviews with officials in the Guatemalan mission of USAID provide additional detail on health goals and priorities.

In the third chapter, the present document pulls together briefly the recommendations made in the multi-volume 1977 health sector assessment. It goes on to consider USAID's response to those recommendations. It concludes that, for a variety of reasons, USAID and the government of Guatemala have not implemented extensively the recommendations from the 1977 assessment.

Chapter 4 describes the organization of the Guatemalan health sector. Extensive coverage is devoted to the Ministry of Health, the Social Security Institute (IGSS), health-related private voluntary organizations, and other private sector activities. The chapter clarifies the complexity of the organizations, their fields of operation, and their organizational and administrative problems.

Major recommendations in Chapter 4 that emerge from a review of the health sector's organization urge USAID's support for:

- Community-level primary and preventive care sponsored by the Ministry. A notable example, treated in detail in a later chapter, is the rural area of San Juan Sacatepequez.

- Reduction of mortality and morbidity in high-risk groups such as women of child bearing age and children under 5 years of age. Possible projects especially appropriate for Guatemalan circumstances include programs devoted to ORT, immunization as related to childhood communicable diseases, and infant nutrition more generally. In addition, active detection, surveillance, and evaluation should form an integral part of Guatemalan projects directed toward high-risk groups in poor populations, both urban and rural.

- Multi-institutional health projects at the local level, especially incorporating efforts by government health agencies (including hospitals), public and private universities, the private sector (including PVOs). A notable example of such cooperation in the past is Guatemala Sur with its El Milagro Health Center, reviewed as a detailed case study in a later chapter.

- Local-level community and consumer direction and control of health services. In Guatemala, service delivery projects should be guided in part by local health advisory committees and community groups with budgetary and decision-making authority. Clearly such a recommendation will not be an easy one to carry out, since it requires decentralization of authority.

Continuing in Chapter 4, the assessment recommends that USAID avoid involvement in Guatemalan tertiary care projects, as well as projects that impose burdensome obligations to pay for continuing streams of current costs out of strained local budgets.

In connection with the Social Security Institute (IGSS), the report's principal recommendations urge that USAID support:

- Geographic extension of IGSS maternal and child health programs to more of the 22 departments than the 9 now covered.

- Inter-institutional goal setting and cooperation between the Ministry of Health and the IGSS.

The assessment recognizes the PVOs in Guatemala as useful and highly visible organizations. It recommends a continuing role for USAID with respect to these important organizations:

- Better coordination among the numerous PVOs should be sought through agreed-upon policy guidelines (recall the policy dialogues mentioned earlier) rather than through intermediary funding agencies such as ASINDES.

- Potential support areas for PVOs include training rural health promoters, extension of family planning information, participation in ORT and immunization programs, and distribution of surplus food commodities, among others.

To begin to comprehend the scope of activities and interventions in the rest of Guatemala's private sector, the report recommends that USAID support systems for the private sector's reporting of health data. Particular needs at present lie in the development of appropriate reporting forms and incentives to private health providers for timely and accurate reporting.

Chapter 5 of the assessment deals with socio-cultural factors in health care. The report recognizes the problems implicit in improving health in a country where the indigenous population is concentrated in rural areas, speaks a bewildering variety of non-European languages, and has established a characteristic set of folk beliefs about health and medicine. While anthropological studies have confirmed the unexpected effectiveness of some of these practices, they remain at the fringes of our comprehension. Yet the extension of health care to these notably under-served populations requires considerable knowledge of their perceptions, beliefs, and practices and languages.

Thus the report recommends USAID support for studies leading to improved communication between providers and patients from varied cultural backgrounds. The role of traditional practitioners should be a key element in such studies. Community participation in the design, execution, and evaluation of this research is reinforced by this recommendation.

Chapter 6 of the assessment reviews briefly the role of international agencies in the Guatemalan health sector. It concludes that:

- USAID should recognize the challenges implicit in multi-sectoral projects such as those combining health measures with, for example, water and sanitation. Limited administrative and technical support for such projects in the past have reduced their effectiveness.

- USAID should join other agencies in avoiding involvement in high-technology hospital-based programs. Construction of new health facilities at all levels should be discouraged, at least until existing installations are adequately staffed and operating near capacity.

- USAID should coordinate more effectively its activities with those of other international agencies such as the Interamerican Development Bank and UNICEF. Particular attention, once again, should be paid to Guatemala Sur as a possible model for future multi-institutional program development.

Chapter 7 is the first in a sequence of three chapters dealing with specific health conditions. It reviews the Guatemalan situation in maternal and child health, family planning, and nutrition. Chapter 8 considers communicable disease control and features sections on diarrheal diseases , diseases prevented by immunization, respiratory diseases, malaria, onchocerciasis, and a variety of other communicable diseases. the sequence concludes with Chapter 9 on water and environmental sanitation.

Clearly these subjects are central to AID's health concerns. A correspondingly important set of recommendations for USAID action grows out of the assessment.

- Child survival. USAID should increase its support for the child survival program conducted by the Guatemalan Ministry of Health. Within an overall context of emphasis on primary and preventive community-based care, specific programs should include ORT, immunization and early diagnosis and treatment of Acute Respiratory Infections.

- Maternal and Child Health. USAID should support more training and supervision of unskilled midwives to improve hygiene surrounding child delivery. These activities should be a compulsory task for physicians and nurses working in rural areas and for all health professionals during their supervised professional practice.

- Family planning. USAID should continue its support for family planning services, such as those provided by APROFAM. This is especially important for inaccessible rural areas. Educational programs on contraception should play an increased role in family planning.

- Nutrition. Owing to the close relation between nutrition and health, USAID should continue its support for Guatemalan agricultural programs, especially those related to locally consumed crops.

- Selective immunization. USAID should emphasize more highly focused immunization program ("channelization") in areas of Guatemala where the necessary health infrastructure exists. This should replace an emphasis on mass national campaigns.

- Immunization products. USAID should make available a supply of immunization products, where and when needed. In Guatemala this will require the provision of certain commodities such as vehicles and other components of the cold chain.

- Malaria. Because of the alarming rise in cases of malaria, USAID should support the Guatemalan malaria control program. This should include an emphasis on reducing household spraying of chemical insecticides, an improvement of the surveillance network, technical assistance for increased knowledge about the ecology of the major vectors, operational research on alternative means of vector control, and improvement in the system of anti-malarial drug distribution.

- Onchocerciasis. USAID should support a national campaign to eradicate onchocerciasis in Guatemala. The campaign should be based on the provision of Ivermectin for treatment and reduction of disease potential. Focal control of vectors in well-defined areas of transmission should also be emphasized.

- Water and environmental sanitation. USAID should use its influence as a major donor to help achieve better coordination among the numerous national organizations engaged in water and sanitation projects. Of particular usefulness would be case studies of the quality of water and sanitation systems and the direct relationship of improvements in water for better health.

- Water in peri-urban areas. USAID should place more emphasis on the provision of water to peri-urban areas of Guatemala City and smaller cities in the country.

In Chapters 10 and 11, the assessment explores economic and financial aspects of health care delivery. This exploration is reflected in many of the report's recommendations. The chapter includes a survey of sources and uses of funds by the Ministry of Health and the Social Security Institute (IGSS). An original estimate of the size of private sector spending within Guatemala appears. It has risen to nearly 40 percent of total health expenditures. The chapter also includes a section on problems for providers and consumers alike which have stemmed from Guatemala's unanticipated inflation.

The absolute and relative size of government financial support for health has fallen in the mid-1980s. This leads to a recommendation that USAID assist the Ministry of Health in returning to levels of real per capita expenditure on health no less than those achieved during the early 1980s.

The surprising size of the Guatemalan private sector in health generates a recommendation that its magnitude be more carefully documented through studies of the size and economic implications of private hospitals, outpatient clinics, private physicans's offices, time studies of physicians' activities, and private pharmacies.

Chapter 12 examines the administration of Guatemalan health care by the Ministry of Health. Although a National Health Council has been established to coordinate all the activities of the health sector, it has never met. Thus the Ministry must bear the brunt of coordination and planning in health. The assessment recommends USAID support for the Ministry in incorporating budgetary considerations and limitations into its national health plans. This would supplement the use of physical health indicators in the health planning process and make the planning process more realistic.

Chapter 13 explores the important area of human resources in Guatemalan health. The uses of doctors and other health personnel in the Ministry and the Social Security Institute (IGSS), as well as their training, are central parts of the chapter. Recommendations that USAID should encourage certain programs and support them financially follow:

- Programs that integrate health educational experiences and health service opportunities. These programs should bring together universities and public sector institutions. Examples include the already mentioned programs in San Juan Sacatepequez and Guatemala Sur.

- Programs that put greater emphasis on the proven capabilities of rural health technicians and auxiliary nurses.

- Programs by PVOs that train health promoters.

- Programs that attract existing health professionals to under-served areas, whether urban or rural. One Guatemalan example is the proposal by Roosevelt Hospital for the establishment of a formal residency in family practice.

Chapter 14 turns to an exploration of the sensitive problem of health logistics in Guatemala. The Ministry, the IGSS, and the private sector are all active in the production, importation, and physical distribution of medical supplies and equipment. First priority recommendations for USAID support include the following:

- In collaboration with PAHO, an analysis of the basic list of drugs purchased by the Ministry. The goal of the analysis would be a shorter list of drugs essential to primary care. The more selective list of drugs, in turn, could be more readily supplied to distant health posts throughout the country.

- Once the list of essential drugs is available, the USAID should assist the Ministry in exploring alternative modes of delivery. These could involve the private sector. In any event they should provide incentives necessary to ensure timely and consistent product distribution.

The assessment's Chapter 15 inspects the Guatemalan health sector's management information system. Considerable frustration has been expressed by all those closest to it. Accordingly, careful study led to a number of high priority recommendations for USAID support:

- Technical assistance for a study on re-structuring the health information system. If other recommendations in this report are to be effective, more timely and reliable health information is absolutely essential.

- Training technical personnel needed to run and maintain a fully functioning health information system.

- An evaluation of the need for complementary computer facilities. Given the current configuration of equipment, these could include mini-computers compatible with the Ministry's present micro-computers, as well as complementary software.

Finally, the assessment concludes with a chapter that reviews principal conclusions and recommendations. In this summary, they have been stated above. The final chapter also examines four case studies -- two that might serve as models for implementation of the basic recommendations noted in Chapter 1, and two others that exemplify more prevalent and less promising ways to solve Guatemala's health problems.

The two model case studies provide working examples of many recommendations found in the health sector assessment. Their existence shows that the recommendations are not idle. It is significant that of the two model case studies, one is rural and the other is urban. It is also significant that both are strongly multi-institutional in their approach, involving the public and private sectors, as well as universities and service agencies.

The name of one of the model health centers, El Milagro, provides the basis for the title of this report: "The Miracle" of Guatemala. As is noted in the final chapter, the miracle of Guatemala is symbolized by a healthy child. This health sector assessment is dedicated to the proposition that implementation of its recommendations can assure "Health for All" in Guatemala.

GUATEMALAN HEALTH SECTOR ASSESSMENT

AUGUST 1986

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CHAPTER 1

USAID/GUATEMALA'S HEALTH SECTOR STRATEGY

GENERAL CONCLUSIONS AND RECOMMENDATIONS

1.1 AID HEALTH STRATEGY

This report constitutes an assessment of the health sector in Guatemala as of the end of 1986. It is a comprehensive review at all major institutional, programmatic, administrative and policy components of the health sector. It is both descriptive and prescriptive. That is, it not only presents a picture of the status of health and health care in Guatemala, it also includes specific recommendations for improving the health of all Guatemalans.

The goal of this assessment is to provide AID and the Government of Guatemala (GOG) guidelines for future policy formulation and program direction. Objectives of the study are to: examine objectively the major components of the health sector in the framework of existing AID health sector development policy and the priorities established by major international agencies, particularly the Pan American Health Organization (PAHO); gain an understanding of the major trends characterizing the dynamics of the sector; identify principal problems in current health care policies, programs, institutions and practices; and evaluate the compatibility of existing health policies with long-range U.S. foreign policy goals in the Central American Region.

This assessment seeks to present to USAID/Guatemala a set of action-oriented recommendations to improve measurably the impact of present policies and programs, based on careful and comprehensive analysis. It also recommends policy and program changes, where needed, in order to increase the quality of health and expand coverage, particularly in the field of Maternal and Child Health (MCH), in such a way as to maximize the financial sustainability of new and existing programs.

Current overall AID health strategy has two main foci: child survival and fiscal sustainability. AID concentration on child survival results from a concern about how to obtain maximum impact from resources invested over a short period of time. Seen as a key ingredient of the World Health Organization goal of "Health for All by the Year 2000," the child survival strategy hopes substantially to reduce the infant mortality rate by the end of the century.

The "Twin Locomotives" of child survival, from AID's perspective, are oral rehydration therapy (ORT) and immunization, particularly the Expanded Program in Immunization (EPI). These two interventions constitute the base upon which all other AID-sponsored health programs

are to be built, including birth spacing, nutritional support, improved weaning practices and growth monitoring, among others.[1]

Child survival, of course, is not the only health program which AID will support. Nonetheless, it clearly has priority world-wide and, since Guatemala has been named a high-priority child survival country by USAID, it has particular importance in the context of Guatemala health planning.

The second major thrust of AID funding is in the area of fiscal sustainability. This priority stems from prior experience in supporting projects which have failed through lack of continuing support, either government subsidization or private sector mobilization. Now, unless a project is judged to be potentially financially sustainable, AID has little or no interest in supporting it.

Key problems in presently financing health projects include: 1) inefficient use of existing health resources; 2) inadequate domestic resource mobilization; and 3) inequitable distribution of existing health resources.[2] Any health planning related to AID must take these problems into account and suggest how they will be resolved.

In part, this assessment represents a continuation of a similar, multi-volume study produced in 1977. Many of the policies and programs in the Guatemalan health sector are based on that earlier assessment. It is hoped that the present effort will provide an empirical base from which effective policies can be formulated and programs designed.

1.2 Future AID involvement in the Guatemalan Health Sector

As noted, child survival is considered critical, especially as preventable morbidity and mortality is higher for children (a large percentage of LDC populations) than for any other age group. Similarly, key to any development project is its ability to outlast the resources provided by the donor. Otherwise, the project is likely to be brief in duration and of limited consequence.

The organization of USAID is such that the opinion of the local mission is highly regarded in the identification and selection of country programs. Accordingly, the orientation of the local AID Mission Director is particularly important with respect to probable directions to be followed by the mission. The newly appointed AID Mission Director in

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[1] McPherson, Peter M.: "The AID Child Survival Strategy," AID, Washington, D.C. (no date).

[2] Bart, Kenneth J.: "Agency Health Financing Guidelines," USAID, Washington, D.C., July 30, 1986.

Guatemala offered the following general observations, based on his experience in other similar settings:[3]

1. Maternal and child health remains a major problem, which should be addressed. The goal would be to reduce morbidity and mortality in children to more acceptable levels.

2. Logistical support is a continuing problem. AID should work to improve the delivery of medicine and other supplies to health centers.

3. A preventive health emphasis is required. This should include attention to vaccination programs, improved environmental sanitation, and better health education.

4. There needs to be improved coordination of health services. This should involve not only the public sector, as represented by the Ministry of Health, but the private sector and non-governmental organizations, as well.

5. There should be increased reliance on local control of health services delivery. This includes involving people more in the organization and delivery of their own health services (e.g. through cooperatives), while working in collaboration with the government.

The Program Officer for AID Guatemala added a number of useful insights.[4] Primary among them was to underline the four cornerstones of AID Mission activities world-wide. These are:

1. Institutional strengthening;
2. Appropriate technology;
3. Private sector development; and
4. Policy dialogue.

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[3] Interview with Mr. Tony Cauterucci, Director, USAID, Guatemala, August 19, 1986.

[4] Interview with Mr. Tom Kellerman, Program Officer, AID Guatemala, November, 1986.

Strengthening institutions is very much in keeping with the overall direction of the present report, in as much as it was determined that programs introduced outside of the institutional framework of Guatemala would not likely meet the test of sustainability. The focus on appropriate technology is consistent with the recommendations of this assessment, which emphasize primary health care, as opposed to the high technology associated with tertiary care medicine. The policy to promote greater private sector development reflects both the realities of Guatemala (with more than half of the physician population practicing privately and an increasing percentage of the health care budget moving from public to private) and a need to achieve greater multi-sectoral cooperation. This will help identify solutions to basic problems, particularly those affecting mothers and children.

The fourth of these cornerstones, "policy dialogue," is a useful point of departure for much of what is to follow in this chapter. Before any specific project directions can be established, a policy dialogue between USAID and the leading actors in the health sector is essential. Only by this means can the needed consensus develop to support programs which can both accomplish their objectives and become institutionalized in the Guatemalan setting. Accordingly, the context within which all of the following program options will be discussed presumes a prior and continuing policy dialogue involving USAID, the government of Guatemala and other relevant participants.

1.3 Program Options

Most, if not all, of the recommendations made in the 1977 health sector assessment are extremely sound and continue to be relevant. Unfortunately, as is noted in Chapter 3, little evidence exists that these recommendations have been implemented, in whole or in part. This is true despite the fact that they were prepared by a joint policy team involving leaders in Guatemala, as well as experts from AID and elsewhere. A question arises as to whether more follow-up dialogue would have been helpful. In other words, the process of debating and identifying policy is almost more important than the policies themselves. Hence, the recommended policy alternatives in this report will only be as effective as the will and ability to implement them -- assuming, of course, that they are appropriate in the first place.

1.3.1 Short-term vs. long-term objectives

Mixing short- and long-range objectives in program development has many advantages. Short-range objectives are best served by high visibility programs which can produce measurable results in short order.

For example, the "twin locomotives" of child survival, oral rehydration therapy and immunization campaigns are, at least in part,

short-range objectives. Yet ORT is a classic example of a program intervention which saves a child from one fate, only to expose it to another. The reason is that the basic social and health support systems which are needed to support that child are not in place once the ORT therapy has been completed. Functionally, the result may be a displacement of mortality rates from the infant period to the one-to-four year period, but the child still dies.

The matter is even more complex in dealing with immunization. Children may get long-lasting protection from immunizations and, indeed, survive through a period of childhood. Considerable evidence in the literature supports this position. However, the traditional method by which immunization campaigns for total populations have been carried out is incompatible with the current practice of channeling of services through established primary care centers, reaching out to selected groups of people in an organized fashion.

Conventional national immunization campaigns have been directed toward reaching as many people as possible in as short a period of time as possible. This displaces other resources and disrupts carefully constructed profiles of children's immunization status. In repeated examples, frustration and even anger were expressed by program managers who had managed to organize their communities in ways by which they had knowledge of immunization status. A national campaign intervened and left the health outreach workers with little idea of who was protected from what disease.

A better long-range strategy in immunization would develop a national policy to channelize and minimize national campaigns. This would enable local participants, who have attempted to develop working medical records, to build upon their records, rather than to set them aside "for the common good."

The point to be stressed is that short-range and long-range goals can sometimes conflict, resulting in unintended and undesirable consequences. It is critical for agencies to coordinate their goals within the framework of national policies, so that resources are mutually reinforcing.

1.3.2 System orientation vs. program orientation

A corollary to short term vs. long term goals is the potential conflict between system objectives and needs, on the one hand, and immediate program needs which may conflict with the larger system priorities, on the other.

An example is the need for more adequate control and treatment of leishmaniasis. This debilitating tropical disease is a scourge for all those who are afflicted by it. Through vector control it

can, to a large degree, be prevented. While treatment extends over a period of time, individuals can be helped if they can afford the appropriate medication.

Clearly, prevention and treatment of leishmaniasis would have to be called a long-range objective of any overall health plan for Guatemala. It also is a meritorious program and one which should be supported. However, in the context of the present discussion, the question is whether it is consistent with the existing national health policy and, if not, what should be done.

It will be urged that USAID and the government of Guatemala, acting in cooperation with private voluntary organizations and others, agree upon a system approach to resolving some of the principal health problems of Guatemala today. It will be further urged that those parties who agree to this approach support it over a period of time, presumably the next decade. In this manner, scarce resources may be rationally allocated to reflect agreed upon priorities. To do otherwise invites dilution of effort and impact.

The pull both on the Government of Guatemala and USAID to support individual projects, as opposed to operating within a system or integrated national policy approach, will be very strong. Excellent proposals will be put forward by other donor agencies and program administrators. Only if there is prior commitment to a particular system, or plan or policy can those proposals properly be evaluated and directed toward a commonly accepted approach.

An example of a successful systems approach to health care, as opposed to ad hoc programming, is characterized by the "Bridge for Peace" program of the Pan American Health Organization. By developing consensus around seven priority health concerns of the region, receiving project proposals from member governments in these areas (only), and soliciting support from donor agencies for these same seven areas, PAHO has been extremely successful in raising funds. Perhaps this should offer hope to those who oppose a systems approach, fearing that it will reduce the resource base available to initiate new program activities.

1.3.3 Building on strength vs. weakness

One of the principles of AID is to build on strength. AID believes it is better to invest in institutions which work and can be strengthened, than to maintain weak ones. In Guatemala, however, some inherent conflicts appear in this AID strategy. The MOH is a weak institution overall, but some units of the MOH are noticeably stronger than others. However, these are primarily in the urban, tertiary care sector. Thus, AID's strategy of building on strength directly conflicts with its priorities to serve the poorest of the poor, extend primary health care, and reach out to underserved rural areas.

"Building on strength" is apparently not a viable option when it comes to primary care. Yet a policy dialogue needs to occur, not only because PHC is a stated priority of AID, but because it is critical to improvement in Guatemala.

Building on strength focuses policy dialogue on the geographic location of programs. The commitment of AID to serve the "poorest of the poor" has led it, in Guatemala, to concentrate on the highland areas and work among indigenous peoples. However, there is a question whether programs begun in remote areas without strong linkages to functioning organizations can last past the time of donor assistance.

Obviously, building on strength has broader implications than may have been considered. It may be that programs should and will begin in certain areas of the country because agencies exist there which can support and institutionalize them, allowing for eventual expansion into other areas where institutional foundations may be weaker. It may even be prudent to build programs nearer to the urban centers first, extending them gradually to the countryside, instead of going immediately to the countryside where the need is greater, but the institutional base weaker.

An ideal alternative would be to identify strong institutions serving the countryside and build programs there. The point of this particular policy dialogue is not necessarily in which geographic regions programs should begin, but whether the principle of building upon strength has validity in this context.

1.3.4 Urban vs. Rural

Fundamental to understanding the implications of rural-urban issues is the extent of immigration to the cities over the past several years. Until the full consequences of this migration can be understood, together with its impact on social service delivery, there will be no real answer to the urban-rural allocation question.

Until now, most AID health assistance has been directed to rural areas at Guatemala. This reflects the fact that Guatemala is the most rural country in Central America and Panama and will remain so well into the next century. It is possible to project that by the year 2010, one third of the population of Guatemala will still be what is currently defined as rural. The great migration of population to urban areas seen elsewhere in the world will continue and even accelerate in Guatemala between now and the end of the century.

It is not inconsequential that city residents however far they may be from the center, theoretically have access to health

services. This assumes transportation and an ability to pay for medicines or other services which the system generates. On the other hand, individuals living in remote rural areas may effectively be cut off from all medical care unless it is provided by the government and/or donor agencies. In this sense, the two areas are not comparable.

However, if one looks at income levels and aggregate social need, there are few settings more desperate than some of the peri-urban "colonias." The "poorest of the poor" are found here. A collective neurosis is said to affect this population because of urban congestion, lack of employment, and sheer inability to cope with urban life.

Future policy dialogues will require the Government of Guatemala, AID, and other donors to look at the relative needs of urban and rural areas and to begin to allocate their resources accordingly, in addition to making allocation decisions based on the concept of building on strength. This may require greater attention to urban and peri-urban areas than is currently the case.

1.3.5 Public vs. Private

One of AID's clearest policies seeks to promote greater participation by the private sector in the delivery of health services. This often runs counter to governmental directions in countries which feel that in their stage of development the private sector has little or no role in human services. This, however, is not the case in Guatemala. On the contrary, the Guatemalan private sector has a long and prominent role, when compared to other countries in its region.

Guatemalan private medicine has a respected history and has grown rapidly in recent years. Data presented in this report show a substantial private sector which, in the case of physicians, represents more than half of the active practitioners. In short, the importance of private health care in Guatemala cannot be overlooked.

In Guatemala City there are, in addition to those operated by the government, four private hospital-clinics of sufficient quality that they are recommended by the U.S. Embassy to its employees. A multitude of other, smaller establishments is also present. Two pre-paid health plans (reviewed in Chapter 4) are available, along with an array of private insurance options. Private medical practice flourishes.

Why, then, not rely heavily on the private sector in health, minimize support for the public sector, and in so doing "build on strength?" The answer is clear. The private sector is not dedicated

to serving the majority of Guatemalans and, indeed, is quite exclusive about those it chooses to serve. To focus extensively on it would be to highlight the richest, not the poorest. The challenge in formulating an enlightened public policy is to show how the public sector, with its commitment to service, offset by its limited resources, can combine with a more affluent private sector to deliver adequate health care and to maximize the extent of coverage.

An instructive example is the sometimes uneasy relationship between APROFAM and the Ministry of Health. APROFAM has proved more effective then the Ministry in family planning education and the distribution of contraceptives. In fact the Ministry has contracted APROFAM as a private organization to carry out family planning in a number of Guatemala's departments.

Other cases of such collaboration deserve attention. AgroSalud and its relationship to the public sector, for example, suggests that the Social Security Institute (IGSS) could explore reimbursing AgroSalud for some of the health services that AgroSalud provides to plantation ("finca") workers (see Section 4.4). If the farm owner pays social security taxes and joins AgroSalud, he or she is essentially paying twice for health care for the workers. A reimbursement scheme could be more efficient than the present arrangement.

AID must therefore debate the degree to which it will and should support the private sector in an effort to meet social needs. When a public agency wishes to carry out a program and a private organization appears to be better suited for it, should AID favor the public agency or the private concern? Many factors will influence this difficult decision. Institutionalization and fiscal sustainability are among them, as is program quality. Again, the question of building on strength is also involved.

More fundamentally, to what degree should AID and other donor agencies try to effect a merger between public and private sector actions in health care? It may not be realistic to think that the two sectors could work together for the good of all Guatemalans, however desirable such collaboration might be. The separate roles of the two are clear and have been respected. Difficult questions face AID in entering into this policy dialogue, but an exchange with other participants is a necessary step in developing specific strategies to meet pressing health care needs.

1.4 Eight Strategic Issues

The conclusions and recommendations of this assessment can be conveniently grouped into eight basic categories. Each deals concretely with specific Guatemalan problems in improving and extending health

care. Taken as a whole, they focus on an incentive-based and multi-institutional community-oriented primary-care health system for prevention, information, training, and service delivery.

1.4.1 Incentive-based health care

Incentives form a major motivation for human behavior. Health is no different from other parts of society where incentives are used to condition behavior. In health, the motivation can be spurred in a variety of ways. Traditionally, health professionals like to think that their motivation is internal and self-generated. Professionals are motivated by the task at hand, rather than any external praise or criticism. Only through achievement of their tasks will professionals be satisfied.

It is well known, however, that professional satisfaction can be enhanced by a variety of material and non-material rewards. Increases in salary or bonuses are clear examples, but are expensive. Premia, plaques, and prizes for meritorious performance can also be effective at far lower cost. A sense of real participation in the on-going tasks of health promotion may be the most effective form of motivation. Whether incentives are material or non-material, the point is clear: incentives are as important to health professionals as to others.

Incentive-based health services exist in Guatemala, although they are considerably less widespread than in the U.S. A notable example is Salud Total, a Guatemalan HMO, which reimburses its physicians in three ways. Some are paid salaries, others are paid by the number of patients seen and still others are paid according to the number of members for whom they are responsible ("capitation"). Salud Total also offers a month free of premiums to its present members for each new member they enroll. This is financially equivalent to paying commissions to sales representatives. In short, a variety of incentives exist in the organization.

Another area for incentives -- positive and negative -- for health care providers is the field of medical records. If adequate medical data are lacking, it is essential to fill the gap with cooperation from the providers. Rewards, again non-material, can take the form of accurate, timely, and useful data feedback to the provider of the basic information. Material rewards are also a possibility.

The first recommended strategy of the health sector assessment team is that sustainable incentives — material and non-material — be incorporated in any health care delivery system.

1.4.2 Multi-Institutional

In Guatemala, multi-institutional programs have more potential for changing health care delivery patterns than those supported by a single institution. Concrete examples are found in San Juan Sacatepéquez and in the El Milagro Clinic or Guatemala Sur. Both examples are explored in detail in the final chapter of this report. Each program has been consciously developed using a multi-institutional approach, involving the collaboration of international agencies, hospitals, universities, and the Ministry of Health. The programs allow operation at local levels beyond the constraints of any single one of the participating institutions.

In the context of the present report, multi-institutional refers to a collaborative effort by agencies with a common purpose (e.g., health) working in a common area. The term "multi-sectoral" often is used to imply inter-ministerial cooperation at the national level. As such, it has become unpopular with the international community because the result is often inter-ministerial confusion, rivalry and paralysis.

What is then being suggested by the title of this report is that there be multi-institutional cooperation among agencies involved in health, but at the local level. This may lead to a coordinating directorate representing the various participating institutions, but a directorate that functions at the level of service delivery, rather than in the more distant bureaucracy that supports it.

A multi-institutional approach always involves administrative problems, as a consequence of the need to coordinate the various supporting institutions. Nevertheless, the net result can be a program that provides better services to a larger number of people.

It is important to note that the term "multi-institutional" includes non-governmental agencies as well as public sector dependencies. The participation of private voluntary organizations and other non-governmental actors, including the private sector is desirable in any multi-institutional cooperation.

The second strategy recommended by this report is that multi-institutional approaches should have priority in the development of a health sector strategy and in any subsequent funding decisions for individual projects. "Multi-institutional" implies inter-agency cooperation, both public and private, with a focus on the local level.

1.4.3 Community oriented

Programs should be oriented toward local communities. Unfortunately, the history of health care and other social service delivery in Guatemala is not promising in this respect.

Health care and other social service programs that are officially "community-based" in Guatemala often have only a local advisory committee or use local employees. There is seldom a local board of directors or patronato with decision-making authority or budgetary influence. The tradition of community involvement in Guatemala is weak.

While formal community involvement has generally been lacking, some see the concept itself of politically radical. They interpret it to mean community control and to imply a rejection of institutions that represent the existing social order. This report documents how people have been caught in the conflict between community orientation, on the one hand, and institutional rigidity, on the other. In its extreme form the conflict has had tragic consequences, including murders and kidnapping of large numbers of community health workers (promotores de salud) throughout the country. Indeed, some institutions that previously sponsored and trained promotors now refuse to continue for fear that the "night of terror" might return and reprisals be taken against community workers.

The operational question focuses on the degree to which Guatemalan communities are prepared to assume responsibility for their own social services. Anthropological research generalizes that indigenous people are more accustomed to do so than are ladinos. Exceptions and abuses do exist, however, especially in connection with agricultural cooperatives. The viability of health cooperatives is therefore an unresolved issue, worthy of further consideration in the broad context of community involvement.

Community orientation means more than community participation. It implies that health providers will be oriented toward the community and its individual members. Recognition and appreciation of community needs are therefore essential. Providers must visibly spend time in the community if they are to be effective. This implies the necessity of developing serious programs for outreach and extension of health workers.

Community orientation also means being sensitive to the community's feelings and problems. It requires a knowledge of community organization and operation within those limits. One fundamental epidemiological precept involves community-oriented primary care (COPC). The concept emphasizes the denominator population with whom the providers work. The population is not simply the group that seeks service, but the one eligible for service from the available delivery system.

The third recommended strategy of the health sector assessment is that community orientation be an integral part of any health strategy developed by USAID/Guatemala. This includes incorporating input from health care consumers into the process of setting priorities and making decisions about the health care delivery system.

1.4.4 Primary Health Care

Primary health care is the glue that binds together all the pieces of the health care system. This is particularly the case with respect to child survival, a principal health care goal of AID. Primary care meets and deals with patient problems at the level of first contact. It handles at least 80 percent, and probably 95 percent, of most problems that patients bring to health practitioners. It is interdisciplinary and comprehensive.

The concept of primary health care is far from new to Guatemala. It is what is provided by comadronas, sobadores, and other traditional healers. It is offered by general practitioners, auxiliary nurses and Rural Health Technicians. It is concerned with the whole person in the family setting. It is preventive, as well as curative.

Primary health care has increasingly been displaced by specialty health care. This report notes that the distribution of resources in Guatemala does not favor primary care. Yet, primary care is where the vast majority of Guatemalans contact the health care delivery system. Thus, a reassessment of this allocation of priorities is in order.

As noted above, community-oriented primary care has developed momentum as a public health concept in recent years. As its name implies, it combines a community orientation with primary care. Community oriented primary care defines health problems in a given area, intervenes to deal with identified problems, and evaluates the effectiveness of the intervention.

Primary care can be practiced in a health post, a health center or a hospital. It receives highest priority only in the smallest of these units. Primary care is the only service offered in health posts. In health centers it may be the only option, although other services are sometimes present. In hospitals primary care often receives a low priority. Present health needs in Guatemala are not for more specialized care but rather for improved primary care.

Emphasis on primary care will affect training, research, and service delivery, not to mention funding priorities. A comprehensive well-supported primary care system may be the most effective way to solve Guatemalan health problems, particularly child survival.

The assessment's fourth recommended strategy is that AID give increases priority and resource commitment to primary health care. Child survival initiative should be embedded in a larger primary care approach.

1.4.5 Prevention

Prevention of disease is the only viable approach to achieving improved health indices in Guatemala. Its health problems are simply too extensive and its resources too limited for a curative approach to be effective.

Disease prevention is most effective as a strategy in areas where communicable -- or "immunopreventable" -- diseases constitute a major portion of the morbidity and mortality spectrum. Such is the case in Guatemala. With measles and chickenpox among the top ten causes of infant mortality, immunizations provide an effective control. Given the even greater extent of diarrheal and respiratory diseases in children, environmental improvement and health education are effective preventive measures.

As will be seen in this report, Guatemala is not commited to disease prevention and its corollary -- health promotion -- at this time, either fiscally or programmatically. Budgetary figures from the Ministry of Health indicate the 80 percent of its spending goes for hospital care. A prenatal program in the Social Security Institute (IGSS) has recently been eliminated as a coordinated national effort. Activities of both the Ministry and IGSS health posts and health centers are oriented more to curing disease then preventing it.

A notable exception is the emphasis given by the Government of Guatemala to national immunization campaigns. These have been conducted as recently as 1986, although the third and final round of the last campaign was perceived by some to be a failure. National campaigns displace other health-related efforts when held.

Failure to maintain an active preventive program in malaria control led to more than a fifteen-fold increase in the number of cases between 1974 and 1984. Onchocerciasis is subject to potential eradication, but continues as a troublesome health problem in Guatemala for lack of resource commitment to its control.

New concepts in disease prevention and health promotion are being employed in Guatemala, but only in isolated settings. Joint efforts between Western medicine and traditional healers are teaching the advantages of aseptic techniques and early diagnosis. Collaborative programs between the universities and the Ministry use health science students as health educators of the public. Rural health providers are actively promoting health education, often under the sponsorship of private voluntary organizations.

In short, prevention is practical in Guatemala. In many cases it is effective. Lacking is a national commitment to prevention as a priority health concern. This should be one of the basic policy directions of future AID involvement in Guatemala.

The assessment's fifth recommended strategy is that disease prevention and health promotion should constitute a much larger portion of the Guatemalan health program, and that future donor support should emphasize their inclusion.

1.4.6 Information

One of the greatest weaknesses in the Ministry of Health is the lack of a credible, useful, modern information system. Where information is weak, the entire system must suffer. Unless there is a strong base of knowledge on which to design health programs, they are likely to be ineffective.

As detailed in Chapter 15, the health information system in the Guatemalan Ministry of Health has changed little since its inception. Many calculations are done by hand. The results are often suspect. Forms are out of date. Methods of collecting and using data are inadequate.

Problems relating to information are not limited to the Ministry of Health. Each public institution has its own information base. Many issue annual reports, of varying quality. Most health data are unreliable, failing to meet minimal requirements for the multi-institutional approach to health services delivery suggested in this report.

Absence of a common format, even within a given institution, is a major problem in reporting data. Year-to-year changes in formats also weakens the system. Satisfactory comparative and longitudinal analyses are consequently impossible to conduct.

Health information goes well beyond data collection in the field and transmission to a central office. Research results can be valid only if the data are reasonably timely and reliable. Useful applied research, in turn, identifies issues and answers questions; it can provide important guidance for future action.

The fifth recommended strategy of the health sector assessment team is that the information base for the Guatemalan health sector be improved to permit its incorporation in usable health management, planning, and applied research.

1.4.7 Training

An effective health care delivery system must have trained personnel. The report's chapter on human resources focuses on physicians and other health care personnel, including those trained in facilities of the Ministry of Health. The latter includes graduate nurses, auxiliary nurses, and Rural Health Technicians, as well as the other technical personnel who help support the health care delivery system.

In addition, the report's Chapter 5 deals with traditional practitioners. They work within the primary health care sector. In particular, the Ministry of Health has assumed responsibility for training midwives (comadronas). The training is important to an integrated health care delivery system.

Physicians continue to be leaders of the health care team in Guatemala. Their education is thus important. Until recently, it was limited to the University of San Carlos, although the Medical School of the Universidad Francisco Marroquin has added an alternative source of medical education, currently graduating about 10 percent of the doctors in the country. Neither university's curriculum is committed to the principles advocated in this report, such as primary care, community orientation, etc. Guatemalan medical education is thus traditional. Only limited clinical training exists in outreach sites. This kind of training should be strongly promoted and encouraged.

Apart from the limited clinical training, there appears to be little multi-disciplinary training in Guatemala today. Yet for medical students, nursing students, and other health students, multi-disciplinary exposure to other has future value. Because attitudes are important in welding together effective health care teams, a multi-disciplinary approach to training is recommended.

More training should be conducted at the community level. Only when health science students train in a context of community problems and in association with community members will they fully appreciate community-oriented care. Similarly, only when they train in a primary care setting will they come to understand the values of primary health care.

The assessment's seventh recommended strategy advocates training at the community level in primary care, preferably in a supervised, clinical, and mutlidisciplinary mode.

1.4.8 Service Delivery

Too many discussions of health sector strategies neglect service delivery. For example, it is said that service delivery is heavily dependent on resource expenditures for which host government are responsible. In this view, donor agencies and others can best fulfill their goals by helping to build a base on which services can more effectively be delivered.

While the argument has some merit, it is easily distorted to overlook the justification for donors' and others' involvement in any country's health programs -- namely, to provide a more comprehensive, accessible, and functional service delivery system. Unless a government can province quality health care to its people, the other issues raised here shrink into insignificance.

In the past, AID and other donors have supported service delivery through construction of health posts and health centers. This kind of donor assistance has been helpful, but has often constructed]physical capacity that outran the country's ability to operate the facilities. Thus, health posts, centers, and hospitals stand idle, while the unused construction depleted scarce resources that could have been used for more pressing needs.

There is little doubt that the national health care system will find a way to maintain hospital services. These are usually the first to come and the last to go in any national system. When nothing else exists, there is hospital care. Technology may or may not be appropriate, but hospitals serve as visible symbols of a caring and concerned government. They respond directly to perceived needs.

If the overall strategy of the Guatemalan health system is to be community-oriented and centered on primary care, then service delivery must deviate from its traditional directions. If it is to be incentive-based and multi-institutional, it will contain elements not familiar to most conventional delivery systems. The form taken by the optimal system may be debated, but the need to deliver services remains unalterable.

Delivery of adequate health care services to the maximum number of Guatemalans is the primary purpose of present health policy. Community-oriented primary health care is suggested by this assessment to be the most equitable and medically effective alternative. By the same token, examination of the health care sector indicates that the success of this strategy depends on improved information, a productive approach and incentive-based behavior for providers and consumers. Multi-institutional participation and appropriate training are also key elements in attaining effective service delivery.

1.5 Contents of the report

/this assessment reports on the health care sector in Guatemala. Chapter 2 provides a demographic and political background and describes the setting for service delivery and health priorities. Chapter 3 reviews the 1977 Health Sector Assessment and notes the extent of progress in meeting its recommendations.

Chapter 4 examines the Guatemalan health sector as it existed in 1986, focusing specifically on the Ministry of Health, the Social Security Institute (IGSS), private voluntary organizations, and the private sector more generally. chapter 5 reviews the socio-cultural background to Guatemalan beliefs and practices in health. Chapter 6 looks at donor participation in the health sector, outlining current goals, strategies, and leading issues.

Chapters 7, 8, and 9 present a detailed analysis of maternal and child health, family planning, nutrition, diarrheal diseases, immunopreventable diseases, respiratory diseases, malaria and other vector-borne diseases, and water and environmental sanitation.

They are followed by Chapters 10 and 11 which deal with economic and financial issues facing Guatemalan health care. Chapter 12 reviews health care administration, concentrating on the Ministry of Health. Chapter 13 examines human resources development and its impact on improving health care delivery. Chapter 14 looks at the principal features of the health logistics system. Chapter 15 reviews management information needs.

Chapter 16 incorporates the major recommendations from the report, and puts these in one context of the eight major policy recommendations of this chapter. Chapter 17 concludes the report with a set of cast studies, which demonstrate existing models for Guatemalan health care development.

CHAPTER 2

BACKGROUND

2.1 Situation in Guatemala

In order to put this health sector assessment into perspective, it is useful to review the present political situation in Guatemala, especially as it relates to health policies and initiatives. First, the country has just returned to a democratic government after many years of military government. This change in direction has led to a new sense of hope and a "once in a century" opportunity for economic and social development. Second, unique opportunities exist for creative and innovative participation of the private sector in meeting health care needs. Third, official public policy is strongly focused on a concern shared by AID -- namely, child survival. This confluence of interests and potentially available resources makes the Guatemalan opportunity particularly attractive.1/

2.1.1 Demographics

Guatemala is currently the most populous country in Central America. It has an estimated 8 million plus inhabitants (Table 2.1). Its population density of 201 persons per square mile is second only to El Salvador in Central America and Panama. Guatemala is estimated to remain the most populous country in the region at least through the year 2,020.2/

1/ Interviews held in Washington, D.C., August 5-6, 1986.

2/ Diaz-Briquets, Sergio: Conflict in Central America: The Demographic Dimension, Population Reference Bureau, Inc., Number 10, February, 1986, p. 5.

Demographic indicators, particularly those concerned with health, show Guatemala to be similar to the rest of Northern and Central America (Table 2.1).

TABLE 2.1

BASIC DEMOGRAPHIC INDICATORS OF CENTRAL AMERICA

1985

	Population in '000	Crude birth rate	Crude death rate	Rate of of natural increase	Total fert. rate	Infant mort. rate	Life expectancy	Population under age 15	Population 65+
Costa Rica	2,600	30.5	4.2	26.3	3.5	20	73.0	36.7	3.8
El Salvador	5,552	40.2	8.1	32.1	5.6	71	64.8	44.6	3.4
Guatemala	8,403	38.4	9.3	29.1	5.2	68	60.7	43.1	3.0
Honduras	4,372	43.9	10.1	33.8	6.5	82	59.9	46.9	2.9
Nicaragua	3,272	44.2	9.7	34.5	5.9	85	59.8	46.7	2.5
Panama	2,180	28.0	5.4	22.6	3.5	26	71.0	37.5	4.5

SOURCE: Diaz-Briquets, Sergio: Conflict in Central America: The Demographic Dimension, Population Reference Bureau, Inc., Number 10, February, 1986.

Unlike its neighbors, however, Guatemala is substantially more rural, in terms of overall population distribution, with the exception of Honduras. By the year 2020 it is projected that Guatemala will continue to be the most rural country in the region, although by then over two thirds of its population will live in urban areas (Table 2.2).

TABLE 2.2

CHANGES IN PERCENTAGE OF URBAN AND RURAL POPULATION

Guatemala: 1950-1985

	1950	1964	1973	1980	1985
Rural	69	66	65	63	57
Urban	31	34	35	36	43

SOURCE: "Guatemala: Recopilacion Y Ordenamiento de Informacion para Diagnostico de la Situation de Salud Y su Relacion conel Desarrollo Economico," PAHO, Volume I of IV, 1985.

The fact that almost 35 percent of the population lives in communities of less than 500 persons, is important in terms of health care delivery (Table 2.3).

TABLE 2.3

DISTRIBUTION OF POPULATION BY LOCATION SIZE

Location Size (Population Size)	% of Population
Less than 500	34.27
500 - 999	16.08
1,000 - 1,999	10.97
2,000 - 4,999	8.33
5,000 - 9,999	4.62
10,000 - 19,999	3.85
20,000 and more	21.88

SOURCE: "Guatemala: Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situation de Salud y su Relacion con el Desarrollo Economico," PAHO, Volume I of IV, 1985.

Because this report is concerned, in large part, with the health of children, it is important to know something of population distribution by age. Guatemala, not unlike other developing countries, has relatively high birth rates. Just under 50% of the population is under 15 years of age (Table 2.4).

TABLE 2.4

PERCENT OF POPULATION BY SEX AND AGE
Guatemala

	% Over Population		
Age Groups	Men	Women	Total
Less than 1 year old	4.1	4.0	4.0
From 1 to 4 years	13.9	13.8	13.9
From 5 to 14 years	26.6	26.8	26.7
From 15 to 24 years	19.2	19.2	19.2
From 25 to 64 years	33.5	33.2	33.4
65 years and older	2.7	3.0	2.8

SOURCE: "Guatemala: Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situation de Salud y su Relacion con el Desarrollo Economico," PAHO, Volume I of IV, 1985.

It is projected that by the year 2000 the population under age 15 will have been reduced to 39 percent in Guatemala.[3/] This is consistent with a steadily declining global fertility ratio, which dropped from 7.9 in the period 1950-55 to 6.13 in the period 1980-85.[4/]

As may be seen in Table 2.5, over 50% of all deaths of children less than one year of age may be ascribed to the respiratory system, digestive system and infectious or parasitic diseases (Table 2.5).

TABLE 2.5

DISTRIBUTION PERCENTAGE OF DEATHS
IN LESS THAN 1 YEAR OLDS, AS PER CAUSE GROUPS

Causes (CIE-9)	Percentage
1. Prenatal mortality (760-779)	29.1
2. Respiratory system-related, polio not included (460-519)	21.7
3. Digestive system-related, enteritis and diarrhea included (008, 009, 520-579)	19.2
4. Infectious and parasitic diseases (000-007, 010-136)	10.6
5. Tumors (140-239)	0.1
6. All other diseases	5.8
Morbidity condition, not well defined and unknown causes	13.5
Total	100.0

SOURCE: PAHO Report, Volume I of IV.

3/ Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico. Tomo I de IV, PAHO, 1985.

4/ Ibid.

In the one to four year old age group, these percentages increase dramatically to the point where nearly three quarters of all deaths are attributable to these three causes.5/

The very high percentage of homicides in the 15 to 44 year old age group should be noted. During 1981, 43.5% of the 15 to 44 year old group who died, were victims of either accidental or intentional wounds.6/ By 1983 this number had dropped to 21.1%, reflecting abatement of political violence. To add some perspective to these figures, the 1980 homicide rate per 100,000 population was three times that of the United States.7/

Guatemala is the largest country in the region, although small by world standards. It has the typical population profile of a developing country, with a history of gradual improvement in health and disease indices, at least until the early 1980s. With nearly 50% of its population under 15 years of age, particular attention needs to be focused on combating infectious diseases responsible for a high percentage of childhood mortality.

2.1.2 Political Climate

The most significant event in recent years in Guatemala has been the democratic election of Vinicio Cerezo as President on December 8, 1985. Most observers of the electoral process deemed the election to be fair enough to provide a sufficient constituent basis for President Cerezo to establish a functioning presidency.8/

Questions remain concerning how much power the elected president will be permitted to exercise by the military, and how effectively he will be able to use it. President Cerezo entered office with a strong mandate (68% in the

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5/ Scientific Publication No. 247, OPS/OMS, 1982.

6/ Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico. Tomo II de IV, PAHO, 1985.

7/ Scientific Publication 427, PAHO/WHO, 1982, Direccion General de Servicios de Salud.

runoff presidential election) that was broadly based throughout most constituency groups and geographic areas of the country. His Christian Democratic party also gained a majority in the Congress, creating to the potential for a productive executive-legislative relationship.

The current political situation in Guatemala must be seen in an historical context. This is enormously complicated and beyond the scope of the present document. Suffice it to say that the Cerezo administration is the first legitimately democratic government to hold office since 1954. Even so, the widespread use of violence as an instrument of public policy has lead to considerable hesitancy on the part of the Guatemalan people to become involved in the political process. Nevertheless, the timing is propitious for significant initiatives to promote social and economic development in Guatemala.

2.1.3 New Directions in Health

Guatemala has a stronger private sector than almost any country in the region. It is emerging as a viable alternate means of financing and organizing health care delivery. Perhaps the most notable example of this is Salud Total, a pre-paid health care delivery organization (health maintenance organization) that is now two-and-one-half years old. It and a less expensive competitor,La Medica Guatemalees, along with a widely proliferating program of private insurance, offer interesting clues concerning the possible direction of private sector health care financing. These developments are still quite limited in scope and tend to be focused on higher income groups.

Aside from private for-profit health care services, a small avalanche of foreign private voluntary organizations have been returning to the country. This too presents an opportunity for new resource generation and program direction. It also creates confusion and competition. Between one hundred to two hundred PVOs have now been

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8/ "The 1985 Guatemalan Elections: Will the Military Relinquish Power?" Report of the delegation sponsored by the International Human Rights Law Group and the Washington Office on Latin America. Washington, D.C., 1985.

identified as working in Guatemala, many of them in health.[9/],[10/]

2.1.4 Health Priorities in Guatemala

Guatemalan health care goals and objectives have been articulated in the current National Development Plan (1987-1991)[11/] and in a recent policy statement by the Ministry of Health. [12/] The National Development Plan incorporates all sectors of society, not only health. It represents the first comprehensive statement of the current administration as it formulates a social-economic plan for Guatemala. As such, the comments of President Cerezo which introduced the plan are significant.

> "We ought to push development that is oriented toward improving the living conditions of the population and which satisfies these necessities with our own resources, giving full respect to the values and aspirations of the communities being served."[13/]

President Cerezo goes on to urge that development must be carried out in a social setting which respects human dignity and the individual's role in this setting.

The plan outlines specific health and health-related "policies" which require brief review at this junction in order to understand the focus of Guatemalan health policies.

These are as follows:

9/ Ministerio de Salud: Entidades No Gubernamentales - Recopilado por Unidad Coordinadora de Instituciones no Gubernamentales. 1/22/86.

10/ Spangler, Lynn: Directorio de Recursors en Salud en Guatemala. Peace Corps. October 1985.

11/ "Plan Nacional de Desarrollo" (1987-1991): Volume I -- Policy Orientation of the Plan (Preliminary Version), SEGEPLAN, 1986.

12/ "Current Goals of the Ministry of Health," obtained in an interview with Dr. Jorge Mario Izaguirre Estrada, Vice-Minister of Health (for Technical Affairs) in the Ministry of Health. August 18, 1986.

13/ Op. Cit. "Plan Nacional de Desarrollo."

2.1.4.1 Health Sector Policies

- Increase of coverage and extension of health programs and services -- The emphasis here is on the poorer segments of the population, particularly those in rural areas, with a focus on primary health care.

- Institutional reform and administrative development of the health sector-- This calls for improved operational capacity, coupled with administrative decentralization and human resource development.

- Protection, preservation and improvement of environmental health--The emphasis here is on potable drinking water and basic sanitation, once again for rural areas.

- Maintenance and improvement of the physical infrastructure of the health sector--This looks toward improved maintenance of facilities, as well as replacement and remodeling of existing facilities. It also calls for avoiding construction of new facilities which cannot be maintained properly.

- Promotion and accessibility of generic medicines--This aims to reduce the cost of drugs through use of generic products which, presumably, can be purchased by state pharmacies at lower cost, with no loss of efficacy.

- Extension of social security coverage--Given that social security coverage currently reaches only a small percentage of the population and a geographically small percentage of the country, the expansion of this system is proposed.

2.1.4.2 Social Advancement Recommendations

In the field of social advancement, there are six specific policies. Only those three relavent to this report will be mentioned here.

- Organization of selected social welfare services -- This recommendation calls for the Ministry of Social Welfare to coordinate various public health, social welfare and related activities in order to assure more integrated efforts for target populations and to avoid duplication of costs and efforts.

- Extension of services to the rural areas--This recommendation is targeted to providing non-traditional, low-cost services to rural populations, with a particular emphasis on preventive programs for children and youth.

- Community promotion and organization -- This calls for community organization through self-development, with a particular emphasis on education and training along with technical and financial assistance.

2.1.4.3 Food and Nutrition Policies

In the field of food and nutrition, there are 13 policies. Only those eight pertaining to health will be listed here, and these in summary form.

- Production and access to basic foods of mass consumption by the total population.

- Stocking and availability of foods in rural and urban areas.

- Initiation and support of methods to strengthen the demand for foods.

- Promotion of targeted actions directed at addressing specific nutritional deficiencies.

- Discouraging use of foods that have a relatively high price and low food value.

- Improving conditions which permit biologically pure food to be produced.

- Prioritization of primary care in health on the part of state health institutions.

- Utilization and cooperation of specialized agencies.

2.1.4.4 Current Goals of the Ministry of Health

In addition to the goals articulated in the National Development Plan, the Ministry of Health recently formulated its own set of goals. These are:

> "To reduce the morbidity and mortality rates, to develop the planning process, to carry out health programming and evaluation, to increase technical

cooperation activities among the developing countries, and to establish mechanisms for more adequate coordination of services."14/

The MOH also spells out specific objectives. These include an increase in focus on primary medical care and improving sanitary conditions in the country. It also calls for improving the nutritional status of the population, while eradicating or controlling communicable diseases. It asks that all Guatemalans have basic medications made available to them and calls for the cooperation of various international agencies, including the private voluntary organizations.

Eight program areas for the implementation of the above general and specific objectives are identified: Health development; medical attention; epidemiological surveillance; nutrition and feeding; environmental health; development of human resources; commercial and productive sector health; and health education. The MOH affirms the importance of an intersectoral approach to health.

2.2 Health Priorities of the Pan American Health Organization

Essential to any health sector assessment for a Latin American country is the focus of the Pan American Health Organization, since it is both a representative body of the governments of the Americas and the regional office for the World Health Organization in Geneva. This is particularly true at present, because an extensive process of consultation and negotiation over the past several years has resulted in a major hemispheric program called the "Bridge for Peace" or "Priority Health Needs in Central America and Panama."15/

In a document signed in San José, Costa Rica on March 16, 1984 by the Health Ministers of all the Central American countries and Panama, an agreement was reached to have a

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14/ Op. Cit., "Current Goals of the Ministry of Health."
15/ "Priority Health Needs in Central America and Panama," PAHO, Washington, D.C., 1984.

concerted health plan for the region. The purpose of this plan, the "Bridge for Peace" program, was to formulate both regional and national priorities into an integrated, comprehensive program, and then to solicit donor funds to complement country resources committed to support the program. By developing a program in this way, it was felt that duplication of effort could be avoided, priority programs could be promoted and outside funds could be effectively mobilized.

The introduction to "Priority Health Needs in Central America and Panama" states that this effort is "an urgent and comprehensive plan for joint health activities agreed upon by the Governments of Central America and Panama to solve common priority health needs."[16/] This underscores the fact that the plan, while produced by PAHO, has been approved in all its aspects by member state representatives.

Noting that the Central American region is confronting the most profound social, economic and political crisis in its history, the document observes that every effort must be taken just to maintain the current level of health status. Indeed, for almost the first time since they have been kept, the report notes that the positive direction of health and disease indices is now reversing.

The document recognizes the need to bring peace and economic development to the region if the root causes of ill health are to be overcome. While a variety of factors, such as massive debt combined with declining commodity prices, may account for the economic decline of the region, much of the deterioration in Central America has been due to armed conflict -- and a subsequent drain on scarce economic resources.

Per capita GDP in Guatemala, for example, fell 12.9% between 1980 and 1983. The absolute value of exports dropped 33% between 1979 and 1983, while the annual percentage change in the real wage index has consistently declined (14.9% in 1977 and another 6.4% in 1983, to cite two recent years)[17/]. As health status is so strongly correlated to economic development, the situation has become increasingly bleak.

16/ Ibid.

17 IMF, International Financial Statistics, Monthly.

2.2.1 Priority Areas for Health

As part of the "Bridge for Peace" initiative, Guatemala has adopted the seven basic priority areas established by the Pan American Health Organization. Individual country projects falling under the "Bridge for Peace" program must be linked to one of the seven priority concerns.[18] They are:

- Strengthening health services -- The purpose of this area is to develop health care systems that can provide effective and equitable health services for high-risk population groups and extend services to those individuals currently outside the system. It is estimated that this program will cost $64.5 million to implement, of which over half must come from external sources.

- Human resources development -- The document points out that the distribution of human resources is unequal, with well over 50% concentrated in Guatemala City. (A much higher percentage is to be found with respect to physician distribution.) Training programs will be needed to develop more skilled personnel, and strategies must be devised to direct them to currently underserved areas. The cost of this program is estimated to run over $12 million, with over $9 million needed from outside donors.

- Essential drugs -- Noting the many problems leading to an inadequate supply of drugs in health facilities, the priority calls for the development of strategies which will assure delivery of needed medications to patients, particularly those with low incomes. The lack of medicines undercuts other health care delivery efforts. The estimated cost of this program is just under $12.5 million, with nearly $8 million required from outside sources.

18/ PAHO: "Guatemala: Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico." Volume II of IV, 1985.

- Food and nutrition -- This priority calls for improved production and distribution of foods which will improve the protein and caloric nutritional status of the population, particularly those most vulnerable individuals in rural and marginal urban areas. Emphasis is on children under five years of age, together with pregnant and lactating women. The objective is to assure basic foodstuffs are made available to those individuals in the population with limited resources. The estimated cost of this program is over $4.5 million, with over $3.5 million required externally.

- Principal tropical diseases -- Under this area it is noted that malaria constitutes one of the most serious health problems in Guatemala, particularly affecting rural populations. Leishmaniasis, onchocerciasis and dengue are also mentioned. The goal of the program is to control or eradicate, where possible, these diseases. The estimated cost is over $30 million, with over $21 million to come from outside sources.

- Water and sanitation -- This priority has special significance in Guatemala, where less than a quarter of the population have ready access to potable water and sanitary facilities in rural areas. This priority area requires facilities construction and a high degree of community participation to be successful. The projected cost is over $95 million, with over $64 million anticipated to be required from foreign sources.

- Infant--or child--survival -- This is fundamental to the health of Guatemala, where 46% of the children are under 15 years of age. The focus is on improving health services for mothers and children over a relatively short period of time, preferably using methods employing low cost and high impact. To carry out the many generally accepted strategies to achieve this goal in Guatemala, it is estimated that over $64 million will be required, of which over $37 million must come from outside sources.

2.2.1.1 Child Survival

Because of the priority placed by AID on child survival, and the particular needs of Guatemala, the seven specific objectives for child survival included in the PAHO program should be listed.[19/]

- Reduce infant mortality to less than 50 per 1,000;
- Reduce the current mortality rate for children between the ages of 1 and 5 by 50%;
- Eliminate diarrheal diseases and acute respiratory infections as one of the ten principal causes of death among infants and pre-school age children;
- Eliminate mortality and reduce morbidity of the vaccine-preventable diseases;
- Reduce by 50% the rate of underweight newborns;
- Maintain breastfeeding levels in rural populations and increase breastfeeding levels in urban populations;
- Extend the use of a health control card to 70% of children under one year of age and 50% of children one to four years of age.

In addition to ORT and immunizations, the recommendations suggest development of self-sufficient primary health systems and a multi-sectoral and multi-institutional focus to achieve desired results. In addition, institutions are urged to reorder their budget priorities for a period of at least five years in order to support the primary health care system.

19/ Op. cit., "Priority Health Needs in Central America and Panama," PAHO, 1984.

2.3 Health Priorities of the United States for Central America

Indeed, Guatemala finds itself among one of 22 countries worldwide selected by AID for a "Selected Country Focus" on child survival. This emphasis will last until the end of the current decade, assuring additional resources will be made available for acceptable Guatemalan child survival development projects.[20/]

2.3.1 Kissinger Commission Report

Current United States policy in Central America is framed in large measure by The Report of the President's National Bipartisan Commission on Central America, published in 1984. Clearly stimulated by the emergence of the Sandinista government in Nicaragua and the growing conflict in El Salvador--as well as the long-standing conflict in Guatemala--the Commission sought to achieve a delicate balance between concern for human rights, on the one hand, and what was perceived to be United States interests, on the other. The report represents a synthesis of these concepts on issues that range from democracy and economic prosperity to human development. It is in this latter area of human development, which include educational opportunities, housing, humanitarian relief and health, from which the following recommendations are taken.[21/]

The section on "A Region's Health" begins by quoting Benjamin Disraeli, who said that the "economic health of a nation depends first on the health of its people." It is in this context that the commissioners felt that health and economic recovery were vitally intertwined.

Among other things, they note the resurgence of malaria in the region as a threat to economic development. In essence, the report calls for the development of a comprehensive program of primary health care that includes both preventive and curative medicine. Improved communications and transportation capability are seen as an essential components of this strategy.

20/ Op. cit., McPherson, M. Peter: "The AID Child Survival Strategy," AID, Washington, D.C.

21/ The Report of the President's National Bipartisan Commission on Central America, edited by Henry A. Kissinger, McMillan Publishing Co., New York, 1984.

Specific recommendations in the health sector are as follows:

- Existing technical assistance programs supported by AID should be expanded.
- Resumption of the AID-sponsored program to eradicate vector-borne diseases such as malaria and dengue fever.
- The United States support an expansion of programs on oral rehydration and immunization.
- Continuation of the population and family planning programs currently supported by AID.
- Central American educational institutions be encouraged to increase their concentration on the training of primary health care workers, nurses, dental assistants and personnel in the allied health skills.
- Central American nations be urged to develop methods which would integrate public and private financing of health services.

In addition to these specific health recommendations, the Commission addresses such related areas as humanitarian relief, with a recommendation for increased support of programs dealing with displaced persons and refugees. The report concludes that "our task now is to transform the Central American crisis into an opportunity--to seize the moment and help our neighbors achieve their freedom free from aggression and in a positive economic environment."22/

2.3 Conclusions

This section has provided background for the present health care sector assessment. It considers demographic, political and health factors in Guatemala, while focusing on the health priorities as defined by the Government of Guatemala. The "Bridge for Peace" subregional health program of the Pan American Health Organization has been reviewed, as has the position of the United States assistance through review of the Kissinger Commission Report. All of these recommendations are brought together in a matrix presentation. (Table 2.6) Here the major directions of the Guatemalan government are arrayed against the recommendations of both PAHO and the Kissinger Commission.

21/ Ibid., p. 152.

What has not been included in this background statement is a discussion of the 1977 AID-sponsored health sector assessment and its recommendations. Since this represents a majo9r related work pertaining to Guatemala, its findings and recommendations will be reviewed in the following chapter. (Chapter 3) Of particular interest are the changes that have taken place since 1977.

TABLE 2.6

HEALTH SECTOR RECOMMENDATIONS GOVERNMENT OF GUATEMALA vs. KISSINGER COMMISSION AND PAN AMERICAN HEALTH ORGANIZATION

	KISSINGER COMMISSION RECOMMENDATIONS						PAHO (BRIDGE FOR PEACE) RECOMMENDATIONS						
	1. Expand AID Technical Assistance Project	2. Eradicate Vector-Borne Diseases (Malaria/Dengue)	3. Expand Oral Rehydration Immunization Programs	4. Continue Population/ Family Planning Programs	5. Increase Training of Primary Care Workers	6. Integrate Public/Private Financing of Health Services	1. Strengthen Health Services/ System	2. Promote Human Resources Development	3. Assure Availability/ Accessability of Essential Drugs	4. Assist Improved Production/ Distribution of Foods	5. Combat Principal Tropical Diseases (e.g. Malaria)	6. Support Infant/Child Survival Activities	7. Develop Improved Water/ Sanitation Facilities
1. Increase Medical Coverage to Population					X		X	X	X			X	
2. Institutional Reform/ Administrative Development	X					X	X		X				
3. Protection/Improvement of Environmental Health		X									X		X
4. Maintenance/Improvement of Physical Infrastructure							X						
5. Promotion/Accessibility Generic Medicines													
6. Extension Social Security Coverage						X	X						
7. Better Coordination of Social Services	X					X		X					
8. Improved Sources Rural Areas		X	X	X	X		X	X	X	X	X	X	X
9. Community Organization/ Self-Development	X				X	X	X						X
10. Establishment of Retail Stores/Pharmacies						X			X	X			
11. Production/Access to Basic Foods										X			
12. Stocking/Availability of Basic Foods										X			
13. Strengthen Demand for Basic Foods										X			
14. Identify/Correct Nutritional Deficiencies			X									X	
15. Discourage Use of High Cost Junk Food													
16. Encourage Production of Biologically Pure Food										X			X
17. Prioritize Primary Care in State Institutions			X	X	X		X					X	X
18. Utilization/Cooperation of Specialized Agencies	X					X	X						

CHAPTER 3

1977 HEALTH SECTOR ASSESSMENT

3.1 Purpose

The purpose of the 1977 health sector assessment was to provide a comprehensive overview of some selected aspects of the Guatemalan health sector. The authors were asked by the Health Unit of the National Economic Planning Council to organize their assessment so as to be consistent with the five major elements of the government's 5-Year National Health Plan. Thus, the document served a twofold purpose: to assist the Government of Guatemala in determining its progress in realizing planned objectives, and to satisfy AID requirements for a comprehensive review of the health status of the Guatemalan population.

The five areas used at that time for the National Health Plan were as follows: 1) Extension of services, including family planning; 2) Increasing efficiency of the health sector, including maintenance of facilities and equipment; 3) Human resources; 4) Nutrition; and 5) Environmental sanitation.[1/]

Since the effort in 1977 was clearly a collaborative effort with purposes to be served by both the Guatemalan government and U.S. AID, a binational coordinating committee was established to run the project. This consisted of Dr. E. Croft Long, then Health Sector Representative for AID Guatemala, Dr. Carlos Estrada Sandoval, from the National Economic Planning Council, and Dr. Alberto Viau Davila, from the Guatemalan Academy of Medical, Physical and Natural Sciences. It is of some interest that each one of these individuals was interviewed in some detail with reference to the present report. Also, a number of contributors to the 1977 report are still active in Guatemala and have been contacted for information with reference to the 1986 health sector assessment. Among those reviewing documents for the 1977 report was Dr. Alfredo Méndez, a member of the current health sector assessment team.

It should be stressed that the 1977 report was prepared over a period of several months, involving a large number of contributors. As a result, it resulted in the publication of fifteen analytical reports, together with an executve summary. As the report itself noted, the annex section of the 1977 document was marked by "extraordinary length." This is to be distinguished from the current health sector assessment, whose objective it is to be somewhat more succinct.

1/ 1977 Health Sector Assessment. USAID Guatemala, November, 1977.

Finally, it is significant to note that one of the prime individuals with whom the report was noted to have been shared in 1977 is Dr. Jaime Solorzano, then Director of the Office of Programming in the Ministry of Health. As with Dr. Méndez, Dr. Solorzano provides continuity to the project by his involvement as a member of the current project team.

3.2 Major Recommendations of the 1977 Report

The major recommendations of the 1977 report were as follows:

"Recommendation 4.1: Family Planning

Recommendation 4.1.1.: The Government of Guatemala should establish a national population policy.

Recommendation 4.1.2: Until the Government of Guatemala inititates an active and effective family planning program, donors should continue interim support of the efforts of APROFAM to deliver family planning services through public health facilities to those Guatemalans who want them.

Recommendation 4.1.3: Alternatives to clinic-based delivery systems for family planning services and education should be explored and tested.

Recommendation 4.2: Nutrition

Recommendation 4.2.1: The Government of Guatemala should formulate a national food and nutrition policy and design a plan of action including interventions from agriculture, health, education and other sectors, for its implementation. Resources should be earmarked in the national budget for carrying out this coordinated, multisectoral nutrition program as part of the GOG's National Development Plan for 1975-1979 and incorporated into the new plan for 1980-1984.

Recommendation 4.2.2: The Ministry of Health should address programatically the association between malnutrition and diarrheal disease in children, which is Guatemala's primary health problem. The program should include the design of a nutrition surveillance system within the MOH which will continuously monitor the level of malnutrition at the municipal level. The surveillance should be system-designed to support national food and nutrition programs.

Recommendation 4.3: Health Services

Recomendation 4.3.1: To achieve a more equitable distribution and more effectively provide public sector curative health services, the government should correct the budgetary imbalance that favors urban at the expense of rural areas and hospitals instead of ambulatory care centers. This imbalance is an indicator as well as a cause of lack of access to services in rural areas. To correct this imbalance the GOG should allocate a larger budgetary proportion to rural ambulatory care services.

Recommendation 4.3.2: In order to impact more effectively on the health of the nation, the government should move towards correcting the imbalance between budget allocations for curative and preventive services by allocating more of the budget to preventive services.

Recommendation 4.3.3: To maximize rural coverage at minimum cost, human resources planning and budgeting should be based on the concept of maximum use of medical auxiliaries and minimum use of physicians and other high-cost personnel.

Recommendation 4.3.4.: Rural health programs of the MOH and other rural health programs should have maximum participation of local communities in local health program activities or mechanisms should be developed for identifying community health problems and priorities, and organizing communities to address these problems.

Recommendation 4.3.5: The GOG should make the extension of health services to fincas a high priority and enact legislation to ensure adequate health services to workers. Such service should emplasize preventive health education in nutrition and sanitation, and construction of latrines and provision of potable water supplies.

Recommendation 4.3.6: The health planning capacity of the MOH must be strengthened at both the national and area level.

Recommendation 4.3.7: By decision at the highest level, the two major public programs of health services, Ministry of Health (MOH) and Instituto Guatemalteco de Seguridad Social (IGSS), should be integrated as soon as possible.

Recommendation 4.3.8: The Government of Guatemala should establish a national health facilities and equipment maintenance and engineering program based on the principle that all facilities and equipment are to be maintained in a manner that will maximize their useful life and that maintenance, service and logistical support shall be deployed so as to provide timely response to requests for assistance.

Recommendation 4.3.9: Achievement of improvements planned by the MOH will in the long run require enlargement of the public sector health services, specifically in the area of training and drugs. Based upon historical trends a shortfall of financial requirements over resources for the entire MOH system could run as high as $35 million by 1980.

Recommendation 4.3.10: The National Health Plan, 1974-1979, should be revised to be more comprehensive. Specifically it should include: (1) all major public and private institutions providing health care; (2) estimates of financial resources required to attain goals; (3) projection of resources available and their source; (4) definition of priorities; and (5) specific policies and projects to meet planned goals.

Recommendation 4.4: Studies

4.4.1 Studies and pilot programs should be carried out in order to identify how best to incorporate the appropriate elements of the traditional (indigenous) medical system into the care provided by the public sector health system, especially in rural areas.

4.4.2 The system of procurement, storing and distribution of drugs from the National Drug Warehouse to the health facilities throughout the country should be evaluated to include an assessment of the constraints to the flow of the drugs to the communities.

4.4.3 A comprehensive study is needed of the MOH information system, including statistical needs, costs, and alternative methods of providing and processing needed information.

4.4.4 Sample household surveys should be designed and tested in rural areas to determine the extent of health problems, health behavior, utilization, and expenditure patterns.

4.4.5 A review should be conducted of employment conditions of all health workers in the public sector, and should include re-evaluation of the appropriateness of existing job descriptions and the extent to which they realistically reflect the tasks performed. Pay scales, classifications, benefits, working hours, vacations, sick leave, as well as opportunities for career advancement and additional training, should be revised in terms of the existing economic situation and the demand of the new patterns of health care delivery.

4.4.6 A separate but related study should be made for improving the system of health manpower supervision and evaluation at all levels in the public health sector and should include a forecast of personnel needs, costs and methodologies for continous evaluation.

4.4.7 A study should be undertaken to design a national maintenance program which would specify its functional responsibilities and the administrative and organizational configuration which best meets the Government of Guatemala's short and long term maintenance needs and financial capacity.

4.4.8 A national anthropometric survey by region and by income group should be undertaken immediately as a basis for direction of GOG intervention.

4.4.9 Phase II of the Nutrition Assessment, i.e., the multisectoral aspects of the analysis outside the health sector, should be completed as originally planned to provide the basis for the national food and nutrition plan of action."2/

3.2.1 Discussion

A structural observation concerning the 1977 Health Sector Assessment is that its recommendations are directed to the Government of Guatemala, rather than to AID. It is not the intent of the current health sector assessment simply to look at health sector indices and problems in the Guatemalan health sector, but to formulate and direct both general and specific recommendations toward AID. Clearly, the assessment of 1977 had no such inhibitions and was, accordingly, titled "Major Recommendations for Improvements of Health in Guatemala" without specifying "Recommendations to AID."

Some review of the specific recommendations is in order. First, with reference to family planning, it should be noted that the recommendation calls for the Government of Guatemala to adopt a "national population policy." This focus on population as the basis for family planning should be recognized as somewhat different from the emphasis of the current report, which is directed more toward the health of mothers and children.

2/ Ibid. 1977 Health Sector Assessment, pp. 31-39.

With reference to nutrition, the call was for a multi-sectoral nutrition program, together with a review of the association between malnutrition and diarrheal disease in children. The specific recommendation to establish a nutritional surveillance system within the Ministry of Health has yet to be achieved.

A great many of the recommendations in the 1977 report pertain to health services. There was a clear and precise call for a reversal of the budgetary imbalance between support for services directed toward urban and rural areas. The call was for an increased percentage of the budget to be directed toward rural ambulatory care services. This has also not been achieved.

Similar calls were extended for changing budgetary imbalances between curative and preventive services, and use of medical auxiliaries as opposed to higher-cost medical personnel. Clearly, there has been little move toward preventive services in a relative sense, unless water projects are included as part of that equation. There has possibly been more movement in the better use of medical auxiliaries, although the future of the Rural Health Technician training program, a major effort in this direction, is now in doubt.

Another clear call in the 1977 report is that the Ministry of Health and other rural health programs need to have maximum local participation. Organized health care systems, particularly those with rural health promoters, took a heavy toll in the recent conflict. Few are willing to get back into this area other than cautiously until the political future of Guatemala becomes more clear. At the present time, it can only be said that community development has suffered a severe set-back in Guatemala.

The extension of health services to plantations (fincas) has been accomplished to a degree, but this has largely been outside the Government of Guatemala. Organizations such as AgroSalud have, in a limited way, been effective in organizing health services for farm workers.

It would appear that the health planning capacity of the Ministry of Health has, in fact, been strengthened and that the close working relationship that exists between health planning in the Ministry and other ministries is a positive development for health in Guatemala.

The call for integration of Social Security Institute and Ministry of Health activities represents a timely observation in 1977, but one that would appear not likely of approval in 1986. Implementation of this recommendation never took place and is unlikely to happen in the near future.

The effort to improve maintenance facilities for Ministry of Health equipment has proved illusive. It remains a goal of present-day health planners and program managers. That is to say, it has not occurred to any great degree since 1977.

While public health services have enlarged in an absolute sense since 1977, in constant quetzales they have actually decreased. (See Chapter 10.) The public sector is weak in Guatemala and the requested infusion of funds basically did not occur.

The call for a more comprehensive national health plan, which would include private institutions, has proved unattainable to date. Also, the request that financial needs be included with goal statements has generally not occurred. The National Health Plan is regularly revised; it simply does not include many of the items called for in the 1977 report.

Of the various studies identified in 1977 that needed to be done, it is possible that all have been carried out to one degree or another by one investigator or another. The fact is that no one knows. These studies are often diffuse and isolated in nature and are not brought to the attention of the GOG or other concerned parties. Indeed, based on the information available to the present health sector assessment team, most of the studies called for in 1977 would appear to be needed just as much in 1987 as in 1977.

What, if anything, has come out of those studies which have been done that would directly influence the health of the Guatemalan people is unclear. Once again, a number of studies were recommended and may have been accomplished. There appears to be no systematic way of tracking the results of this recommendation.

3.3 AID Response

In view of the fact that the 1977 Health Sector Assessment was paid for by AID, it should be illuminating to see what AID's response to the recommendations has been. Basically, AID has funded very few projects in the health sector since 1977. Indeed, if those projects limited to displaced persons resettlement and potable water and sanitation systems development are not included, there have only been four projects begun since the 1977 health sector assessment that could be directly classed as health-related.[3/] These are represented in Table 3.1.

It is of some interest that the most recent projects have focused on potable water system installation and health education for health promoters. The latest project in this area (Project No. 520-0251) has

3/ Op. cit. Interview with Mr. Larry Oddle, AID Guatemala.

been written up as a case report and is included as Appendix 3.1. Several AID informants described the project as a failure because of its inability to meet training objectives for health promoters. A narrative account of health projects extending back to the late 1950s, based on material prepared by the AID Program Office, is included in Chapter 6.

Table 3.1

USAID - Assisted Health Programs in Guatemala, 1978-1986

Type of Assistance	Recipient of Assistance	Amount of Assistance (in U.S. $)		Year of Initiation	Year of Termination	Purpose of Assistance
Grant 520-0299	Guatemalan Movement for rural reconstruction	US PVO	420,000 502,000	1982	1985	Training for rural development promoters.
Grant 520-0329	Salvation Army Assisted by PAVA and Project Hope	US	563,000	1984	1985	Resettlement of displaced persons in four highland departments.
Loan and Grant 520-0251	MOH	Loan: US GOG Other Grant: US GOG	 9,500,000 9,315,000 2,125,000 1,300,000 1,274,000	1980	1988	Community-based health and nutrition systems. Training, housing, and health post components were re-allocated or de-obligated in 1986. Environmental sanitation remains the sole focus.
Grant 510-0298	Agua del Pueblo	US PVO Other	500,000 1,037,000 321,000	1984	1986	Rural potable water and sanitation
Grant 520-0335	Agua del Pueblo	US PVO Other	1,000,000 3,542,000 648,000	1985	1987	Rural potable water and sanitation II

Table 3.1

USAID - Assisted Health Programs in Guatemala, 1978-1986

(Continued)

Type of Assist-ance	Recipient of Assistance	Amount of Assistance (in U.S.$)	Year of Initiation	Year of Termination	Purpose of Assistance
Grant 520-0336	CARE	US 500,000 +SD Funds 500,000 PVO and others 1,451,000	1985	1988	Potable water, latrines, health extension workshops
Loan 520-0218	MOH, SEGEPLAN	US 3,400,000 GOG 1,600,000	1973	1979	Rural health services, including training TSRs, construction of an auxiliary nursing school, remodeling and equipping 8 regional hospitals.
Loan 520-L-021	MOH		1972	1980	Renovation and equipping regional hospitals; construction of a nursing school.
Loan 520-0231	CARE	US 267,500	1975	1978	Rural potable water and latrine construction
Grant 520-0230	Guatemalan Academy of Sciences	US 452,000 MOH 140,000	1975	1979	Evaluation of Rural Health Care Delivery System. Terminated at request of MOH and the Academy of Sciences.

Table 3.1

USAID - Assisted Population Programs in Guatemala, 1978-1986

Type of Assist-ance	Recipient of Assistance	Amount of Assistance (in U.S.$)		Year of Initiation	Year of Termination	Purpose of Assistance
Grant 520-0288	IPROFA and APROFAM	US	8,586,000	1983	1987	Increase access of poorest majority to family planning services and information, using a PVO and a for-profit social marketing agency and working in part through a FP unit in MOH.
Grant 520-0263	APROFAM and MOH	US GOG	2,376,000 890,000	1980	1984	Family planning information and services, continued and refined in Grant No. 520-0288.
Grant 520-0237	APROFAM	US PVO	1,021,000 320,000	1977	1980	FP services and information, leading ing to Grant 520-0263 as a follow-up project.

It is important to note that AID's response is not only through AID Guatemala allocation of funds, but also through AID's involvement as a participant in the PAHO regional program effort and through its Regional Office for Central American Programs (ROCAP). In this latter area, various nutrition problems have been addressed through contract with INCAP.

In the last few years ROCAP has provided funding to INCAP for three projects in health and nutrition.[4/] These are as follows:

- Oral rehydration therapy, growth monitoring, and education (No. 596-0115)--This project, scheduled to expire November 30, 1989, is for $8 million and has as its goal reduction of infant mortality and malnutrition in Guatemala and elsewhere in Central America.

- Food assistance (No. 596-0116)--This project, also funded through INCAP, is due to expire March 31, 1990 and is for $6.5 million. Its purpose is to contribute to infant mortality reduction by improving the nutritional status of children in Central America and Panama. The project proposes to accomplish this by improving the administrative and distributional aspects of feeding programs through improved coordination at the national level.

- Promotion of maternal nursing in Panama--This project, funded at under $1 million and due to expire in the present year, is only of concern to Panama and, therefore, will not be discussed in this report.

The other way in which AID has been able to direct resources toward the recommendations of the 1977 report is through its funding of the "Bridge for Peace" project sponsored by PAHO. One such project concerned with "strengthening of maternal and child care in priority rural areas" has been funded at the level of $6.7 million, with an additional $7.8 million being provided by the Italian government. This is now part of a larger project referenced as the "Integrated Project of Child Survival" for Central America and Panama.[5/]

Whereas AID has selectively sponsored health projects in Guatemala since the issuance of the 1977 sector assessment report, these have been fewer in number and smaller in scope than might have been anticipated at

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4/ ROCAP, Oficina Regional para Centroamerica y Panam Agencia Internacional para El Desarrollo. Antecedentes y Estrategia.

5/ "Priority Health Needs in Central America and Panama -- Republic of Guatemala." The Madrid Conference, Madrid, Spain, 25-27 November, 1985.

that time. Without doubt, one reason for the relatively small USAID presence in Guatemala during this period has been the political situation in the country and the reluctance of the United States Government to get heavily involved in the face of human rights abuses. On the other hand, the recommendations of the 1977 report were numerous and broad, requiring a heavy commitment of resources for their implementation. The lack of this resource commitment by USAID and other potential funding sources may have something to do with the lack of implementation of the recommendations.

In conclusion, we have reviewed the very extensive 1977 health assessment and the major recommendations flowing from that report. We have further critiqued the responsiveness of both the Guatemalan government and AID to these recommendations, noting that most have gone unfulfilled, either in whole or in part. A review of AID financial responsiveness during this period indicates some support of environmental health and health eduction type projects. Working through ROCAP, AID has provided nutritional support. Finally, working through PAHO, AID has made contributions toward child survival. Nonetheless, in part due to the political situation prevailing in Guatemala during the last decade, funding has been sparse and programs have been few. Many of the problems remain where they were in 1977--just as many of the 1977 recommendations remain viable (and unfulfilled) in 1986.

CHAPTER 4

THE GUATEMALAN HEALTH SECTOR

One of the lessons learned in developing information for this health sector assessment is that the Guatemalan health sector is extremely complex, for at least three reasons. The primary reason cited is organizational in nature. Public structures are complex, in part due to a web of authorizing legislative decrees and regulations which have evolved in the course of Guatemalan political history. Given the low level of public spending in Guatemala (already referenced), the result has been that at least half of the health care delivery system in Guatemala lies outside the public subsector, and adds to its complexity. Surprisingly little is known about this subsector, given its importance, except that it has great influence on health care in Guatemala.

A second reason for the complexity of the Guatemalan health care system is the recent re-emergence of multiple private voluntary organizations and donors on the Guatemalan health care scene. Most of these were either inactive or absent due to the conflict in Guatemala over the past decade. Now, with the election of a democratic government and the cessation of most hostilities, they are returning to Guatemala in increasing numbers. Once again, they bring with them a large array of institutional and program names, which add to the complexity already inherent in national and regional program activities.

The third reason is related to historical, locational, and population factors that have determined a key role for Guatemala in Central America. Many international organizations serving various countries in the region are either headquartered in Guatemala City or have a presence there. Each of these, in turn, has a plethora of programs--often known by various initials and acronyms -- which they support. The result has been an overlay of regional organizational structures on an already complicated national system.

Other factors that contribute to the complexity of the health sector in Guatemala include the large number of indigenous peoples with their traditional practitioners, the extremely diverse geographic and land-holding patterns present in Guatemala, (with the consequent alternative health delivery systems or lack thereof associated with these variations), and the very strong presence of professional societies, which exercise quasi-juridical functions under Guatemalan law.

The global configuration of the health sector is a mixture of public and private resources channeled through the following institutions:

Public Sector	Private Subsector
National Health Council	PVO's/NGO's
Ministry of Health	Private Clinics and Hospitals
Guatemalan Institute of Social Security	Pharmaceutical Industry
Armed Forces	Private pharmacies

In this section we will review a sampling of those agencies, organizations and groups that dominate, represent or influence the health sector in Guatemala. Two of these, the Ministry of Health (MOH) and the Guatemalan Social Security Institute (IGSS) command the majority (90%) of sectoral resources.

Table 4.1

Health Sector Budget
(In millions of Quetzales)

Institution	1982	1983	1984	%
Ministry of Health 1/	128.2	94.8	99.0	55.7
Guatemalan Social Security Institute (IGSS) 1/	59.2	47.6	59.0	33.2
Other institutions -				
- Public Sector 1/	13.9	10.7	9.5	5.3
- Private Sector 2/	12.5	11.5	10.2	5.8
Health Sector Total 3/	13.8	164.6	177.7	100.0

SOURCE: 1/ Budget of the Institution
2/ Figures estimated by the National Economic Planning Council
3/ Income and Expense Budget of the Nation

Assuming the proportion of the population served by each of these institutions remains more or less constant (and that people earning more than $6000/year will use private services), the following projection of potential demand for health care services was made in 1985:1/

	1985	1990
Total population	7,963,400	9,197,300
Affiliated to IGSS	1,202,500	1,388,800
Private Services	1,114,900	1,287,600
Potential Demand for MOH health care services	5,646,000	6,520,900 (71%)

If the level of MOH health services is not increased, the population left without services by 1990 will be over 4,000,000.2/

Table 4.2

Heath Sector Physical Resources

	Hospitals		H. Centers	H. Posts	Clinics
	No.	Beds			
Ministry of Health	35	8506	212	577	--
IGSS	23	2366	22	24	--
Armed Forces	1	500	--	--	45
The Municipal Government of Guatemala City	--	--	--	13	--
Private Services	59	1619	*	*	*
Total	118	12,991	234	614	45

* Equivalent figures not available.

Source: Resumen de la Situacion del Pais - 1984-OPS, Oficina Regional OMS.

1/ Ministerio de Salud Publica y Asistencia Social, Salud, Poblacion y Desarrollo: Bases para la formacion de Estrategias y Poleticas de Salud de Mediano Plazo 1986.

2/ Ministerio de Salud Publica y Asistencia Social, Salud, Poblacion y Desarrollo: Bases para la formacion de Estrategias y Poleticas de Salud de Mediano Plazo 1986.

4.1 National Health Council

On June 29, 1969, the Guatemalan Congress passed Decree No. 31-69, which defined the organizational structure of the Ministry of Health and established the National Health Council, under the chairmanship of the Minister of Health.

The National Health Council consists of representatives from the University of San Carlos, IGSS, the Ministry of National Defense, the Social Welfare Council, and other institutions or agencies the Minister of Health feels should be added. This coordinating body is responsible for (1) defining health policy for the Ministry, (2) assuring coordination of activities in the health field, (3) reviewing agreements and international understandings, and (4) annual evaluation of policies implemented by the Ministry. However, the National Health Council is not active currently.

As of August 24, 1984, a new law was passed authorizing the Ministry as the ultimate coordinating body for all health-related matters in the country, both public and private, but affirmed the role of the National Health Council in overseeing the Ministry in this mission. Out of this process came the Ministry's responsibility to prepare a national health plan to be reviewed and approved by the National Health Council. The Council has yet to fulfill its role in this process.

4.2 Ministry of Public Health and Social Welfare

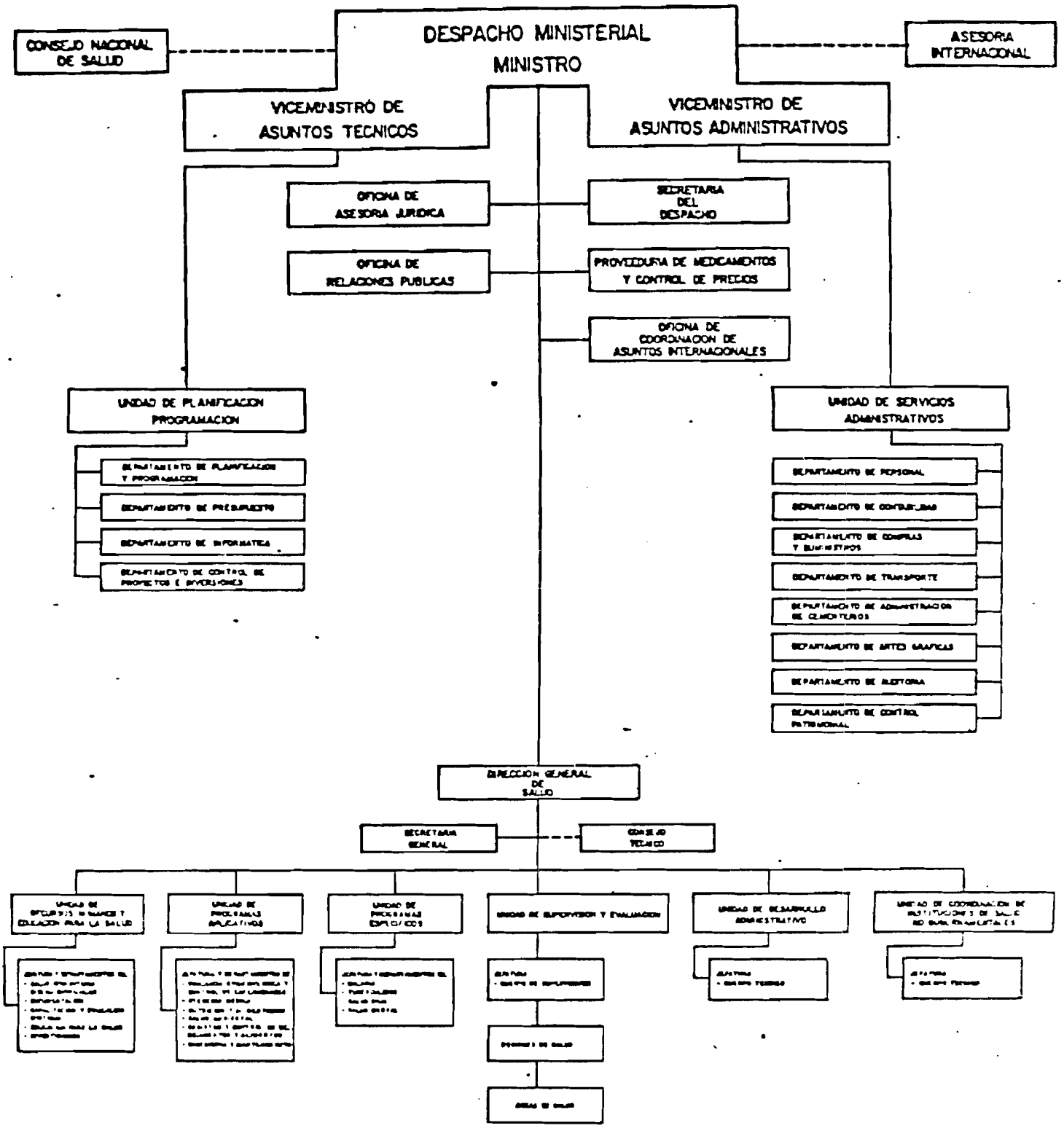
4.2.1 Legal Basis

The Ministry of Public Health and Social Welfare has its legal basis in the Constitution and in Legislative Decree No. 93 of April 25, 1945, which prescribed the basic functions of the Ministry as we now know it.

There have been many other legal milestones in the history of the Ministry of Health in Guatemala. These include passage of Governmental Decree No. 1877 in September, 1936, which established the Sanitary Code for the country. This authority was expanded in July, 1979, with Congressional Decree No. 45-79, by which the Ministry was given broad authority for coordinating and implementing basic sanitary measures in the country. Numerous other laws and decrees could be cited, but the foregoing provide sufficient basis for the Ministry to carry out its activities as a major actor in the Guatemalan health sector.

Figure 4.1

ORGANIGRAMA DEL MINISTERIO DE SALUD



November, 1986

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4.2.2 Institutional Structure

The most recent formal structure of the Ministry of Health was approved August 24, 1984. As previously noted, this legislation establishes the role of the Ministry as the highest coordinating body for health in the country, and does provide some flexibility for the Ministry to change organizational relationships as needed to meet changing circumstances.

4.2.2.1 Central Level

The current administration of President Vinicio Cerezo has done just that. The Ministry of Health, acting with its first and second Vice-Ministers (one for administrative affairs and one for technical affairs) has established six divisions reporting to the Director General of Health (Figure 4.1).

Among the divisions reporting to the Director General of Health is the Human Resources and Health Education Unit, which is responsible for all educational and training activities needed to promote good health practices by both professionals and consumers. It will be discussed in more detail later in this report.

A parallel, but very large division, is the Applied Programs Unit. Here are to be found the Epidemiological Surveillance Unit, the Maternal and Child Health Unit, the Environmental Health Unit, the Food and Nutrition Unit, the Medical Care Unit, and others. These are referred to as "normative services", designed to assure standards are met in defined fields.

The Epidemiological Surveillance Section has the responsibility for assuring that infectious diseases are both reported and controlled.

The Environmental Health Section is charged with improving sanitation in rural areas, but also has a surveillance function for maintenance of basic environmental health in the country.

In a like manner, the Food and Nutrition Section has the task of assuring nutritional protection for the children and for the general population. The Medical Care Section of the Applied Services Division is responsible for maternal and child health, adult health, and various other special programs.

The next division, the Specific Programs Unit, groups malaria and tuberculosis control, along with mental and oral health. These programs are "top-down" activities which operate differently from the normative program management units. The best example is possibly the malaria control program, in which the program director has full authority over the most dispersed malaria collaborators (health promoters for malaria) in the field.

The largest division in the Ministry is the Supervision and Evaluation Unit, includes a central level supervisory body, and the entire health infrastructure making up the 6 health region and the 24 health areas in the country.

The Administrative Development Division of the Ministry, is concerned with structural and functional improvements in the Ministry.

The Coordinating Unit for Non-governmental Institutions operating in Guatemala, is functionally defined by its name. Profit and non-profit organizations are included in its mandate.

Put in a larger perspective, the Ministry may be seen to be operating on three different levels. The first is the higher political and administrative level, represented by the Minister, the Vice-Ministers and their staff divisions. The second is the technical services level, represented by the Director General for Health and all of the units which report to him. Finally, there is the direct service or operative level, also under the Director General of Health, which includes service units operating under regional and area administrative structures. From the perspective of most Guatemalans, this latter division <u>is</u> the Ministry of Health.

4.2.2.2 <u>Operative Level</u>

Guatemalans live in population centers that vary considerably in terms of size and urbanization. At least four types of localities should be distinguished. The departmental capital is usually the greater and most urbanized center in the department. Each of the twenty-two departments that comprise the country is divided into <u>municipios</u> or counties. Each county has a <u>cabecera municipal</u> or county seat which is usually the greater and most urbanized center in the county. The rest of the population usually lives in small villages, hamlets or dispersed houses. The latter sharply contrasts with the metropolitan area of Guatemala City, with a population of close to 2,000,000.

The quality and quantity of services offered by the MOH follow closely the classification of population centers. MOH direct service establishments include hospitals, drugstores, municipal posts for the sale of medications; nutritional, educational and recuperation services; and health centers and posts. Services are also provided by midwives, promoters, and volunteers. The distribution of these establishments and personnel summarizes the physical accessibility of modern health services to the rural and urban population, which can also be analyzed in terms of the major ethnic groups.

The Ministry of Health operates thirty-five hospitals with a total of 7,838 beds. Seven of these hospitals with 46% of the beds are in the Department of Guatemala, which account for 36% of hospital expenses. The other 28 hospitals, with only six exceptions, are in departamental capitals.

State pharmacies are also predominantly located in departamental capitals, but the difference between the rural and urban areas is less pronounced than in the case of hospitals. In general, there is a trend to make state pharmacies more accessible to the less urban population.

Table 4.3

Number of State Pharmacies by Departamental Capital and Other Less Urban County Seats

Population Center	Number of State Pharmacies			
	Year Operation Initiated			
	Before 1984	1985	Planned	Total
Departamental capital	16	1	-	17
Other county seats	8	10	16	34
Poor districts in metropolitan areas	-	-	1	1
Without information	-	1	-	1
TOTAL	24	12	17	53

Source: Based on: Red de Establecimientos de Salud Publica y Asistencia Social, Ministerio de Salud Publica y Asistencia Social, Direccion General de Servicios de Salud, 1985.

Municipal posts for the sale of medicines are usually located outside the departamental capitals, often in the county seats, or even in smaller population centers.

The nutritional, educational and recuperational services are usually located in the county seats.

Table 4.4

Municipal Posts for the Sale of Medicine by Departamental Capital and Other Less Urban County Seats

Population Center	Before 1985	1985	Planned	Total
Departmental capital	6	-	-	6
Other county seats	88	7	5	100
Villages	20	10	4	34
Poor district-metropolitan areas	-	1	-	1
Without information	1	-	-	1
TOTALS	115	18	9	142

Source: Based on Redade Establecimientos de Salud Publica y Asistencia Social, Ministerio de Salud Publica y Asistencia Social, Direccion General de Servicios de Salud, 1985.

4.2.2.3 Health Posts and Health Centers

A health post or puesto de salud, is the simplest establishment that provides medical care. Posts are generally located in villages, hamlets and less important, smaller county seats. They are served by technical personnel: an auxiliary nurse (Auxiliar de Enfermeria), and a rural health technician (Técnico de Salud Rural). Occasionally, a medical student doing EPS (Ejercicio Profesional Supervisado) works at the health post. However, about 66% of all posts lack this or other direct professional medical supervision.

4.2.2.4 Health Centers

There are three types of health centers or centros de salud. Type 'A' centers are usually located in county seats of greatest importance. They have a maternal-child health program and up to twenty or thirty hospital beds. Their personnel include one or more physicians, one or more nurses, a laboratory technician, several auxiliary nurses and a sanitatary inspector. Some also have a social worker, in addition to administrative and maintenance personnel. In 1985, there were 30 type 'A' centers in Guatemala.

Type 'B' centers are usually located in the county seats. They are served by one physician, one nurse, and an environmental sanitatary inspector. Some of them also employ a social worker, a laboratory technician, auxiliary nurses and statistical technicians. Integrated (Type B) centers often are located near a MOH hospital, permitting supplementation of services.

Table 4.5 shows the distribution of health centers and posts by department and by predominant cultural groups. Departments have been divided into those predominantly Ladino, those with an Indian component of nearly 50%, and those predominantly Indian.

Table 4.5

Health Centers and Posts in Guatemala

Departments	Health Centers	Health Posts
Predominantly Ladino:		
Guatemala	29	59
Progreso	6	22
Santa Rosa	10	41
Petén	5	27
Zacapa	9	19
Jutiapa	8	40
Izabal	7	24
Escuintla	9	31
Retalhuleo	6	15
Chiquimula	7	11
Jalapa	5	7
Subtotal	101	296
Predominantly Indian:		
Chimaltenango	9	50
Solola	7	26
Baja Verapaz	7	21
Quezaltenango	10	40
Quiché	15	39
Huehuetenango	13	49
Totonicapan	7	17
Alta Verapaz	15	28
Subtotal	83	270
Mixed Population:		
Sacatepéquez	3	16
Suchitepéquez	9	23
San Marcos	5	61
Subtotal	37	100
TOTALS	221	666

Source: Based on: Red de Establecimientos del Ministerio de Salud Publica y Asistencia Social, Ministerio de Salud Publica y Asistencia Social, Direccion General de Servicios de Salud.

Analysis of population coverage of health posts and centers (Table 4.5) shows a marked difference between urban and rural areas. As might be expected, coverage ratios are more favorable for urban facilities.

Cross-analysis with the cultural/ethnic distribution of health services (Table 4.6) suggests that only the rural Indian population has significantly lower service coverage than other population groups.

Table 4.6

Urban and Rural Population Coverage of Health Centers and Posts

Region	Department	Population Served	
		Urban	Rural
Central and Southeast	Chimaltenango	7,879	2,884
	Progreso	2,978	2,683
	Santa Rosa	4,351	3,642
West	Solola	8,063	3,830
	Totonicapan	3,010	10,522
	Quiché	3,142	7,460
	Huehuetenango	3,912	7,591
	San Marcos	3,157	6,813
East	Zacapa	2,523	4,371
	Chiquimula	3,76	11,677
	Jalapa	5,445	13,912
	Jutiapa	5,470	5,054
North	Alta Verapaz	2,276	9,857
	Baja Verapaz	2,438	4,478
	Petén	6,085	3,710
	Izabal	2,008	6,597
Three Depts. with major cities	Sacatepequez	23,858	2,110
	Escuintla	8,648	7,373
	Quezaltenango	8,407	5,714

Source: Based on Ministerio de Salud Publica y Asistencia Social, Direccion General de Servicios de Salud: Red de Establecimientos del Ministerio de Salud Publica y Asistencia Social.

Another level of service is provided by a large cadre of community-based, paid and volunteer individual health workers, more than 25,000 strong (Table 4.6), which include midwives, health promoters, and malaria volunteers, the bulk of whom serve communities having between 300 and 2000 inhabitants.

4.2.3 Institutional policies

Governmental Accord 741-84 vested in the Ministry of Health the responsibility "to define and dictate health policies for the country."[3/], while, at the same time, Governmental Accord No. 26-69 establishes the National Council for Economic Planning as the ultimate body for overseeing policy in each of the governmental sectors, as represented by the respective ministry.

Policies thus formulated are reflected in five year plans, which are reviewed annually, through an iterative planning process. The Planning Division of the Ministry of Health, in consultation with other divisions of the Ministry, prepares a plan, routes it through the Office of the Minister for approval, and then forwards it to the National Economic Planning Council for review and final authorization. This procedure effectively assures a centralized economic control by a single government entity, while providing a large degree of programmatic autonomy to the individual ministries.

During the period 1978 to 1982, health policy, as expressed in annual Ministry plans, stressed the need for improving the efficiency of services through improved management and development of human resources. Since 1984, MOH policy has focused on extension of medical coverage, on environmental health, on food and nutrition, and coordination of economic growth. Thus, during the past quinquennium, health policy has shifted its emphases, but the Ministry of Health has not changed its stated commitment to the following general objectives:

> "To raise the level of health for the population through improvements in the efficiency and efficacy of health services and the promotion of necessary intersectoral activities which make possible an improvement in the quality of life for the Guatemalan citizen."

3/ Analysis Institucional, Unidad Sectorial de Planificacion de la Salud, Ministerio de Salud Publica y Asistencia Social, November, 1985, p. 60.

Table 4.6

Voluntary Personnel by Size of Population

Voluntary Personnel	Total	Population Size -50	50-99	100-999	200-299	300-499	500-999	1000-1999	2000-4999	5000-9999	10000 99999
Active midwives	5,594	55	111	362	500	971	1,520	1,445	983	363	385
Trained promoters	6,646	32	142	459	646	1,141	1,663	1,334	938	153	138
Active promoters	4,959	24	108	375	511	930	1,294	1,002	539	98	78
Malaria Volunteers	7,000	-	-	-	-	-	-	-	-	-	-
TOTAL	25,300	111	361	1,196	1,657	3,042	4,477	3,781	2,460	614	601

Source: Red de Establecimientos del Ministerio de Salud Publica y Asistencia Social. Ministry of Public Health and Social Assistance, Unidad de Programacion de la Direccion General de Servicios de Salud, Guatemala, 1985.

Specific objectives include:

"Reduction in the high incidence and prevalence of preventable illnesses and the mortality rate in general, with an emphasis on maternal and child health and rural populations;" and

"Improvement of the efficiency and availability of medical services, as well as the prevention of illnesses, through the introduction of technical reforms and necessary administrative changes."3/

In plans for the achievement of those goals, the Ministry has continued to focus on the following strategies:

1) an emphasis on primary health care;
2) strengthening intersectoral cooperation;
3) institutionalization of basic services;
4) administrative reform and reordering of services.

Faithfully followed, these strategies should ensure implementation of plans proposed by the Ministry of Health and the National Economic Planning Council.

It is evident that maternal, child health and rural health occupy the center stage in both MOH goals and strategies.

Goals and objectives, general or specific, have tended to become repeated year after year in planning documents, thus the best measure of the seriousness with which goals and objectives have been taken is to look at the programs which flow from them, - even more importantly - at the budgetary figures attached to these programs, and the MOH commitment to evaluation of previous planning proposals.

The goals and objectives of the Guatemalan Health Plan are meritorious. Certain programatic adaptations have been made to move toward their achievement. Further progress in this direction, through greater specificity in the future, including budgetary implication of recommendations, coupled with constructive criticism of past performance, might make the plans more useful guides for the Ministry, SEGEPLAN and other interested parties.

3/ Ibid.

4.2.4 Programs

Program management units located at various levels of the Ministry generally cross-cut direct service delivery locations and are designed to assure that specified services are rendered to designated population groups in certain ways, through technical/normative support and supervision.

4.2.4.1 Program Structure

As shown in the Ministry organic structure (Figure 4.1), the key programmatic units include:

- Community Health
- Health Information and Documentation
- Continuing Education
- Education for Health
- Research
- Epidemiological Surveillance and Disease Control
- Medical Care
  - MCH care
  - Adult health care
- Environmental Health
- Food and Drug Control
- Engineering and Maintenance Support
- Malaria Control
- TB Control
- Oral Health
- Mental health
- Administrative Development
- Coordination of NGO's

Service delivery programs dominate both preventive and curative health care activities of the Ministry.

Thus, specific program activities of the Ministry are of interest to potential donor groups, such as AID, which offer funding for selected programs.

Programs of particular importance to the purpose of this report are those concerned with the Human Resources and Health Education Unit. This division interprets its programatic responsibilities quite broadly, looking to the need for education of the Guatemalan people regarding their culture, history and options for a better future. Only when this is fully understood, will Guatemalans be able to break out of their cycle of poverty and ill health.[4/]

4/ Interview with Dr. Roderico Monz n, Chief, Division of Human Resources and Health Education, Ministry of Health, Guatemala, September 4, 1986.

National programmatic activities, will be studied in detail in other chapters of this report, with particular attention paid to: 1) maternal and child health; 2) family planning; 3) water and environmental sanitation; 4) nutrition; and 5) communicable disease control. An entire chapter is devoted to the issue of human resources analysis, in which the programs of the human resources division will be discussed in more specific terms.

The relative budget allocation by program (Table 4.7) reflects the true priority given to each Ministry program. For the majority of the Guatemalan people, the most valued programs of the Ministry of Health are those relating to curative services, which are provided in Ministry-operated hospitals, health centers and health posts throughout the country. Significant sections of this report will be devoted to analyses of these programs, including socio-anthropological and functional aspects of access to health services.

Table 4.7

MINISTRY OF HEALTH BUDGET DISTRIBUTION BY PROGRAM
1980-1984

Program	1980	1981	1982	1983	1984
Total (Q 000's)	48,184	59,234	61,006	56,993	57,324
Administrative and Technical Services	15.1	16.2	15.0	10.2	10.8
Epidemiology	9.2	8.5	8.2	7.2	7.2
Health Services	3.9	3.6	3.7	2.9	2.6
Medical Care	66.2	66.2	67.8	73.2	75.1
Env. Sanitation	2.1	1.9	1.7	1.2	1.2
MCH Care and Promotion	0.7	0.7	0.7	0.7	0.6
School Education	1.6	1.9	1.9	1.7	1.5
Superior School Education	1.1	1.1	1.1	1.0	0.9

4.2.4.2 Services Coverage

Activities of the programs described above have been channeled through the MOH health care network and their direct services (quantitied in Tables 4.8 - 4.12).

Service statistics from 1984 show that true population coverage of MOH primary health care facilities was of the order of ___% of the total population.

	Population Attended (True Coverage)	Service Concentration (Per User) (Total Visits/First Visits)
Health Posts	669,847	1.6
Health Centers		
Type A	153,503	1.5
Type B	79,352	1.7
TOTAL	902,702	1.6

Major activities of health promoters included ORT and EPIU promotion (Table 4.11), whereas traditional midwives focused mainly on pre- and postnatal control (Table 4.12).

Table 4.8

Average Out-Patient Visits to Health Posts
by Health Area. Guatemala, 1984

Health Area	Out-Patient Visits		
	First Visit	Subsequent Visit	Total
Jalapa	1,849	1,973	3,822
Baja Verapaz	1,307	1,554	2,862
Huehuetenango	1,638	730	2,419
San Marcos	1,274	1,018	2,291
Retalhuleu	1,110	960	2,070
Quiché	1,395	574	1,969
Amatitlan	1,274	477	1,751
Chimaltenango	1,189	528	1,717
Area Sur	739	961	1,701
Chiquimula	1,310	322	1,632
El Progreso	1,019	535	1,554
Escuintla	1,082	325	1,413
Sacatepéquez	799	614	1,406
Area Norte	754	586	1,339
Santa Rosa	895	463	1,312
Zacapa	530	740	1,270
Suchitepéquez	924	276	1,200
Izabal	953	220	1,173
Alta Verapaz	830	389	1,155
Quezaltenango	753	464	1,130
Jutiapa	732	363	1,095
Totonicapan	585	431	1,016
El Petén	577	298	875
Solola	566	160	730
NATIONAL AVERAGE -	1,003	573	1,576

Source: Maldonado, 1985.

Table 4.9a

Type 'A' Health Centers
Number of Visits to Out-Patient Clinic - 1984

Departments	First Visit	Subsequent Visit	Total
Chimaltenango			
San Juan Comalapa[2/]	1,978	984	2,957
Tecp§n[2/]	2,034	923	2,957
Sub-total	4,007	1,907	5,914
El Petén			
Playa Grande[3/]			
Sayaxché[1/]	4,549	896	5,445
Popt•n	12,197	7,953	20,150
Sub-total	16,746	8,849	25,595
Izabal			
Livingston	1,168	846	2,009
El Estor	3,031	2,678	5,709
De Morales	8,520	1,044	9,564
Sub-total	12,714	4,568	17,282
Alta Verapaz			
Sn. Cbal. Verapaz[1/]	6,129	2,627	8,756
Tucur	5,972	5,247	11,219
La Tinta[1/]	1,198	3,209	4,407
Senah	2,078	6,107	8,185
San Pedro Carch§[1/]	5,294	2,861	8,155
Cahabçn	5,190	1,852	7,042
F. Bartolome de las Casas[1/]	1,595	836	2,431
Sub-total	27,456	22,739	50,195

Table 4.9b

Type 'A' Health Centers
Number of Visits to Out-Patient Clinic - 1984
(Continued)

Departments	First Visit	Subsequent Visit	Total
Quiché			
Joyabaj[1/]	4,879	2,072	6,951
Nebaj	11,890	5,564	17,454
Uspant§n[1/]	5,581	895	6,476
Sub-total	2,350	8,531	30,881
Escuintla			
Pto. de San José	6,062	4,274	10,336
Sub-total	6,062	4,274	10,336
Santa Rosa			
San Rafael Las Flores	4,158	352	4,510
Taxisco	3,775	4,315	8,090
Sub-Total	7,933	4,667	12,600
Jalapa			
Mataquescuintla	4,315	3,361	7,676
Sub-Total	4,315	3,361	7,676
Zacapa			
Gual§n	8,699	4,247	12,946
Caba§as	3,742	597	4,339
Sub-Total	12,441	4,844	17,285

Table 4.9c

Type 'A' Health Centers
Number of Visits to Out-Patient Clinic - 1984
(Continued)

Departments	First Visit	Subsequent Visit	Total
Jutiapa			
Asunciçn Mita	9,472	5,427	14,899
Atescatempa	2,810	53	2,863
Sub-Total	12,282	5,480	17,762
Baja Verapaz			
Rabinal	1,776	1,429	3,205
Sub-total	1,776	1,429	3,205
Chiquimula			
Esquipulas	12,168	1,438	13,606
Ipala	9,084	2,301	11,385
Sub-total	21,252	3,739	24,991
San Marcos			
Malacat§n	4,169	5,128	9,297
Sub-total	4,169	5,128	9,297
TOTAL	153,503	79,516	233,019

1/ Built and equipped with sources from BID Loan No. 468/SF-GU.

2/ Previous constructions were equipped with sources from BID Loan No. 468/SF-GU

3/ Without information.

Source: Maldonado, 1985

Table 4.10

Type 'B' Health Centers

Number of Out-Patient Visits - 1984

Department	First	Second	Total
1. Amatitl§n	9,347	6,657	16,004
2. Area Norte	8,832	4,882	13,714
3. Jalapa	5,204	6,498	11,702
4. Area Sur	5,741	2,562	8,303
5. Chimaltenango	4,432	2,073	6,605
6. Chiquimula	4,524	1,126	5,650
7. Escuintla	3,712	2,457	6,169
8. Sacatepéquez	1,947	3,654	5,601
9. Suchitepéquez	2,272	2,717	4,989
10. San Marcos	2,851	2,037	4,888
11. Izabal	2,972	1,678	4,650
12. Zacapa	1,778	2,668	4,446
13. Petén	3,031	1,363	4,394
14. Alta Verapaz	2,830	1,409	4,239
15. Santa Rosa	2,544	1,388	3,932
16. Jutiapa	1,906	1,729	3,655
17. El Progreso	2,849	772	3,621
18. Retalhuleu	1,639	1,935	3,574
19. Quezaltenango	1,542	2,005	3,547
20. Huehuetenango	2,046	1,466	3,512
21. Solol§	2,006	1,260	3,266
22. Totonicap§n	1,686	1,579	3,265
23. Baja Verapaz	1,753	1,335	3,088
24. Quiché	1,908	878	2,786
TOTAL	79,352	56,128	135,480
NATIONAL AVERAGE	3,306	2,339	5,645

Source: MacDonald, 1985

Table 4.11

Rural Health Promoter Activities in the Country
by Population Size - 1983

Activity	Total	Population Size									
		-50	50-99	100-999	200-299	300-499	500-999	1000-1999	2000-4999	5000-9999	10000 99999
Housing control	161,183	521	1,752	7,351	13,955	31,087	45,789	58,107	18,309	3,614	1,798
House visits	309,520	811	4,149	20,173	31,758	53,085	77,095	67,282	33,307	9,954	1,906
PAI-promoted housing	18,871	46	658	1,215	2,056	2,821	4,349	4,287	2,844	452	143
Oral rehydration in children under 6	51,007	216	1,775	7,199	8,345	5,735	10,756	9,771	4,541	2,478	191
Families under birth control	1,632	3	11	62	183	394	495	199	245	8	32

Source: Red de Establecimientos del Ministerio de Salud Publica y Asistencia Social, Ministerio de Salud Publica y Asistencia Social, Unidad de Programacion de la Direccion General de Servicios de Salud, Guatemala, 1985.

Table 4.12

Traditional Trade Midwives Activity in the Country
by Population Size - 1983

Activity	Total	Population Size -50	50-99	100-999	200-299	300-499	500-999	1000-1999	2000-4999	5000-9999	10000 99999
Prenatal care	88,034	328	1,116	3,148	5,049	9,802	19,294	20,942	14,394	6,071	6,890
Prenatal control	311,314	1,255	4,443	11,450	18,431	34,416	62,748	70,682	63,459	19,459	24,971
Childbirth assistance	92,470	353	1,205	3,158	5,033	9,834	19,622	22,051	16,444	6,656	8,114
Postnatal control	332,351	1,432	5,092	12,521	17,802	34,772	67,623	71,566	61,215	17,423	22,905
Newborn care	86,408	310	1,173	3,071	4,674	9,758	18,759	20,501	15,376	5,597	7,189
Newborn control	301,010	1,349	4,830	11,965	17,221	33,865	63,638	66,479	58,334	17,668	25,661
T O T A L	1,296,963	5,024	19,051	48,355	73,106	141,652	270,307	293,269	244,949	78,284	122,638

Source: Red de Establecimientos del Ministerio de Salud Pública y Asistencia Social, Ministerio de Salud Pública y Asistencia Social, Unidad de Programación de la Dirección General de Servicios de Salud, Guatemala, 1985.

4.2.4.3 Factors Influencing Accessibility of Health Services

In addition to physical considerations, the accessibility to health services in Guatemala is conditioned by social, cultural and economic factors.

It is reasonable to suppose that the relative cost in money, time, physical effort and socio-cultural stress to obtain medical treatment is greater for the most rural people, living in remote villages and hamlets than for those in urban areas.

The cases from Patzicia, Chimaltenango, presented in Table 4.13, exemplify the costs of obtaining both Western and traditional health care (Table 4.14), but cannot be generalized to other communities. The fact that this locality is a county seat relatively close to Guatemala City, and relatively prosperous, suggests more adverse conditions in great regions of the country.

Table 4.13

Examples of Monetary Cost to Obtain Western Health Care. Patzicéa, Chimaltenango

Case No.		Consultation Charge	Medicine	Transportation	Totals
1		Q.10.00	-	-	Q.10.00
2	1st visit	Q.15.00	Q. 3.00	Q. 3.00	Q.59.00
	2nd visit	Q.10.00	Q.10.00	Q. 3.00	
3		Q.10.00	Q. 5.00	Q. 6.00	Q.21.00
4		Q. 8.00	(included in physicians' charge)	-	Q. 8.00
5		Q. 6.00	(included in physicians' charge)	Q. 2.00	Q. 8.00
6		Q.10.00	Q.15.00	Q. 2.50	Q.27.50

Source: Based on interviews made in Patzicéa for the present study, 1986

The previous figures contrast with the expenses resulting from being seen by local practitioners and using local medicines, with which patients are more likely to feel comfortable. Examples of this situation are shown in Table 4.14.

Table 4.14

Examples of Monetary Costs of Traditional Health Care

Case Number	Practitioner	Consultation charge	Medicine	Trans-portation	Total
1	Healer	Q. 3.00	Included	-	Q.3.00
2	Midwife	Q. 0.15	Q. 1.95	-	Q.2.15
3	Midwife	Q. 0.15	Q. 0.65	-	Q.0.80
4	Midwife	Q. 0.15	Q. 0.30	-	Q.0.45
5	Healer	Q. 0.15	-	-	Q.0.15
6	Healer	Q. 0.50	Q 2.00	-	Q.2.50
7	Healer	Q. 0.50	Q. 2.00	-	Q.2.50
8	Healer	Q. 3.00	Included	-	Q.3.00
9	Healer	Q. 2.00	Included	-	Q.2.00
10	Healer	Q. 1.50	Included	-	Q.1.50

Source: Based on interviews made in Patzicéa for the present study, 1986.

Two reported cases of visits to the health center shed additional light on the problem of accessibility to actual treatment (Table 4.15).

Table 4.15

Case No.	Health Service	Consultation charge	Trans-portation	Medicines
1	Health Center	Q. 0.25	-	Not available
2	Health Center	Q. 0.25	-	Discontinued treatment for lack of money

Source: Based on interviews made in Patzicia for the present study, 1986

In summary, physical access to health services varies considerably from one department to another. There is a concentration of services in the department of Guatemala, which contrasts with that of remote regions such as Huehuetenango, Alta Verapaz, Chiquimula and Jalapa. The data does not provide evidence as to major differences between services offered to rural Indian and Ladino populations.

However, there are significant differences in quality and quantity of services accessible to the most rural population. Fees for private physicians and prices of patent medicines are hindrances to the frequent, consistent and adequate use of the services offered. The physical presence of a center or a post means little when they are beyond the reach of the people for economic, cultural, linguistic, and social reasons. This is particularly so for the Indian population.

4.2.5 Constraints and Issues

Virtually every division of the Ministry of Health perceives that its ability to mount effective programs is severely constrained by the lack of adequate resources. Almost without exception, divisional budgets are largely given over to personnel salaries, with little money left for program implementation. This is particularly significant when it comes to travel, supplies and equipment, all of which are severely limited. In some instances the result appears to be "office-bound" personnel who, as such, appear to be less than fully productive.

A second constraint facing the Ministry is the relative distribution of those resources that are available. As has been indicated, the vast preponderance of available resources goes to curative health care rather than to the preventive and normative activities traditionally associated with health departments. Repeated recommendations have been ineffective in reversing this trend. Service delivery is politically popular and invariably overwhelms activities such as health promotion and disease prevention in the budgetary allocation process.

A third constraint in the Guatemalan Ministry of Health is related to efficiency in the administration of available resources, both in the preventive and curative sectors. Examples include difficulties in the distribution of medications, even when they are available; the use of personnel, ranging from Rural Health Technicians to public health physicians; and inadequate reporting and management of data. Any one of these examples, which have been documented by the assessment team, all add up to a single observation: more efficient use of available resources, however distributed, is required if Ministry goals are to be achieved.

Resource limitations affecting the Ministry of Health will be discussed further in the chapters on health care financing. Suffice it to repeat here that, relative to many other countries, the public sector is relatively underfunded in Guatemala. In addition, the Ministry of Health in recent years has experienced a relative decrease in its proportional budget allocation, both in real (adjusted) and relative terms, compared to other Government ministries.

Issues facing the Ministry of Health at this time include:

(1) how it is going to use the resources which it has;
(2) how successfully it can coordinate with other actors in the health field;
(3) what its relationship to the private sector will be.

With reference to the first of these issues, the question is one of distribution of resources between preventive and curative care. Until some adjustment is made in the present ratio of over 80% of the budget going to hospital care vs. 20% going to primary care, little can be expected in outcome measurements.

Efficient use of national resources demands collaboration and coordination among health providers in Guatemala. Prime attention must be given to collaboration between the Ministry of Health, the Guatemalan Social Security Institute and the National University. This main thrust would be well directed if duplication of resources can be avoided.

Finally, some attention must be paid to the public-private mix. Decisions are required on relationships in this direction. The base of the Ministry of Health may be too small to establish independent management and support systems sufficient to support every aspect of the Ministry's mandate.

Thus, should the Ministry be able to work more efficiently through private sector contractors for either social services (e.g. rural services through Adro-Salud, distribution of contraceptives by APROFAM) or logistic support (e.g. delivery of medications by commercial vendors), such moves could be considered.

4.2.6 Summary, Conclusions and Recommendations

In summary, the Guatemalan Ministry of Health is, by virtue of its legal mandate, the largest player on the health field in Guatemala. It has within its mandate a broad array of services, including both curative and preventive programs. While institutional

policies, goals and objectives all favor a more preventive orientation, current budgetary allocations are strongly oriented toward curative medicine.

The programs of the Ministry are wide and varied, but tend to be marked by inadequate resources, which limits their emphasis and correspondence to MOH stated priorities. This resource limitation is a problem of both inadequate appropriation and inappropriate allocation of funds. However, most of the problems facing the Ministry of Health are beyond the authority, competence and capacity of AID to correct. They can only be resolved in the context of the socio-economic and political realities of Guatemala. Coordination between institutions is a key requirement for efficient use of the available resources. Definition of policies on the relationship between the private and public sub-sector will also be critical for the future of the Ministry of Health.

AID may, however, selectively focus on supporting specific activities addressing problem areas the Ministry has identified as responsive to external funding. This may involve strengthening certain areas of the Ministry (e.g. those engaged in preventive health, primary care or related activities), or promoting projects which encourage integration of services. What would probably not be appropriate in the present era is the support of specialized curative services or other activities which would ultimately increase the operational obligations of the Ministry, without identifying an offsetting resource base.

In this regard, it is recommended that:

4.2.6.1 <u>AID support projects relating to primary care and preventive services at the community level, such as the program in San Juan Sacatepequez, and which are carried out either in Ministry of Health facilities or in cooperation with Ministry of Health personnel</u>.

4.2.6.2 <u>AID selectively support public health programs within the Ministry of Health particularly directed at high-risk population groups, particularly women and children, with a goal of reduced morbidity and mortality. Possible projects might include ORT and immunization, or related to communicable diseases and malnutrition</u>.

4.2.6.3 <u>AID encourage and support the development of multi-institutional health projects at the local level, particularly those involving government health agencies, including hospitals, the public and private universities, and the private sector, including the private voluntary organizations, where appropriate</u>.

4.2.6.4 AID not become involved in projects which will promote the further development of tertiary care medical practice in Guatemala or which will impose continuing operational obligations upon the Guatemala health care system that the GOG will be unable to sustain without external assistance.

4.3 Instituto Guatemalteco de Seguridad Social

The Instituto Guatemalteco de Seguridad Social (IGSS) is, next to the Ministry of Health, the largest participant in Guatemalan health care. In some respects, it is the larger of the two--even though the social security system covers less than 10% of the population. One aspect is the *per capita* resource allocation within the IGSS which is far greater than that in the Ministry of Health, and is discussed more extensively in the chapters on health care financing.

4.3.1 Purpose and Function

As in most Latin American countries, the social security system in Guatemala exists for the purpose of providing health and retirement benefits to public and private sector workers. Complete services (Maternal and Illness program; Accident program, Disability, Old Age and Survivor program; and Occupational Illness Program) are provided in nine of the country's 22 departments. In the remaining 13, services are limited to accident coverage and disability, old age and survivor benefits (IVS).

The social security system in Guatemala has its origins in a presentation made in 1944 by Dr. César Meza on "Guatemala and Obligatory Social Security." The concept was incorporated into the Constitution of the Republic in March of 1945 and written into the law through Decree No. 295 on October 30, 1946. The concept of a mandatory social security system was reincorporated in the Constitution of 1965 and, once again, in the Constitution of 1985.

The 1946 law formally instituting the social security system in Guatemala provided for a unitary and obligatory system, but also made provision for the gradual expansion of the system as the social and economic order permitted. While not generalized for everyone, benefits specified in the law included work accidents, occupational diseases, maternity, general illness, disability, old age and death, with specific benefits for orphans and widows.

IGSS derives its operating budget from workers, employers, and the Government as follows:

a) There is a contribution of 13% on all salaries, with 3% paid by the workers, 7% by their employers, and 3% paid by the Government. These funds are used to cover the costs of accidents, illnesses, and maternity expenses of the employees.

b) For disability, old age and death, employees pay 1.5% and their employer 3% of the salaries. An additional 25% of the annual payments made by IGSS for retirement benefits is paid by the Government.

The ultimate goal of the IGSS is to provide protection for the entire population of the country, using as an economic base for universal coverage, proportional contributions by workers and employers, with a matching contribution by the State. It is the clear intention of the social security system to initially expand its coverage to all workers in the country, and then progressively to other segments of the population as feasibility allows.[5/]

4.3.2 Institutional Structure

The IGSS is legally under the Ministry of Labor, but does, in fact, possess a high degree of autonomy. It is run by a Board, which hires the director and sets policy for the institution.

Under the Director are two sub-directors who are responsible for programs/services and administration/finance, respectively. The administration and finance area is responsible for all budgeting, purchasing and distribution of supplies and equipment. The Program/Services Section covers all medical care, as well as pensions and various subsidies. Finally, there are the staff functions which provide support in areas such as personnel and transport, all of which fall directly under the Director's office.

One characteristic of the social security system is a high degree of centralization.

The central office is functionally divided into units responsible for:

1. Treatment of Common Illnesses;
2. Provision of Maternity Services;
3. Prevention and Working, Traffic and Other

6/ Instituto Guatemalteco de Seguridad Social, part of "Analisis Institucional del Sector Salud en Guatemala," OPS, Guatemala, March, 1984.

3. Treatment of Accidents;
4. I.V.S. (Disability, Old Age and Survivors) benefits; and
5. Pediatric services.

In addition, IGSS has a program (IRTRA) which provides recreational services to members upon request.[6/]

4.3.3 Coverage

It was estimated in 1984 that 1.8 million persons constituted the economically active population of Guatemala. Health institutions associated with the working population, primarily the Instituto Guatemalteco de Seguridad Social (IGSS), were created for "the working class, especially those of greatest productive capacity, most of whom are in urban areas --- and, to protect those who incur costs or contingencies that diminish or terminate work done to factors associated with their health".[7/]

As was indicated in the previous section, the social security system has been gradually expanding its service coverage for the insured population since it was started in 1947. At that time, it was designed to offer protection to workers from work accidents and professionally-related illnesses. In 1949 it was expanded to cover all accidents, and in 1967, all illnesses.

In 1953 the IGSS added a maternal and child health program, initially limited to the Department of Guatemala. In 1978-79 this program was expanded to eight additional departments. During this period the age of children covered was expanded twice, once to two years of age and then to five years of age. A more complete summary of the geographic and service coverage of the social security system is included as Table 4.16.

6/ Interview with Dr. Roberto Rodriguez Montoya, General Director, IGSS, September 5, 1986.

7/ Analisis Institucional del Sector Salud en Guatemala Instituto Guatemalteco de Seguridad Social. OPS, 1984

Table 4.16

Geographic Coverage of the IGSS by Program

Department	Accident Program	Maternity & Illness Program	IVS Program
Guatemala	+	+	+
El Progreso	Partial		+
Sacatepequez	+	+	+
Chimaltenango	+		+
Escuintla	+		+
Santa Rosa	Partial		+
Solola	+	+	+
Totonicapan	Partial	+	+
Quezaltenango	+		+
Suchitepequez	+		+
Retalhuleu	+		+
San Marcos	Partial		+
Huehuetenango	Partial		+
El Quiche	+	+	+
Baja Verapaz	Partial	+	+
Alta Verapaz	+		+
El Peten	+		+
Izabal	+		+
Zacapa	+	+	+
Chiquimula	+	+	+
Jalapa	+	+	+
Jutiapa	+		+

Source: IGSS, Informe de Labores, 1984.

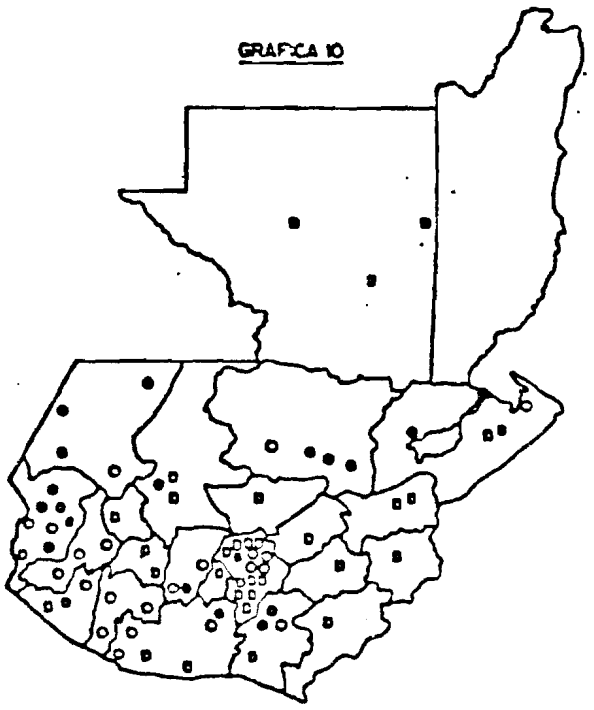
Figure 4.2

DISTRIBUTION OF SOCIAL SECURITY HEALTH FACILITIES

SERVICIOS MEDICOS DURANTE EL AÑO DE 1985

Servicios	Número de Unidades	Número de camas
Total	75	2 332
Servicios Propios	70	2 280
○ Hospitales	21	1 979
□ Consultorios	30	272
● Puestos de Primeros Auxilios	18	29
Servicios Contratados	5	52
■ Nacionales	3	14
■ Privados	2	38

GRAFICA 10



Source: IGSS, 1985 Annual Report, p. 61

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Of the estimated (1984) work force of 1.8 million persons, 33% are enrolled by their employers with IGSS. In addition, 165,000 wives and 71,000 children are covered (1984); so that the total covered by IGSS represents 14.2% of the national population.

Over 22,000 employers have enrolled their workers with IGSS. Occupationally these are distributed by sector as follows:

a) Agricultural (27%)
b) Industry (28%)
c) Service Related (46%).

This also reflects a bias toward urban, rather than rural, coverage. In general, agricultural workers receive less coverage, as IGSS facilities are more frequently located in cities and larger communities.

Both in terms of percentage of the total population reached by IGSS and the percentage of the active workforce covered, there was a decline in the first few years of the present decade. The percentage of the total population covered dropped from 14.8 in 1979, to 11.4 in 1982. The percentage of the active workforce covered by social security fell from 36.2 in 1979 to 26.7 in 1982. When coverage ratios are reviewed for individual departments, they fall as low as 3% or less in some areas (e.g. Quiché Department).8/

However, the absolute numbers of individuals covered by the system and coverage (%) have been rising for the past two years. After reaching a low, in terms of numbers of workers covered (576,708), in 1983, the program has been growing since then (Table 4.3). If workers and their eligible beneficiaries are counted together, representing the total population protected by IGSS, the number of insured has risen from a low of 927,452 in 1981 to 1,025,572 in 1985.9/

IGSS current program coverage is provided through a network of 23 hospitals, 22 health centers, and 24 health posts (Table 4-17).

8/ Op. cit., Instituto Guatemalteco de Seguridad Social, part of an "An lisis Institucional del Sector Salud en Guatemala," OPS, Guatemala, March, 1984.

9/ Op. cit., IGSS 1984 and 1985 Annual Reports, p. 10 (1984 and 1985 figures for the population protected from 1981-85 are substantially at variance. For example, the 1984 report gives a figure of 807,450 for 1981, as opposed to 927,452 listed in the 1985 report for that same year.)

Table 4.18

Estimated Affiliated Workers Coverage by Department - 1984

Department	Total		Private Employers[1/]		Budget Status		Payroll Status	
	Number	%	Number	%	Number	%	Number	%
Total	594,936	100.0	475,556	79.9	79,359	13.3	40,021	6.8
Guatemala	264,663	44.5	212,265	35 7	43,385	7.3	9,013	1.5
El Progreso	3,739	0.7	2,287	0.4	956	0.2	496	0.1
Sacatepéquez	9,119	1.6	6,858	1.2	1,297	0.2	964	0.2
Chimaltenango	12,189	2.1	9,388	1.6	1,556	0.3	1,245	0.2
Escuintla	77,433	13.0	72,776	12.2	2,412	0.4	2,245	0.4
Santa Rosa	23,405	4.0	21,465	3.6	1,592	0.3	348	0.1
Solol	4,828	0.8	2,536	0.4	935	0.2	1,357	0.2
Totonicapan	2,858	0.6	932	0.2	966	0.2	960	0.2
Quezaltenango	30,682	5.1	24,985	4.2	3,720	0.6	1,977	0.3
Suchitepéquez	33,606	5.6	31,205	5.3	1,533	0.2	868	0.1
Retalhuleu	20,770	3.4	17,480	2.9	1,265	0.2	2,025	0.3
San Marcos	26,350	4.4	22,665	3.8	2,692	0.4	993	0.2
Huehuetenango	9,624	1.7	3,999	0.7	2,243	0.4	3,382	0.6
El Quiché	7,112	1.2	2,435	0.4	1,671	0.3	3,006	0.5
Baja Verapaz	3,353	0.6	1,735	0.3	942	0.2	676	0.1
Alta Verapaz	23,015	3.8	18,095	3.0	2,527	0.4	2,393	0.4
El Petén	4,134	0.7	1,739	0.3	1,618	0.2	1,177	0.2
Izabal	17,498	2.9	14,440	2.4	2,001	0.3	1,057	0.2
Zacapa	6,006	1.0	3,673	0.6	1,369	0.2	964	0.2
Chiquimula	4,925	0.8	1,457	0.2	1,811	0.3	1,657	0.3
Jalapa	4,403	0.7	1,320	0.2	1,218	0.2	1,865	0.3
Jutiapa	5,224	0.8	1,821	0.3	2,050	0.3	1,353	0.2

1/ Figures are subject to revision.

Source: IGSS: Informe de Labores, 1984

4.3.4 Programs

The three major health programs of social security are those related to accidents, maternal and child health, and general illness. Each will be considered in turn.

4.3.4.1 Accidents

The oldest program in the system, the accident program, provides complete benefits for temporary disability related to covered accidents, including medical, surgical, hospital, and rehabilitation services (including prostheses); financial indemnity proportional to the individual's salary; and educational activities for the prevention of occupational, traffic, and other (e.g., swimming, home) accidents.

For permanent disability, either partial or total, an actual determination of need is made and a schedule of disability benefits is established. In case of death, survivor benefits are provided to cover burial expenses and a pension for the spouse and/or dependent children, which is actuarially determined.

These services are funded through a 3% surcharge on salaries paid by the employer, a 1% surcharge paid by the employee and a 1 1/2% contribution by the State.

The number of accidents covered by the social security system has remained fairly constant since the early 1970s. For most years this number has ranged between 130,000 and 145,000, with 127,290 accidents reported in 1985, 81,495 of which were work-related. The percentage of work-related and non-work related accidents has remained reasonably constant during this period, with approximately two thirds of all accidents occurring on the job.10/

Of the 2,222 accident cases that resulted in permanent disability in 1984, 44% (983 cases) occurred in agriculture, as opposed to 28% in industry.

Of some interest is the number of accidents related to insecticide application. In 1984, for example, there were 636 individuals affected, of whom 34 were said to have suffered severe consequences and five to have died. The number of insecticide intoxications reached a peak in 1980, with 1,160 cases and has been variably lower since that time.

10/ Ibid. IGSS: 1985 Annual Report.

Prevention and treatment of work-related accidents, are of major concern to IGSS. In 1984 their services provided care for 134,820 accidents, 63% of which were work-related.

As a part of its efforts toprevent accidents, the IGSS sponsored during 1984 2,574 meetings in the workplace, which were attended by 61,382 persons. In addition, there were 5,465 workplace inspections and 615 accident investigations.11/

The system is now looking toward greater reliance on prevention as a way of reducing both illness and injury.12/ Specifics as to what this means in terms of program and budget have not yet been operationalized.

4.3.4.2 Maternal and Child Health

A program of particular interest to this report is the maternal and child health program of the Social Security system.

This program provides full services for pregnant women, including delivery and post-natal care. The services are made available to the wife or "companion" of the insured member. There is also a monetary subsidy paid during the immediate period prior to and following delivery. Finally, assistance is provided during the nursing period. Should there be a complication of delivery, care may be provided as if it were a common illness.

Support for this service is covered by a 4% surcharge on salaries which is paid by the employer (including the State, if the workers are employed by the state) and a 2% surcharge paid by workers. Since this service is only provided in nine departments, the referenced charges are not made elsewhere in the country.

The number of individuals covered under this program fell in 1984 (from 1983) by 4.5% (to 22,285), but increased by 10.8% in 1985. There was an increase in the number of maternal consultations in 1984 (151,013) compared to 149,164 in 1983), but this fell slightly in 1985 (145,232). During the period 1984-85 there was an increase in gynecological consultations of 23.4% (to 19,363), an increase in births of 3.3% (to 16,996) and a decrease in abortions of 12.1% (to 1,509).13/

11/ Op. cit.: IGSS: 1984 Annual Report

12/ Interview with Dr. Roberto Rodriguez Montoya, General Director, IGSS, September 5, 1986.

13/ Op. cit., IGSS: 1984 and 1985 Annual Reports.

In terms of preventive services, approximately 25% of all services provided through the program are for pre-natal visits, with an average number of 7-8 pre-natal consultations for each pregnancy in 1982 (depending upon the area served), and which has been rising slowly since 1978.[14/]

Despite this relatively good level of pre-natal care, it should be noted that only 5% to 6% of all deliveries in the country between 1971 and 1983 were covered within the social security system.[15/]

Table 4.19

IGSS
Pregnancies and Abortions Attended: 1981 - 1985

Year	Pregnancies	Abortions	% of Abortions
1980	20,010	2,522	12.6
1981	20,273	2,256	11.1
1982	19,794	1,991	10.1
1983	18,051	1,662	9.2
1984	18,171	1,716	9.4
1985	18,505	1,509	8.1

SOURCE: Based on data obtained from 1984 and 1985 Annual Reports, IGSS.

The social security system has been operating a "School for Mothers" since 1970, to provide health education directed at avoiding complications of pregnancy and early child rearing. In 1984 over 136,000 classroom visits were recorded for this program throughout the system.[16/] (According to the 1985 IGSS

14/ Op. cit., Instituto Guatemalteco de Seguridad Social, part of an "Analisis Institucional del Sector Salud en Guatemala," OPS, Guatemala, March, 1984.

15/ Solorzano, Jaime: Caracteristicas de Organizacion de la Atencion Médica en Guatemala, January, 1985.

16/ Op. cit., IGSS, 1984 Annual Report.

Annual Report "formal courses" were suspended in May, 1985 in favor of "individual and collective" instruction since that date--with a total number of classroom visits for the year at less than half the previous year.17/

4.3.4.3 Illness Program

The illness program of the social security system covers all medical, surgical and hospital services for the insured population and their spouses. In addition, children under two years of age are covered in the metropolitan area and those under five years of age in the non-metropolitan area. This program is the center of the Social Security health care delivery system in Guatemala. It should be noted, as was the case for the maternal and child health program, that this coverage only extends to nine of the 22 departments in Guatemala.

Despite the fact that there has been a drop in membership within IGSS since 1980, the number of consultations under the general illness program has been growing steadily since 1978, rising from a low of 620,541 in that year to a high of 897,672 in 1984, but in 1985, dropped to 867,330 consultations, the first such drop since 1978.18/

In 1985 there were 15,149 hospitalizations in social security hospitals, 9,642 of which were for adults and 5,507 for children. These were distributed among the various hospitals operated by IGSS throughout the country, with the vast majority being attended in their Guatemala City General Hospital. The average length of stay was 8.4 days.19/

These services were provided through the 21 hospitals (10 of its own and 11 rented), eight out-patient departments (5 of its own and 3 rented) and 23 primary care posts (20 of its own and 3 rented) the IGSS maintains throughout the country.

It is of interest that, despite the decrease in enrollment within the system, hospitalization figures have been growing from 2% to 3% per year, possibly related to increased perceptions of "rights" by the insured, which place an additional burden on IGSS resources.

17/ Op. cit., IGSS: 1985 Annual Report.
18/ Ibid., IGSS: 1985 Annual Report
19/ Ibid., IGSS: 1985 Annual Report

It has been estimated that just over 60% of the potential demand by those enrolled in the social security system is being met by that system.[20/] This figure compares favorably with the percentage of demand met by Ministry of Health facilities throughout the country, but does indicate that a very significant proportion of the population is seeking services elsewhere.

It is generally recognized that the social security system has the most highly-developed specialty system in the country. In 1985, for example, there were 183,199 specialty consultations, which were broadly distributed among 27 specialty groups. Of these, ophthalmology, dermatology, otolaryngology and cardiology each accounted for more than 10,000 consultations during the year.[21/]

Preventive activities have not had a high priority within the IGSS, as might be expected in an institution primarily dedicated to therapeutic care. Efforts have been made to stop outbreaks of various infectious diseases in IGSS facilities and case contacts have been pursued outside the hospital for such illnesses as typhoid fever and leptospirosis. There has also been some limited use of radio and small-group educational programs to provide preventive messages to target populations, but a major preventive effort is lacking.

4.3.4.4 Future Plans

The Ministry of Health, in conjunction with IGSS, has prepared a document (April, 1986) entitled "Bases Para la Formulacion de un Programa Nacional de Salud Ocupacional en la Republica de Guatemala". This document points out that:

1) Available information is inadequate to make an exact diagnosis of the occupational health problems of Guatemala;

2) The importance of a healthy working population to national productivity is fundamental; and

3) Problems continue to exist in the area of child labor, and among other vulnerable groups of workers, in Guatemala.

20/ Op. cit., Solarzano, Jaime: Caracteristicas de Organizacion de la Atencion Médica en Guatemala, January, 1985.

21/ Op. cit., IGSS: Annual Report, 1984

In this document both institutions call for the establishment of a "Comité Nacional de Coordinacion de la Salud Ocupacional," and present a series of steps (1986-1991) to be implemented for establishing a network of services in the area of occupational health, focusing on:

- Proper information gathering,
- Promotion of adequate policies for prevention of health risks in the workplace,
- Legislation required,
- Research on improvement of occupational health and productivity, appropriate to the country,
- Training,
- Development of adequate prevention technology.

The document is a well designed policy paper, but details on the human and financial resources for implementation of its recommendations are lacking.

4.3.5 Constraints and Issues

It has been noted that the social security system in Guatemala has been slowly broadening its coverage, both geographically and throughout the population. Despite the fact that the system is now 40 years old, there are still large gaps in coverage. This may constitute one of the greatest constraints to the system's effectiveness. Indeed, with only nine of 22 departments fully covered, IGSS still faces a real challenge in consolidating its final configuration as a national system.

IGSS is about to receive a grant to carry out a study on the possible expansion of the program to new geographic areas. The area being studied at present is the Pacific coastal region.

A second constraint facing the social security system is the limited number of Guatemalans which it is serving. Out of a population of over 8 million, the program serves approximately 10%. The fact that this proportion--and the actual number of those insured--declined in the early 1980s, is largely a reflection of a declining economy, which has weakened the financial base of the system.

Yet another constraint of the system, only touched upon in this report, is its limited physical base. Despite the relative wealth of the system, when compared to the Ministry of Health, its facilities are less numerous and less luxurious than might be expected. While the percentage of rented facilities is surprisingly high, this may represent an efficient use of available resources. While over half

of all the hospital beds in the system are located in the Department of Guatemala, this roughly corresponds to the percentage of the insured population living in the capital district. System-wide, IGSS has 2.5 beds per thousand eligible population.22/

The major issue facing social security systems in Latin America generally is their relationship to public health systems. Guatemala is no exception. Because the budget for social security is always relatively much higher on a per capita basis than is the public health allocation, the issue becomes one of equity. Should the social security system have so many more resources available to it than the system which serves the public in large?

In other countries this has led to a call for a unitary system of health care and, in the case of Costa Rica and Panama, has actually resulted in such a decision having been taken and implemented. In Guatemala, however, the issue is being posed differently at the present time, as a "single policy" regarding the use of both social security and public health facilities and programs.

The latter orientation brings up the question of possible sharing of facilities and services. For example, the Ministry of Health has a number of new hospitals which have been built with international funding, but which it does not have the money to operate--or, in some cases, open. In addition, both social security and the Ministry have specialized clinics which they can share.

Yet another issue is how the social security system can collaborate on a programatic level apart from shared facilities. For example, in San Juan Sacatepéquez, there is collaboration among the Ministry of Health, hospitals, a medical school, municipal officials, a regional organization (INCAP) and private voluntary organizations. What appears to be absent from this multi-institutional approach at the local level is the Instituto Guatemalteco de Seguridad Social (IGSS). One test of the potential effectiveness of IGSS in meeting community health needs of Guatemala may be its willingness and ability to participate in such joint endeavours.

22/ Op. cit., Instituto Guatemalteco de Seguridad Social, part of an "Analisis Institucional del Sector Salud en Guatemala," OPS, Guatemala, March 1984.

Another approach would be for the social security system to expand its coverage geographically and occupationally to previously unserved areas and previously uninsured groups. Here we refer not only to identifying new worker groups, but moving into a rural population of potentially uninsureable individuals who are not now receiving care from any organized sector of society.

An example is IMSS COPLAMAR, a specialized program of the Instituto Mexicano de Seguro Social (IMSS). Under pressure from the Mexican Government, the Mexican social security system has, over the past decade, made a substantial effort to cover previously uncovered rural residents in its health care delivery system. Special work credits and other payment mechanisms are worked out for individuals who would not otherwise be eligible for membership in the system.

4.3.6 Summary, Conclusions and Recommendations

In conclusion, the Instituto Guatemalteco de Seguridad Social (IGSS) consumes a large percentage of the available resources for health care in Guatemala, but cares for approximately 10% of the people. It occupies a long-standing position of responsibility and authority in the country and is generally respected for the services which it renders.

Coverage is limited both by geography and by service offered. There has been a gradual expansion of coverage since the system was started more than 40 years ago. Nine departments of the country have a full service package, whereas the remaining 13 have limited services.

The three major health programs of social security have been reviewed. These are the accident program, the maternal and child health program and the general illness program. These three programs support a system of hospitals and clinics which span the country, although they are heavily concentrated in the Department of Guatemala. In general, the focus of the system is on curative care rather than on preventive services.

A joint review by the Ministry of Health and the IGSS calls for a National Coordinating Committee for Occupational Health.

It is recommended that:

4.3.6.1 AID should encourage the geographic extension of coverage offered by IGSS, to the degree that it can assist in promoting studies or other activities which will demonstrate the feasibility of a more comprehensive system.

4.3.6.2 AID support any joint efforts between the Ministry of Health and IGSS, facilitating through studies or small grants in aid any steps to consolidate facilities and programs between these two organizations.

4.3.6.3 AID encourage the participation of IGSS in multi-institutional cooperative activities at the community level. At a minimum, these collaborative efforts should include the Ministry of Health, one or more universities, private voluntary organizations, the community in question and IGSS.

4.3.6.4 AID promote the contract utilization of private non-profit groups, such as Agro-Salud, by the IGSS for certain geographic areas and population groups not currently covered under the system.

4.3.6.5 AID support any efforts by IGSS to expand its mission beyond the currently insured population to isolated rural communities, following the example of IMSS COPLAMAR, in Mexico.

4.3.6.6 AID be supportive of any steps by IGSS to redistribute resources toward preventive, as opposed to curative services. This should include reinstitution of forward pre-natal classes ("School for Mothers") and expansion of programs geared to accident prevention.

4.4 Health-Related Private Voluntary Organizations

4.4.1 Background

As noted in Section 4.1, the number and types of private voluntary organizations (PVOs) working in Guatemala has been growing steadily over the past two years. It is reported that there were relatively few PVOs (or non-governmental organizations--NGOs) working in Guatemala prior to the 1976 earthquake. However, in response to that tragedy, large numbers of these organizations came to the country. During the period of violence a few stayed, but many others left, some of which are now returning.

A number of lists exist giving the names of private voluntary organizations currently at work in Guatemala. Perhaps the most official and complete of these, the list published by the Ministry of Health, (since every organization working in the country should be registered with the Ministry if it is to be functioning in the field of health), includes 309 different entities, both national and foreign. It is quite precise, listing individual clinics, where they exist in different locations--even if under single agency sponsorship.

Another list is published by ASINDES, about which more will be said later in this section.[23/] That list includes 179 different agencies, including such classic and recognized groups in Guatemala as the National League against Cancer, the Guatemalan League for Mental Health, Alcoholics Anonymous, Foster Parents Plan, and Habitat for Humanity.

Both the Ministry of Health and ASINDES lists are simply listings of organizations by name. There is another listing of private voluntary organizations annotated by organizational function, prepared by the Peace Corps in October, 1985, and revised in May, 1986.[24/] Each organization is profiled according to its services and resources in a variety of different areas (Table 4.20).

PVOs in Guatemala tend to operate very much alone and engage in little overt collaboration. An effort was made to deal with this situation in 1979, which resulted in the formation in 1981 of a coordinating organization, ASINDES, funded by AID with technical assistance from PACT.

ASINDES has had a checkered career. In the first place, only 26 of the many organizations previously mentioned are affiliated with ASINDES as members, including World Vision International, the Christian Children's Fund; the Menonite Central Committee, the Salvation Army; the Behrhorst Foundation and the Penny Foundation.

The problems facing ASINDES are not unlike those of the organizations it represents. That is to say, the Board is divided regarding policy, and questions what the relationship of the organization to donor agencies such as AID should be. At the present time AID is supporting ASINDES with a $1 million grant through PACT (a group dedicated to promoting PVO coordination in various countries).

23/ Directorio Organizaciones No Gubernamentales, ASINDES, 1986.
24/ Directorio de Recursos en Salud en Guatemala, edited by Lynn Spangler, Cuerpo de Paz, Guatemala, May, 1986.

Table 4-20

SELECTED PRIVATE ORGANIZATIONS AND THEIR SERVICES: Guatemala, 1986

ORGANIZATIONS \ SERVICES	COMMUNITY DEVELOPMENT	HOME IMPROVEMENT	NUTRITION	SANITATION/HYGIENE	POTABLE WATER	LATRINE CONSTRUCTION	ORAL REHYDRATION	BREAST FEEDING	FAMILY PLANNING	EARLY STIMULATION	IMMUNIZATION	PERSONNEL TRAINING	HEALTH EDUCATION
Agua del pueblo	X	X	X	X	X	X						X	X
Alianza para el desarrollo juvenil comunitario	X	X	X	X	X								X
Alimentos S.A.			X										X
Asesoría Centroamericana de desarrollo ACAD	X		X										X
Asociación de servicios com. de salud ASECSA		X	X	X			X	X				X	X
Asociación pro-bienestar de la familia APROFAM									X			X	X
Avanzando el ministerio del evangelio AME			X										X
Canadian Bulacy e international dev. agency CIDA	X	X		X									
CARITAS			X										
CASA Guatemala			X										X
Catholic relief services CRS			X		X							X	X
Centro de integración familiar Guate. CIF	X	X	X	X	X	X	X					X	X
Centro mesoamericano de tec. aprop. CEMAT	X	X		X	X	X					X	X	X
Clínica evangélica de central America Mission			X				X		X			X	X
Clínica Santiaguito de Proyecto Concern	X	X	X	X								X	X
Colgate Palmolive				X									X
Comité nacional pro-ciegos y sordomudos			X	X						X	X	X	X
Comisión nacional de promoción lactancia materna			X					X		X	X	X	X
Comité de reconstrucción nacional CRN			X		X	X						X	X
Comité regional salud y nutrición CORSAMC				X				X	X				X
Cooperativa americana de remesas CARE	X		X	X		X	X	X					
Cruz roja													X

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Table 4-21

SELECTED PRIVATE ORGANIZATIONS AND THEIR SERVICES:
Guatemala, 1986

SERVICES

ORGANIZATIONS	COMMUNITY DEVELOPMENT	HOME IMPROVEMENT	NUTRITION	SANITATION/HYGIENE	POTABLE WATER	LATRINE CONSTRUCTION	ORAL REHYDRATION	BREAST FEEDING	FAMILY PLANNING	BABY VACCINATION	IMMUNIZATION	PERSONNEL TRAINING	HEALTH EDUCATION
Ejercito de salvacion	X	X	X	X	X	X		X	X	X		X	X
Pastor paramte plan internac.	X	X	X	X	X	X	X	X		X		X	X
Fundacion ecumenica esperanza y fraternidad	X	X	X	X	X		X	X					X
Fundacion del Centro	X	X			X								
Hospital de Jocaltenango	X	X	X	X			X	X	X	X		X	X
Inst. centroamericano de investigacion					X						X	X	
Inst. fomento municipal INFOM	X			X	X	X					X	X	
INst. nutricion de C.A. y Panama INCAP	X		X				X	X			X	X	X
Inst. linguistico de verano											X		X
Inst. desarrollo economico social IDESAC	X	X		X	X	X					X	X	
Inst. technico capacitacion productividad	X											X	
La leche league of Guatemala								X					X
Liga contra la tuberculosis											X		
Reconstruccion desarrollo humano REDH INTERNAL	X	X	X	X		X	X	X				X	X
US Agency for international development AID	X	X	X	X	X	X	X	X	X		X	X	X
Unidad ejecutora programa acueductos UNEPAR	X				X	X					X	X	
Fondo internacional emergencia niños UNICEF	X		X	X	X	X	X	X		X		X	X
Vision mundial internacional	X	X	X	X	X	X	X				X	X	X

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The original goal of ASINDES was to unite PVOs for mutual defense in the face of the violence affecting them throughout the country. This has led to a certain cautious mentality which expresses itself in various ways. Clearly, having undergone a long confrontation with terror, many of the PVOs are unwilling to be inordinately provocative at this point in time.

It would appear that the violence against PVOs is not completely over.[25/] It has been reported that the Maryknolls have recently lost some of their catechists in the Huehuetenango area. Even those PVOs that have not experienced recent violence are sufficiently traumatized by earlier experiences that they anticipate the possibility of a recurrence of the "night of terror" at any time.

Basically, the strategy of PVOs in Guatemala has been to "do their own thing" with minimal contact outside their sphere of influence.

Certain Guatemalan private voluntary organizations enjoy almost a para-statal status, receiving subsidies from the Ministry of Health (e.g., the Guatmalan Red Cross and the Boy Scouts.) Others have deep roots in Guatemalan Society (e.g. Patronato contra la Diabetes and Liga contra las Enfermedades del Corazon). Few of the foreign private voluntary organizations seem to relate to these nationally-based private voluntary organizations.

The strategy of the Ministry of Health at present is to try to achieve as much coordination as possible among these previously unrelated entities, while retaining their presence in Guatemala. It is generally agreed that groups such as those mentioned bring both resources and good will to Guatemala, and, with some exceptions, are useful partners in the campaign for better health. Unfortunately, too often they either fail to reinforce or actually cancel out one another's efforts by failing coordinate activities.

4.4.2 Representative Organizations

In the previous section an overview of the range and scope of private voluntary organizations in Guatemala has been presented. This section will focus on selected specific international and national organizations, with a view toward better understanding their purpose and functions. In so doing, it is hoped that all of the organizations can be better appreciated and placed in their proper context of service to the people of Guatemala.

25/ Interview with Mr. Arthur Cist, Representative of PACT, September 2, 1986.

The organizations selected for specific mention each offer specific services to children. One is cited because of its large size and overall importance (CARE), one because of its importance in the history of primary care and health promoter training (Fundacion Behrhorst), one because of its commitment to integrated rural development (Project Hope), one as a representative of a smaller PVO (Partners of the Americas) and one because it represents the religious community (Catholic Relief Services).

4.4.2.1 CARE

CARE is a large international agency very actively involved in Guatemala. CARE began as a private undertaking to get rehabilitation underway in Europe after World War II, and has developed a major interest in feeding and nutritional programs. These constitute the basis of CARE's work in Guatemala.

The total budget for Guatemala CARE is approximately $2.5 million per year, plus whatever food assistance is rendered. This breaks down to approximately 12% from CARE U.S.A., 25% from CARE Canada, 18% from Washington/AID grants, 22% from Guatemala/AID grants, 8% from PL-480 funds, and 16% from the Government of Guatemala. If the value of the food donations were counted, this would probably add another $2.5 million.

The Government of Guatemala's contribution ($500,000) goes primarily for transportation and operating costs related to getting the food from the port of entry to its destination. This year some $127,000 has been given by CARE as a matching grant to upgrade Title II (Feeding) Programs in Guatemala. This includes health activities. Health projects, including personnel, account for approximately 50% of the CARE Guatemala budget (not counting food).

Three specific health and nutrition programs are currently being carried out by CARE Guatemala. These are as follows:

1. Maternal and child feeding program. This 23 year old AID-sponsored project provides health education, growth monitoring, and supplemental feeding for 270,000 children and their mothers through most health centers. The Government of Guatemala is responsible for transporting the food from the port of entry to regional centers. The health centers, in turn, are responsible for distribution from the regional centers to the health centers.

2. Enhanced feeding program. $280,000 has recently been made available by AID to CARE for a three year program for monitoring and supervision of the maternal and child feeding program above mentioned. Seventeen field supervisors will be hired to work with health posts and health centers around the country, making frequent visits to these locations, as well as to homes.

   Priorities for this second program include:

   a) establishment of a monitoring system;
   b) carrying out an impact evaluation;
   c) selective implementation of interventions.

   It is anticipated that this effort will lead to corrections in the amount of food distributed and in increased educational activities for the recipients.

3. Village health outreach. This program includes the construction of health posts, 72 of which were constructed in 10 departments by July, 1982. One hundred more health posts, which are not currently being used, were constructed during the Rios Montt administration. Major problems are lack of equipment and inadequate staffing.

   A second part of this program is to develop rural health promoters and "comadronas" through a ten-day course, which has been developed for this purpose. Each promoter is responsible for 50 families. The program currently lacks monitoring, evaluation and continuing education.

CARE also has water development projects underway which relate indirectly to health. Two of these are as follows:

1. Water and Sanitary Education. This water project receives support from AID/Guatemala, and is being carried out in conjunction with the Ministry of Development. This project which will focus on sanitary education has still to get underway, and includes a women's development component.

2. Water and Health Promotion. The second program is supported by CARE Canada and works through UNIPAR, the water development agency for medium size projects. Originally designed to support 60 water systems over three years, the new objective is to serve 47,000 people through 60 water systems. This program involves health promoters and volunteer aides, trained by the Ministry of Development, who work with communities.

In short, CARE is a major PVO in Guatemala, having a significant impact on the health of children and others through nutrition and water development projects.

4.4.2.2 Behrhorst Foundation

One of the best known smaller PVOs operating in Guatemala is the Behrhorst Foundation, mainly due to the promotion which it has been given in the United States by its founder, Dr. Carol Behrhorst.

Dr. Behrhorst determined that it was not appropriate to bring the trappings of modern medicine to the Indians whom he was serving in Chimaltenango. Accordingly, he developed a hospital/clinic which was adapted to the needs of his clients. Specifically, the Behrhorst Hospital/Clinic is open 24 hours a day; families are allowed to stay with patients; staff dress like their patients, rather than the traditional white; staff speak the language of their patients and medicines are always available. In short, the Behrhorst Clinic is designed to meet the needs of the people that it serves.

From the beginning, Dr. Behrhorst believed that outreach was the key to a successful health program. He progressively employed promotional activities, as opposed to relying on curative activities for his work. He soon also realized the close relationship between agriculture and health and developed an active program of health promoters working in the agricultural environment of Chimaltenango. These came under the sponsorhip of the Behrhorst Foundation, established to generate funds for the program.

A separate program, ULEU, was developed to promote land distribution through a grant from the Quakers to buy and sell land to peasants. The Director of ULEU who was kidnapped and never seen again, was an early victim of the violence. ULEU has now abandoned the buying and selling of land, as this has proven too dangerous, even in the current environment.

At its peak, the outreach program of the Behrhorst Foundation had some 45 health promoters in the field. During the "dark night" of violence between 1979 and 1983, 30 of these promoters were killed. The 15 rural health promoters who have survived are individually working on their own, but are not in any way related to the Behrhorst Foundation.

Currently, the Behrhorst Foundation has as its outreach staff 1 agricultural extension agent, 2 educators in agricultural extension, 2 technicians in water development and 1 engineer; and is involved in the development of 25 water projects to serve 30,000 people in 30 communities.

The Behrhorst Foundation has received support at various times from AID (Q400,000 most recently) and the Inter-American Foundation (IAF) (Q600,000 at present), plus an earlier grant from the IAF when everything else was unavailable due to the violence.

In spite of all the difficulties which it has faced, the outreach program of the Behrhorst Foundation continues, although different in tone and format from the past. The hospital and clinic operate much as they did before the Ministry of Health hospital and clinic was built in Chimaltenango several years ago.

Some of the alternative ways through which outreach programs continue is reflected in the training that Fundacion Behrhorst is offering health promoters affiliated with Agrosalud, a cooperative enterprise involving finca owners who have banded together to purchase health services for their workers. The health promoters at the heart of this program are trained by Fundacion Behrhorst.

4.4.2.3 Project Hope

Officially called the People-to-People Foundation, Project Hope is a large U.S. based PVO that is well known in Guatemala and elsewhere. Working primarily in the Department of San Marcos, and with its principal offices in Quetzaltenango, Project Hope is in the beginning of a three-stage process of basic community development.

Presently, Hope staff are working in a number of communities through project trained health promoters to demonstrate the effectiveness of joint community action through programs such as building cooking stoves ("Lorena Stoves") and outdoor ("compost") latrines to provide fertilizers.

The second stage involves intense community organization, within which the community sets its priorities for the future.

Successful local communities will move into the third stage--the implementation phase. Here they will actually carry out the projects which they have prioritized and designed, with the assistance of Project Hope. It is anticipated that major changes in health status will result from this appproach, which really reflects an integrated approach to rural development.

4.4.2.4 Partners of the Americas

The Partners of the Americas (or "Companeros de las Americas" in Guatemala) has been working in Guatemala for 8 years related to the U.S. based organization of the same name. This group has worked for many years to promote improved relationships between states and communities in the United States on the one hand, and Latin American nations, states and communities on the other.

Partners of the Americas works through U.S.-based multi-disciplinary partnership committees, each adopting a national committee in a different country of the hemisphere. Guatemalan Partners, for example, have been related to Partners in Alabama.

The basic philosophy of Guatemalan Partners is to work in cooperation with the Ministry of Health, but separately from it. Their preference is to work with local physicians in the private sector, rather than Ministry physicians, where possible.

Approximately 75% of Guatemalan Partner's work is in the field of health, one of which is, their ESVO (Educacion, Salud, y Vocacion) project, located in Escuintla. Presently this project focuses on diagnosing and treating parasitic infections in children.

Another project in Teculutan, Zacapa, works with four rural schools on a nutrition and health program and involves 22 volunteers. There are some 250 volunteers in all of Guatemala.

Guatemalan Partners has a staff of only two paid personnel and a total administrative budget of $13,000 per year. Project budgets for the three programs run to about $14,000 from external sources, plus Q12,000 in national funds. Partners of the Americas in the United States has contributed $200,000 for training programs, while USAID has awarded a $350,000 grant over two years, also for training.

4.4.2.5 Catholic Relief Services

Catholic Relief Services (CRS) works in Guatemala through CARITAS, a counterpart agency operating under the Guatemalan Roman Catholic University. Emphasis of Catholic Relief Services (CARITAS) is in three basic areas:

1) relief to those affected by violence;
2) providing assistance to increase economic productivity;
3) promoting improved health for the people.

In health, there are three principal areas of activity, which are:

1. Food aid;
2. Portable water; and
3. Health education.

Food aid is primarily directed to mothers and children, through some 400 distribution centers around the country serving approximately 7,000 people. Many of the funds for this project come from PL-480 funds. Administration is through CARITAS of Guatemala.

Potable water. CRS has been developing projects in Solola (in cooperation with the Diocese of Spokane, Washington) and in Huehuetenango and Quiché (in collaboration with Agua del Pueblo, a private voluntary organization with a Guatemalan Board of Directors, working in small rural areas, mainly dealing with water projects of small to medium size). The latest project to be inaugurated by CRS and Agua del Pueblo working together has 900 connections, the largest such project ever for either of the two organizations.

Funding for water project development in over 2 dozen communities by CRS has been coming from AID for the last five years through a central grant from AID Washington to the CRS main office in New York and which ends in December, 1986. CRS is now looking to various European countries (with grain surplus accounts) for assistance.

In the area of health education, CRS is training health promoters, as part of a typically grass-roots kind of effort on the part of the dozen or so dioceses in Guatemala. Training is provided by ASECSA, a private voluntary organization headquartered in Chimaltenango, and historically a derivative organization of the Behrhorst Foundation, which offers health promoter courses to local students at the request of local agencies. (In addition to training health promoters, ASECSA operates a low-cost pharmacy in Chimaltenango, where local clinics may come to buy drugs at low cost.)

CRS also has programs in oral rehydration therapy (ORT) and has sponsored immunization programs in the past.

Prior experimental work with ORT includes preparation of low cost oral rehydration salts. (Presently a fraction of the cost for commercial preparations) for distribution to private, non-profit clinics--most of which are church related.

The annual budget of CRS for 1985 was $5,286,841, expended mainly for assistance, and cash grants.

4.4.3 Constraints and Issues

The major constraint perceived by most PVOs is lack of adequate financing. Many of the smaller PVOs find it difficult to raise adequate operating funds, and depend on donor agencies for assistance. USAID has had a major role in providing support for PVOs in Guatemala.

Still another constraint facing the PVOs is their often limited mandate. Operating with specified funds, the PVO may be restricted in the areas it can undertake or explore. Overall organizational goals may not be consistent with the particular needs of Guatemala at any given point in time. Yet, the PVO must follow its organizational directives.

A more significant constraint than either of the foregoing is the "isolation factor" facing PVOs. Typically, one PVO will not know what the other PVO is doing, even in the same community. Not infrequently it takes an outsider to introduce the operating agents to one another and to explain how their projects might, or might not, relate. Communication among PVOs remains a fundamental and central obstacle to their effective functioning.

A derivative of inadequate communication is inadequate coordination. This is a continuing problem that faces most PVOs in Guatemala and elsewhere. Their projects, while likely meritorious in themselves, coordinate poorly with programs initiated both by the government and by other representatives of the private sector. The result is that projects sponsored by the PVOs often fail to survive the tenure of the PVOs. This is a major problem and a concern of the Guatemalan Government.

Several outstanding issues are related to the foregoing constraints. A primary issue is the relationship of PVO's to the government. Should PVO's be required to coordinate their activities with those of government agencies? If so, how should this be accomplished? Issues such as these must be dealt with if PVOs are to remain welcome in the Guatemalan setting.

Another critical issue is how PVOs can most effectively be coordinated. Unless they coordinate with one another, as has been noted, they run the risk of disjointed activity and ineffective programming. Groups such as ASINDES exist for the purpose of promoting this coordination, yet ASINDES has only a handful of the many PVOs in Guatemala as members.

4.4.4 Summary, Conclusions and Recommendations

Whatever one may think of private voluntary organizations and their role in a setting such as Guatemala, the fact is that they exist and are present in large numbers. As can be seen from the examples provided in this section, they also command significant amounts of money. Accordingly, they are participants in the health care scene of Guatemala who cannot be ignored.

Various efforts have been made to promote coordination of PVO activities. One is the formation of ASINDES, a coordinating superagency for PVOs in Guatemala. This group has been stimulated by a $1 million two-year grant from USAID. Unfortunately, it has yet to find a clear direction and currently represents the same kinds of divisions which mark the PVOs themselves.

At this time, it is recommended that:

4.4.4.1 AID continue to work through and with PVOs when they can appropriately serve the interests of Guatemala with both efficacy and acceptability. Areas to be supported include training of rural health promoters, extension of family planning information, distribution of supplies, commodities, and participation in ORT and EPI programs, among others.

4.4.4.2 AID should continue to work to achieve better coordination among existing PVOs in Guatemala, possibly looking toward cooperation through agreed upon policy guidelines, rather than the development of an intermediary funding agency for participating PVOs (e.g., ASINDES).

4.4.4.3 AID promote regular meetings and workshops among PVOs working in Guatemala, in order to facilitate exchange of ideas and information.

4.4.4.4 AID sponsor the regular publication of an annotated directory of PVOs in Guatemala, working through ASINDES, the Peace Corps or other interested group.

.5 Other Private Sector Activities

4.5.1 Overview

While the private voluntary organizations (PVOs) described in the previous section (4.4) make up an important part of the Guatemalan health delivery system, other private sector entities and agencies are also prominent.

Although the bulk of hospital care is provided by the public sector, private sector hospitals, especially in the capital city, demonstrate the use of advanced medical techniques in their day-to-day activities, and are meeting local demand for the highest quality medical care services, some of which would otherwise be deflected abroad. That is, by rendering their services, the private hospitals result in a savings of foreign exchange for the country as a whole.

The hospitals are supplemented by a wide variety of out-patient clinics and laboratories, some of them of very high quality. It must be noted that many physicians combine part-time employment in the public sector with a private practice, while others are self-employed on a full-time basis.

Indeed, even the casual observer has to be struck by the number of street-front "clinics" and physicians' offices even outside the metropolitan area.

Private pharmacies, besides dispensing medicine on a timely basis to individual purchasers, also act as an important sources of primary health care. Local pharmacists find themselves on the front lines, frequently seeing sick people before they are seen by doctors. For poor people, the pharmacist's diagnoses and prescriptions are likely to be the only ones they get. Like other primary care providers, pharmacists also play an important role in referring patients to secondary and tertiary levels of health care.

It would be immensely useful to be able to review accurate and timely summaries of the activities of the private sector providers -- key statistics on the numbers of private physicians, clinics, hopsitals, etc. and on all their services. Unfortunately, the information is not currently compiled in any summary form. Of course, physicians must, as noted below, be members of their professional college, and hospitals must register with the Ministry of Health.

We want to emphasize, however, that no health-related agency has collected these statistics for its own use. As will be pointed out in other chapters, the absence of quantitative descriptors for the health sector as a whole seriously impairs effective health planning for the provision of health care in the quantities and at the places such care is needed.

4.5.2 Physicians

Physicians are organized in the Guatemalan College of Physicians and Surgeons. Membership is a legal prerequisite to practice medicine. The Colegio recognizes 32 specialties through a series of affiliated specialized associations. In general, membership in a specialist's association comes only through practice; qualifying examinations exist only for pediatrics and radiology.

According to Dr. Leon Arango Portillo, President of the Colegio, about 5,000 physicians are currently active in Guatemala. of these, 1,000 are specialists while the remaining 4,000 are general practitioners (GP's). The capital city contains about one-quarter of the country's population, about 80 percent of the general practitioners, and 90 percent of the specialists.

The strength of the private sector is shown through the requirement that all practicing physicians maintain membership in the Colegio. It is independent of the government, as are the eleven other professional colleges (engineers, accountants, architects, etc.), which act as trade associations for their members. While not tied to the government, the Colegio is represented on the Superior University Council, as well as being represented in the Social Security Institute (IGSS) and the Ministry of Health.

The Colegio charges dues, and uses its income for administrative expenses, continuing medical education seminars, and health insurance (the "timbre médico"). It maintains an elected disciplinary body, the "Tribunal del Honor," to deal with malpractice complaints. (Malpractice does not yet exist as a legal concept in courts outside the Colegio), and can levy sanctions, including possible suspension of the right to practice.

4.5.3 Prepaid Health Plans in the Private Sector

Three pre-paid health systems and a number of health insurance firms exist in the private sector as alternatives to fee-for-service care. Their growth in recent years reflects the unresolved problems encountered by public sector providers who, at least in principle, are charged with responsibility for national health care, and by individual private providers who may have outpriced themselves.

4.5.3.1 Salud Total

The most expensive and most complete of these programs is Salud Total, a privately owned for-profit health maintenance organization (HMO). Its operations are confined to the capital and center on the private Hospital, Herrera Llerandi. Founded in January, 1984, it has grown to 4,000 members.

A family with two adults and three children pays an annual fee of 950 quetzales (U.S. $320) and, according to the firm's advertising literature, may do so by credit card. At current free-market exchange rates, the annual charge is about $320. As with all pre-paid health plans, there are certain exclusions, the most notable of which are dental care, voluntary abortion, high-tech surgery (organ transplants, open heart surgery), and voluntary sterilization. Pre-existing conditions are not covered by the plan.

In addition to sales to families, Salud Total supports group affiliations, although again, it only accepts the healthy people in these groups.

Members choose their health care providers from lists of physicians affiliated with the plan. Physicians are paid a monthly salary (for in-house staff) (with norms of five consultations per hour), a discounted fee-for-service per patient visit for out-patient consultations, or a capitation fee based on the number of members enrolled in the plan. The plan is currently moving toward greater reliance on the capitated or salaried approach, and away from fee-for-service reimbursement.

At present, the plan is sold by insurance agents, who also sell other life and casualty policies, and who earn a commission of 15% on sales. As part of a member incentive experiment, members who recruit new members will be given an equivalent of the sales commission as a rebate on their monthly membership premium.

When economists refer to segmented markets, they might use Salud Total and La Médica Guatemalteca as examples. The former has comparatively wide coverage, minimal co-payment for services, and is expensive. The latter has narrower coverage, co-payments for most services, and is much cheaper. Associated with a 40-bed hospital, the physical amenities of "La Médica" stand in sharp contrast to those of Salud Total.

4.5.3.2 <u>La Médica Guatemalteca</u>

La Médica was founded in 1967 and indeed is Guatemala's pioneer HMO. It seeks to enroll both individuals and groups. As of 1986, it had affiliated 10,000 individual affiliates and 16 companies with their employees.

As a private company, La Medica has 51 shareholders, most of whom are themselves physicians, but the majority of the shares, however, are on in the hands of these professionals.

The Company's marketing is handled by a well-trained sales force of fifteen. Commissions consist of the initial monthly payment of the new member, and 40 percent of subsequent payments.

As with other HMOs, La Médica seeks healthy people as affiliates, within age limits. It also does not cover pre-existing conditions, and imposes a year-long waiting period after initial enrollment before covering minor surgery. Major surgery is only covered after a two-year membership.

The company uses three classes of physicians. Four full-time medical residents who work on fixed salaries, handle consultations in the downtown offices of La Médica. Part-time "General" physicians also serve the organization in its offices on an hourly basis, and are expected to handle five to six consultations per hour. A third class of physicians, outside consultants, handle referred cases. In return for La Médica's volume of referrals, they discount their usual fees by more than 50 percent.

La Médica's plans for the future include expanding its bed capacity from 40 to 50 at its present site, and to improve their service quality to a competitive level.

To expand its services, it has also formed a private foundation to sponsor research on Central American health problems, as well as support publications and offer assistance to other hospitals and clinics. It has also sought formally to handle part of the Social Security Institute's maternity cases, but those proposals have been unsuccessful thus far.

4.5.3.3 Agrosalud

A third pre-paid program focusing exclusively on agricultural laborers is Agrosalud. Founded in 1978 by a Maryknoll priest, it seeks to serve Guatemalan plantation ("finca") workers. As a private firm, it is organized on a non-profit, non-religious and apolitical basis.

The program features a variety of preventive and curative services, including vaccination, deparasitization, family planning, provision of water and latrines, tuberculosis control, an onchocerciasis program, sale of generic medicines, oral rehydration, prevention of anemia, food supplements, pediatric dentistry, and malaria control.

Plantation owners purchase the services of Agrosalud for their workers. Two motives are present -- the owners' self-interest and their humanitarian impulses. Health economists and others are convinced that within reasonable limits the cost of health care is more than repaid by higher worker productivity. Officials in Agrosalud also report that owners formerly fearful of setting foot on their own property have enjoyed better (safer) labor relations after becoming affiliates of the program.

An owner pays an entry fee of about Q2,000 to become a member. In return, two or more health promoters are trained to work on the owner's farm, a clinic established, equipped and stocked, medicines are purchased, (for a set-up charge of Q700). Fixed monthly charges range from Q275 for farms with fewer than 500 inhabitants to Q425 for those with more than 500.

At present, most of the members of Agrosalud are small farmers, but Agrosalud does serve farms of considerably different sizes, which has led to discussion of the appropriate basis for setting charges. Given the fixed costs of beginning operations on any given farm, the organization has decided against charging on a strict per capita formula.

Agrosalud's staff consists of a coordinator, a pharmacist, a secretary, and four field supervisiors. All the supervisors have had formal training as Rural Health Technicians; all live in the field and spend one to two days per week on each farm.

The program maintains contact with the owner-clients through monthly reports on progress made toward pre-specified health goals. The reports, in turn, are based on information collected by the health promoters, including family composition, housing type and other items gathered, as baseline data for periodic assessment of program progress.

As a matter of policy, Agrosalud sells medicines to the workers at cost, rather than giving them away. A revolving fund is thus maintained, allowing renewal of the initial inventory of drugs. Really, nothing is "free" about the program, since the owners pay for every service provided. The cost of medicine, is the only direct charge to the workers.

Health promoters who work for Agrosalud are employed on a full-time basis and receive from Q120 to Q200 per month. They are recruited from the local communities and are expected to maintain close relations to their farm's workers. They must

speak the predominant language (often an Indian language) of the group with whom they work, and are also expected to do home visits.

Training for the promoters is provided by the Behrhorst Foundation in Chimaltenango through a 6 week initial training program and annual two-week refresher course.

Health education is a major emphasis of the program. Its health promoters assist their farm's workers in establishing portable water systems, installing latrines, and improving hygiene in general. They are also responsible for immunization and caring for minor medical problems, including suturing, when necessary.

Agrosalud has established as policy that all employees on a farm for six months or more must be immunized. A reasonable degree of stability in the labor force of farms served by the program has led to success in this effort. The program carries on a mini-vaccination campaign every three months and maintains Systematic medical records documenting which workers are to be immunized and where they live.

In some areas, the latrine program has been strikingly successful, with a ratio of one latrine per home. The farm owner is charged Q10 per latrine for materials, and the worker must be willing to build the structure in order to receive the materials.

Agrosalud is also involved in developing water projects. It is the owner who decides what kind of project will be installed, ranging from communal wash basins to piped water for individual homes. As with the latrines, the owner pays for materials while the workers supply the necessary labor.

Since it provides services in areas where IGSS offers at least some benefits, Agrosalud has proposed to the Social Security Institute (IGSS) that rebates be made to farm owners who are members, since they are, in effect, paying twice for services. In truth, however, Agrosalud services are not duplicated by IGSS, yet, as of this present date, the IGSS has not responded favorably to this proposal.

4.5.4 Private Health Insurance

Health insurance, discussed more fully in the Chapter on Health Care Financing, is essentially group-centered in Guatemala at this time, as sales are limited to organized groups of ten or more persons.

This type of insurance coverage has grown rapidly, primarily in response to employers' desires to supplement IGSS benefits, to attain a coverage of some 17,000 mainly white-collar workers, distributed among 5 major insurance firms. Plantations have also been investing in health insurance for their permanent employees.

A key distinction between health insurance and the HMO's described is the lack of restrictions for affilifation (i.e., individual members of groups with pre-existing conditions are accepted).

4.5.5 Summary, Conclusions and Recommendations

It should be apparent from the foregoing that little organized information exists on private health sector activities in Guatemala, particulary as pertains to health providers and non-public institutions, in spite of requirements to register with professional colleges or the government.

For the most part, there are no qualifying exams for medical specialties. Similarly, there are no certification requirements for private hospitals and clinics. Because of the heavily competitive nature of the latter industry, it can not agree upon a common data system. Indeed, there is not even an association of private hospitals or clinics for this same reason.

In this section, three major examples of private organized health care systems in Guatemala have been cited. They are all prepaid health plans -- Salud Total, La Medica Guatemalteca, and Agrosalud. All are efficient in what they do and each targets a different segment of the market. In total, they serve only a tiny fraction of Guatemala's population and are significant more for their promise than for their current service base. Pure financing mechanisms (e.g., health insurance) are dealt with elsewhere in this report.

4.5.5.1 AID encourage studies designed to demonstrate how prepaid health plans can broaden their coverage to larger segments of the population, particulary the low to middle income population.

4.5.5.2 In conjunction with the public sector, AID support systems designed to assure regular and accurate reporting of health data by the private sector in Guatemala. This should include developmetn of: appropriate reporting forms, incentives to providers, the use of such forms, and mechanisms for timely and accurate data analysis and reporting.

CHAPTER 5

SOCIO-CULTURAL FACTORS IN HEALTH CARE

5.1 Medical Beliefs and Theories

History and culture have formed a complex mosaic of medical beliefs and practices in Guatemala. Indian, Medieval Spanish and modern Western approaches to health care are all intertwined to present unique challenges to the health care professional, be he practitioner or policymaker.

The majority of the population is either Indian or Ladino. The latter may be physical -- i.e., a cross between Indian and European -- or, as in most cases in Guatemala, cultural.[1/]
As culture is learned, Indians can, and do, become Ladinos.

Table 5.1
Changes in the Absolute and Relative Numbers of the Indian Population of Guatemala from 1893 to 1973

Year	Absolute Numbers	Relative Numbers (Percent)
1893	971,240	64.7
1921	1,299,175	64.8
1940	1,336,800	55.7
1950	1,518,626	53.6
1964	1,872,085	42.1
1973	2,503,176	43.7

Source: Arias B. Jorge: La Poblacion de Guatemala. Instituto Centroamericano de Investigacion y Tecnologia Industrial (ICAITI) y Universidad del Valle de Guatemala, Guatemala, 1986.

1/ Tax, Sol: "The Municipios of the Mid-Western Highlands of Guatemala," American Anthropologist, July-Sept., 1937.

The transition from Indian to Ladino is gradual. Complete Ladinoization usually takes several generations. The process involves evolutionary changes in general behavior,[2/] in the way the world is structured in the mind.[3/] There are no detailed studies on how medical belief systems gradually change with Ladinoization, but it is reasonable to expect a series of gradations parallel to those occurring in other aspects of culture, such as dress, language, and diet.

The various beliefs and mixing of beliefs result in a very complex regional distribution. Eastern Guatemala has a small Indian population and a large Old Ladino population.[4/] These Ladinos are cultural and biological descendants of the colonial Spaniards. Poor, and to a certain degree isolated, they have preserved a rich body of European medieval beliefs and practices with a veneer of modern Western elements. By contrast, in most of the rest of the republic, various Indian beliefs are abundantly mixed with old and new Western beliefs. In formulating health policies and designing programs, it is vital to understand -- and factor in -- these different cultural practices and beliefs.

A variety of beliefs in the etiology of the same name disease may be found moving from one geographical and cultural region to another. Some of these differences are as great as those separating the physician's conception of malaria from that of the peasant on the Pacific coast, who may attribute it to having gotten wet. Some examples will show these differences.

"Hot blood" is strongly associated with evil eye in Patzun, Chimaltenango.[5/] A person coming in from the hot sun may be thought involuntarily to cause illness in a young child by transmiting the heat to him. Rubbing an egg, perceived as cool, over the child's body, cures him. The egg becomes cooked. In Momostenango, Totonicapan, evil eye is more strongly associated with spiritual cannibalism. The cure involves appeals such as: "go away to another place," "leave me alone," and "go home." The person responsible for the evil eye is often said to have

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2/ Adams, Richard N: "La Ladinoizacion en Guatemala." In Integracion Social en Guatemala, 1956: 22-28; and Encuesta sobre la cultura de los ladinos en Guatemala, 1964: 54-56.

3/ Méndez-Dominguez, Alfredo: "Mental Configurations: An Approach to Guatemalan Culture Change." In Psychological Anthropology, 1975.

4/ Adams, 1956: 138-142.

5/ Méndez-Dominguez, Alfredo: "Illness and Medical Theory among Guatemalan Indians." In Heritage of Conquest Thirty Years Later, 1983: 285.

"bad blood." Evil eye in Totonicapan is not a casual issue, since men can be condemned for "inflicting damage" on others.6/

Lack of appetite, general apathy, fear and fever are symptoms of a child suffering from magical fright or susto. The child suffers an impression that his heart (a part of his spiritual being) abandons him. One of the cures used in Chamelco, Alta Verapaz, is to "smoke" the child by burning something associated with the cause of the fright.7/ By this procedure, the image of the event that caused the susto sticks to the smoke agent, leaving the patient's insides. Both smoke and image get lost in the ethereal world.

In Chamelco, there are other procedures to get the image out of the patient's body, as the following case shows:

> "A girl went to fetch water and fell into the river. She got frightened. A five centimeter-tall clay doll was made. Thirty hairs from the top of the girl's head, some of her eyelashes, nails and pieces of cloth were stuck on the doll. The doll and the girl were taken to the place where the fright had occurred. The father whipped his daughter hard to oblige 'the heart that scares' to leave her and stick to the doll. Then, the doll was buried to seal the association of the image and the thing-'Stay here, this is your place'."8/

In Patzun, however, the emphasis is placed on the rescuing of the lost spirit, rather than exorcising the image. Whereas in Chamelco, a clay doll embodying the image that caused the fright may be buried in the place where it occurred, in Patzun, the spirit of the patient is "brought back." This is done by placing some clay from the place where the fright has occurred on the patient's forehead, at the same time calling the spirit from the place where the fright has occurred back to the patient's house, through the town's streets.

6/ Méndez-Dominguez, 1983; Hurtado, Juan Jose: "El Ojo." In Tradiciones de Guatemala, 1968.

7/ Méndez-Dominguez, 1983.

8/ Ibid.

Some of the most important folk-medical theories in Guatemala are the following:[9/]

- Supernatural Encounters: Patient contact with a major supernatural being (a sort of god), a minor entity (such as elves, fairies or goblins), or the dead.

- Intense Desire: A strong desire on behalf of the mother or the father may lead to the illness of the desiring person or to an unborn child.

- Cannibalism: An individual may become ill because he is being magically eaten by another person.

- Intense Emotion: Such feelings cause fright or imprint images on the patient.

- Fumes and Vapors: Illness may result from coming into contact with emanations from animals, sexual organs, or sexual activities.

These are not well-defined systems of beliefs. In any given community, elements of two or more of them may be found. But there is evidence of regional differences which are neither adequately understood nor properly taken into consideration in the planning and execution of health programs.

In addition to the importance of understanding these underlying medical beliefs, it is also important to arrive at a clear idea of how specific traditional illnesses relate to Western concepts and how in turn this relates to the curing process.

The confluence of traditional and Western ideas concerning illness varies. There are illnesses recognized by the rural and the poor city populations that have no equivalent in Western medicine. Magical fright, evil eye, "hijillo," "akwas," and "laele" are but a few. Some of the etiological, but mostly symptomatic, elements of these diseases are conceptualized withing the Western system under other illnesses. Thus, some of the symptoms of magical fright may correspond to the Infantile Pluricarential Syndrome caused by protein-calorie deficiencies. It can also represent malnutrition.

9/ Wisdom, Charles: "The Supernatural World and Curing." In Heritage of Conquest, 1952: 129-32.

Lack of congruence between the Western and traditional systems of beliefs may also be found at the level of what constitutes a symptom, a cause, or the illness itself. Chills, fevers, and stomach pains, which are considered to be symptoms in Western medicine, are often conceptualized by the rural Indian population as illness itself. In other cases, both systems recognize an event as a symptom, but see it as produced by a very different cause. Sunken fontanelle, a symptom of severe dehydration in the newborn, is believed to be a disease caused by a witch-like man who sucks the child's life at night in Sacapulas, Quiché.[10/] Sunken fontanelle has also been reported not as a symptom but as a cause. It is said to produce a downward palate projection inhibiting the child's eating.[11/]

Finally, there are folk illnesses identical to the Western ones in terms of name, symptoms, and, occasionally, cure, but are believed to have a different etiology. This is often the case of malaria in many endemic zones, where the illness is easily diagnosed by the patient.[12/] However, prevention often becomes difficult because of its etiological association with "getting wet," "chilled" and other circumstances that do not take the disease-bearing vector into consideration.

With regard to curing practices, it is useful to distinguish among those that focus on the agent, on the etiological chain, the patient, or on the symptom. Modern Western medicine focuses on how to inhibit, expel, or destroy the agent. Occasionally, it centers on the patient or on symptoms, but seldom if ever on the etiological chain. Traditional curing often, but not always, centers on etiology.

In a medical system where etiology is the main consideration, curing can be accomplished by inverting the behavioral components (the actions), while keeping relatively constant the substantive elements (persons, animals, things) of an etiological chain. This produces a functional inversion. A second alternative is to keep behavioral components relatively stable while semantically inverting the substantive components. This produces a nominal inversion. There are other alternatives of a higher degree of complexity. The following example will clarify how some of the mechanisms operate:

10/ Cabrera, Leonel: tape collection

11/ Koos, E.L.: The Health of Regionsville, 1984; Zola, I.K.: "Culture and Symptoms -- An Analysis of Patients Presenting Complaints." In American Sociological Review, 1966.

12/ Méndez-Dominguez and Ruebush, I.: unpublished data

A man and a woman were having sexual intercourse. Suddenly, a child enters. Sexual intercourse is interrupted. The semen, that normally is introduced in the lower part of the woman's body, does not flow. Consequently, the normal result, the swelling of the woman's lower part, does not occur. Instead, the man's face swells. The woman does not deliver, neither does the swelling of the man's face go down, and he becomes sick. To cure him, the woman prepares water with her pubic hair, a sort of feminine semen to produce an inverse reaction. She gives him this potion to drink, thus introducing it in the upper part of the body (mouth). The man's swelling disappears.13/

The way societies conceptualize health is probably as important as the way they conceptualize sickness. Unfortunately, very little is known about this phenomenon in Guatemala. Of particular importance are those conditions that will make an individual believe he or she is healthy or sick. Populations living in poverty and in a constant poor state of health may accept a greater degree of discomfort and body damage before considering themselves to be sick and resorting to medical treatment. High costs of curing illnesses in advanced stages and the very limited success of preventive medicine are likely to be supported by such a concept of health.

5.2 Health Seeking Behavior and the Traditional Practitioners

Decision-making models have attempted to link symptoms and costs, accessibility and perceived efficacy, to health-seeking behavior.14/ These models postulate stages in the decision to seek health care. The first stage involves the evaluation of symptoms (nature of the illness, persistence, apparent seriousness). The second stage involves making an action decision (whom to consult, with whom or where to go for treatment). In the third stage, the actions performed are evaluated and a new decision made.

Studies conducted among Tarascans in Mexico,15/ who are not too different from Guatemalan Indians, have detected four major treatment alternatives: 1) Self-treatment, using traditional herbal cures

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13/ Mendez-Dominguez, 1983.

14/ Becker, M.H.: The Health Belief Model and Personal Health Behavior, 1974

15/ Young, J.: "A Model of Illness Treatment Decisions in a Tarascan Town." American Ethnologist , 1980

or locally-sold commercial remedies; 2) treatment by local folk curers involving herbal remedies; 3) treatment by a practitioner of modern medicine who is not a physician, but rather a nurse or a self-trained practitioner; and 4) treatment by a certified physician. Four

determinants influence the choice of treatment: 1) severity of the illness; 2) knowledge or experience concerning the illness and the remedy; 3) the costs and accessibility of treatment; and 4) the confidence the patient has in the effectiveness of folk treatment. There are no similar exhaustive studies about the health-decision process in Guatemala, but there is isolated evidence of similarities.

In the case of other illnesses, the etiology is important in a generic way and its diagnosis is easy. Everybody recognizes the illness and knows its cause. Evil eye is an example. Then there are illnesses whose cure does require a knowledge of the etiology, but this is not self-evident to the patient; fever and stomach ache are often classified in this group. Finally, the cure of some illnesses requires knowledge of the specific circumstances that caused them. This is the case in susto, witchcraft, akwas and many other diseases.

In all cases, self-medications may be the first step, but thereafter different behavioral chains are established according to the nature of the disease. For example, when a broken bone is too serious to be handled by self-medication, a community specialist will be approached. The community has its own specialists, often referred to as sobadores. When the sobador intervenes, but no results are obtained, a visit to a physician or hospitalization follows if time and money allow. Treatment under a physician or hospitalization will be the first steps in case of great seriousness, hence bypassing the sobador.

When the etiology is important, but known (evil-eye, for instance), the patient treats himself or is treated by relatives. The cure may consist of performing certain rites in addition to the use of herbal medicines. If the relatives feel they don't know enough about the curing performances, they may seek the help of an adivino, rezador, or zajorén (banoy utzil, in Cackchiquel) to perform it.

The banoy utzil is also usually consulted when the illness persists. He will make a new diagnosis and if witchcraft is found to be the cause, the performance of esoteric rites will follow. If the illness still persists, a physician is consulted. Most often in these cases, the patient then receives simultaneous treatment from the banoy utzil and the medical doctor.

When etiology is important, but is not self-evident (a stomach ache, for instance), the patient normally consults a comadrona if the patient is a woman or a child. The term comadrona means midwife. Child delivery

is only one of the many community services they perform. In Patzicia these women are thought to have been born with supernatural gifts for curing. Were they not to attend this supernatural call, they themselves would become sick and die. The comadrona's diagnosis will determine the recommended curative actions according to whether the illness is of a supernatural or magical origin, or lends itself to treatment by herbal medicine. Occasionally she uses very simple patent medicine. If the illness persists, the patient will visit the curandero.

The curandero is a sort of empirical doctor, a man who has some knowledge of Western medicine. He generally uses only commercial medicines and one of his most important abilities is to inject. If the cure is not achieved and if money is available, the patient will then search for the services of a private physician inside or outside the community. He may go to a hospital when the illness is so advanced that death may occur. Hospitals are usually considered as the waiting rooms for death. Few people attend the health center, when they believe the etiology of the illness is unimportant and the disease is not serious. Minor wounds and cutaneous staphaloccoci infections, are examples of common cases in the Centros de Salud.

If health is not secured from the health center, the private physician, or the hospital, the patient may consult again the banoy utzil, the comadrona or the curandero. This is important, since usually a unidirectional trajectory is assumed, beginning from cheap, easily available, but ineffective service, and going on to more expensive, less available, and more effective medicine. Often the patient is not cured by Western treatment for any one of a variety of reasons, just as the traditional practitioner does not fail in all cases. Simultaneous treatment by Western and traditional medicines and shifting from one system to the other with frequent returns at different points in the development of the disease is a more accurate reflection of what happens than is implied in a undirectional model.

A study of 46 episodes of illness among Ladinos collected for this study in La Democracia, Escuintla, suggests substantial similarities with the Indians of Patzicia. Table 5.2 shows the importance of self-medication, the use of herbs, and the dependence on traditional practitioners.

Table 5.2

Use of Alternative Health Sources for Treatment in a Coastal Ladino Community, for Forty-Six Disease Episodes

Type of Medication	Frequency
Self medication	
a) Herbs:	
--Cut in own garden	6
--Bought	1
b) Left-Over Medicines:	
--Originally bought in store	2
--Originally bought in drugstore	1
--Received as gifts	3
c) Medicine Bought for Illness:	
--Bought in store	7
--Bought in drugstore	17
By Consultation with Individual Specialists	
a) Traditional Practitioners:	
--Sobador (massagist)	2
--Healer	2
--Empirical physician	1
--Physician	1
b) In State-Sponsored Centers:	
--Health Center	2
--Health Post	1
TOTAL	46

Source: Based on Interviews Made in La Democracia, Escuintla, for the present study, 1986

From the previous discussion it should be evident that the concept of illness determines to a great degree the pattern of health seeking behavior and thus becomes a basic issue for the development of health strategies. As previously noted, malaria is an example. Endemic to the Pacific coast, it is easily diagnosed by the patients themselves and the etiology is conceived as being irrelevant to its cure. Consequently, patients do not seek treatment with curanderos, comadronas, and prayers, but often resort to self-medication (although often in inadequate doses) of Western medicine.[16/] Also, since etiology is unimportant, preventive medicine becomes a difficult task.

Ethnic groups seem to differ in the importance given to some types of practitioners and traditional practices. Indians seem to depend more on the Rezador (prayer specialist) and religious rites, as opposed to a greater dependence on the curandero and patent medicine among Ladinos. But the degree of Ladinoization and regional differences are important modifiers of this generalization. The following is an example of this principle. In Zaragoza,[17/] an Old Ladino town, there was a comadrona whose services included writing love letters, curing by herbs, selling herbal and patent medicine, delivering children and making esoteric rites based on counter-magic and, very likely, black magic as well.

The relationship among those engaged in curing and providing medicine (including owners of stores and drugstores), is usually complex and involves competition. Any health intervention should take this into consideration. The opinion that people in Patzicia have about the various sources of treatment is given in the following summary of answers about locally available health care.

-- The comadrona does not cure serious illnesses; the health center does not do so either.

-- The community specialist does not make people wait; the health center does.

-- The community specialist gives medicine; the health center does not provide it.

-- The community specialist mostly makes diagnoses; the center also cures.

16/ Mendez-Dominguez; Ruebush, T.: unpublished data

17/ Mendez-Dominguez, Alfredo: "Zaragoza." In La estratificacion social de una comunidad ladina guatemalteca, 1967.

-- The community specialist cares; the health center does not.

-- The community specialist pays attention to what people say they have; the health center pays no attention to what people say.

-- The community specialist treats people respectfully; the people of the center tend to admonish the patient.

Within the Western services offered, the community clearly favors the private physician over the services provided by the MOH.

The following are some evaluative statements on private medical care as opposed to health center care.

-- The physician treats us well because we pay him; the health center people do not treat us the same way.

-- The physician receives us promptly; in the health center we have to wait a great deal.

-- The physician gives medicine; the health center never has any.

-- The physician gives "good" medicine; the health center does not.

In conclusion, Western and traditional medical systems are thought of as complementary alternatives by rural Guatemalans. They are believed to offer important services at different stages of the health seeking chain of behavior. These chains of behavior are determined to a great extent by the nature of the illness as defined by the patient or person who makes the diagnosis. Considerations of seriousness, or cost, expressed in both money and time, seem to be important after this initial diagnosis. Little is known, however, about the relative weight of the various factors intervening in the health care seeking process.

The faith which communities have in their traditional practitioners cannot be disregarded as mere consequences of ignorance, desperation and impotence. There is little doubt as to the contribution of these practitioners to the maintenance and restitution of health in their local communities, irrespective of the blunders they may occasionally commit according to Western theories. Their function is of particular importance in the case of illness of both a minor and medium degrees of seriousness and in services such as child deliveries. The same can be said of their medicines, principally herbs, which constitute an important component of health care in the small community setting.

5.3 Culture and Communication

Guatemala has a rich mixture of languages as well as cultures. In addition to Spanish, about eighteen Indian languages are spoken, some of them with several dialects that number more than twenty in total.[18/] There are four major languages accounting for 2,403,848 speakers. These are:

-- Mam (including Tectiteco, Tacaneco, Mam occidental, Mam norte, Mam sur, and Mam de Todos Santos Cuchumatanes), in the extreme West, with about 688,500 speakers.

-- Quiche (including Quiche central, Quiche de Joyabaj, Quiche de Chiul Cunén, Sacapulteco, Sipacapense, Aché de Cubulco, Rabinal Aché), in the West and North, with 949,349 speakers.

-- Cackchiquel (including Cakchiquel Occidental, Central, Sur-occidental, Sureßo, Sur-central, Oriental, Norteßo) in the central and western areas with, 405,000 speakers.

-- Kekch in the North-eastern region, with 361,000 speakers.

To a large degree, language diversity reflects cultural diversity. While the departmental division is very much an arbitrary political administrative unit, counties correspond to socio-cultural boundaries in large sectors of the country. In some cases, counties are even linguistically independent communities[19/] whose cultural unity is translated into such aspects of life as dress, economic specialization, and organization of religious life. The county is a sort of cultural motherland for the Indian.

Such conditions make the application of unflexible unitary programs very difficult. What works in one region may fail elsewhere. To be effective the health personnel need to have an understanding of the local culture and society, and knowledge of the language.

In addition to traditional land-bound societies, there is a growing Indian population with only weak ties to the land. They are found mostly in large cities and on the Pacific coast. They, as well as those living in local communities, represent multiple gradations in the process of Ladinization.[20/] This adds new demands on the health personnel and limits the application of centrally designed programs.

18/ Sheetz, Pamela and Echerd, Stephen: Bibliografia del Instituto Linguistico de Verano de Centroamerica, 1982: 6-7

19/ Ibid.[1/]

20/ Ibid. [4/]

Conditions in Patzicia, which is neither too traditional nor too westernized, indicate, for example, that there are mixed opinions on the adequacy of the communication between the personnel and the patients of a health center. Seven out of eight persons who have attended the center recently said they understood well what they were told. The eighth person said she understood only a little. When asked whether they thought the personnel of the center had understood them, six said they believed they had but two said no.

A particular instance of misunderstanding occurring in Guatemala City (Colonia Primero de Julio) is indicative of how communication errors can easily occur. A doctor told a mother that her child was deshidratada (dehydrated). When the mother was asked what the doctor said, she answered that he had said the child was desgrietada (totally fissured).[21/] This happened between Spanish speaking people, although of a different social class image. The problem is multiplied several times between people of different languages and cultures.

Both Indian and Ladino patients also complain that they are not given sufficient explanations nor an opportunity to ask questions of health care professionals.[22/] Important components in the communication between patients and personnel are the attitudes which they harbor toward each other. In a health center (Primero de Julio) serving a marginal barrio in Guatemala City,[23/] it was observed that some of the personnel treated the patients with indifference and impoliteness. Such behavior is preconditioned by attitudes toward patients that:

-- come late for appointment assignments
-- are demanding and insulting
-- dirty the center
-- do not know how to use a rest room.

In spite of this behavior, and these beliefs, the personnel are convinced they treat patients properly and politely. Not surprisingly, patients in this center had some poor opinions of the health center personnel. However, the patients did say they were well treated.

The treatment the patients receive in Primero de Julio reflects an accepted norm of interaction between individuals belonging to different social strata. In this instance, the outcome had some positive aspects, but it is easy to imagine other situations in which the opposite would easily be the case.

21/ Elena Hurtado (personal communication)
22/ Hurtado, Elena and Hernandez, Beatriz: Informe final del estudio del caso del Centro de Salud de la Colonia Primero de Julio, 1985.
23/ Ibid.

5.4 Community Participation

The history of health programs in Guatemala shows slow but measurable evolution toward meeting the needs of rural people. Remote hospitals were the only permanent health service provided before 1944. These were followed by establishment of health centers in the county seats and health posts in villages. IGSS services have even expanded, although to a lesser degree (Table 4.2). With all this activity, grew the conviction of the need to use local personnel in programs, to incorporate some of the traditional practitioners into the system, and to secure some degree of community participation.

Local midwives have now been educated in Western sanitary methods for child delivery; health promoters have been trained and a number of them employed; and a net of voluntary collaborators was formed by the malaria eradication program. In total, there are now some 25,300 volunteer collaborators acting in population centers of a variety of sizes (Table 5.3).

The comadrona program has been one of the most successful. The lack of control groups makes systematic evaluations of the program difficult, but the number of activities the comadronas perform and the training they receive are suggestive of an important role in child survival (Table 5.4).

Most of the activities of the health promoter deal with sanitation and health education (Table 5.5). Recently, oral rehydration has been incorporated into their activities. The voluntary collaborator program for malaria control is a well organized, relatively successful and unique governmental project. The voluntary collaborators are selected from those persons who are interested in participating, have time to do so, and enjoy the prestige, and, better yet, influence they have in their community. A voluntary collaborator is provided with medicine (chloroquinine), a registration book which an illiterate can use, and in those areas where blood smears are taken, the proper equipment. In the collaborator's house there is usually another trained person, usually a relative, who can assist, thus eliminating excessive waiting. Medication is free, and so are the laboratory exams. Close to 50% of all cases of malaria are believed to be treated by the malaria volunteer collaborators.[24/]

More recently, a growing need has been felt for the development of a new system in view of partial failure of the health centers and posts. This initiative has had major input from the private sector and international organizations. The system is often referred to as "channeling." Among its distinguishing features are:

24/ Ibid. 13/

-- A more active participation of health personnel. The system of health centers and posts relies heavily on delivery of service upon community demand. This is true even in the case of the voluntary collaborator in the malaria program. In the new system health personnel look for the patient by means of home visits.

-- A greater reliance on trained local personnel, and maintenance of more distant supervision.

-- The population targets are the mother and child.

-- Both health-related and non-medical aspects of community service, usually considered as actions of independent services, are integrated into a single program.

There is still no program that fully incorporates all these features of community participation and focus, yet some existing programs display a distinct community orientation, and warrant brief examination.

1) The first model is provided by APROFAM. The Unidad de Distribución Comunitaria (Community Distribution Unit) of APROFAM bases its activities on the distribution of contraceptives by a voluntary collaborator network.

   Each project is conducted by a program chief, who is in charge of six promoters. Each promoter is in charge of twenty community distributors, making a total of approximately 1,500 voluntary distributors. The distributors operate outside the medical system in areas where there are few or no physicians. The distribution includes selling of condoms, creams, jellies and pills. Prices fluctuate between thirty and forty cents for a dozen condoms or a one month supply of birth control pills. Voluntary collaborators are selected in a preliminary visit to the community, which also has the purpose of detecting interests on the matter. Leaders receive a forty hour course followed by two refresher courses a year. They are also given a manual that indicates when contraceptives should not be used and tells the promoter to remind the patient to go to the medical doctor for an annual examination.

   In addition to the direct community participation based on individual collaborators, APROFAM operates through already existing groups. There is collaboration with the Ligas Campesinas (Peasant Leagues) and agricultural cooperatives. Moreover, APROFAM has founded 75 Clubes de Madres (Mothers' Clubs), each with about twenty members with various

functions. They are part of the communitary distribution of contraceptives, but are also engaged in a more comprehensive and multi-sub-sectional program, which includes the social, economic and cultural promotion of women and of health in general. An example of this multisectional approach is a group in Zacapa, which has promoted pig raising with apparently good results.

2) The Asociacion Guatemalteca de Educacion Sexual, AGES, represents a second model of operation at the community level. It heavily relies on voluntary workers that make personal profit through the distribution of contraceptives. The AGES is a non-profit program which includes family planning activities for young people. It distributes condoms and vaginal tables in the marginal areas of Guatemala City. This is done through juvenile leaders (animadores juveniles), selected from national secondary schools and juvenile organizations. They receive a forty-hour course. They distribute thecontraceptives to friends and acquaintances. The association provides the materials free (about 84,000 condoms and 20,000 vaginal tablets a year). The leaders can sell them and keep the profit. The program is now being extended to Huehuetenango, San Marcos and Quetzaltenango, starting with preliminary sex education activities.

3) A third model is represented by the community health programs of the Francisco Marroquin University. The program has made arrangements with the village government (alcaldia auxiliar) to provide the health post with two rotating collaborators, known as vigilantes, who receive minimal payment from the university program. The collaborators are trained and assume an active role consisting of mapping the sector in which they live, reporting cases, and providing oral rehydration salts. The program also has support from local midwives.

A common denominator of these three programs is the combination of vertical and horizontal elements. A plan of action is decided and conceived at a high bureaucratic level, the community is then encouraged to organize groups, or to provide isolated individuals interested in participating.

The apparent success of these privately supported community health programs is partially due to the elimination of complex governmental bureaucracies. Nonetheless, there is a need for coordination among the private and public sectors if these efforts are to be extended to the rest of the country. Ideally, this can be accomplished with greater community participation than at present.

5.5 Summary and Conclusions

The understanding of how symptoms, causes and cures are interpreted and conceptualized is indispensable for the design of health strategies. This is true whether these strategies are oriented toward a utilization of the existing body of beliefs or toward their re-structure. Of particular importance is the need for adapting health actions to local and regional variations of beliefs and ethnomedical theories.

All this requires a greater support for studies that aim at a comprehensive understanding of medical beliefs in different regions of the country. To gain a greater efficiency, these studies probably should keep a narrow focus on set priorities such as mother-child care and child survival.

Anthropological, sociological and psychological theories have arrived at some generalities. However, little is known about the weight that factors such as seriousness of illness and cost in money, time and social stress have in the decision process, as well as the variation these weights may have by region, ethnic group and kind of illness.

Sound planning and execution of programs becomes most difficult and risky without more information on the socio-cultural area. For example, there should be a greater effort to understand and integrate traditional practitioners and traditional medicine into Western health services. Further, detailed studies of the practitioners' role and of ways they could be integrated to the prevailing system are recommended.

In addition, support should be given to sustantive and interdisciplinary studies (including botanical, pharmacological and anthropological research) of traditional medicine, principally herbs.

There is an urgent need for a deep understanding of behavioral patterns related to health seeking behavior and the factors that determine them. The same pertains to delivery of health services. Basic social organizational research should precede the formation of voluntary associations, such as health committees and cooperatives.

There is a need for new systems, based on personnel playing a more active role in the identification of cases and in the creation of a demand for health services. It is doubtful that the extension of services already offered by existing health posts to new areas will produce satisfactory results.

Support should be given to testing in other regions of the country novel forms of health delivery, such as those incorporating voluntary collaborators and are now operating in very limited areas.

Errors of the past, including inflexibility, should be avoided. The use of experimental design where possible would facilitate the evaluation of new programs and avoid their premature extension to large areas or other ethnic groups.

Support for systematic experimentation should be a continual effort. The inclusion of multidisciplinary teams, composed of social and natural scientists, is unavoidable in such efforts.

A sound knowledge of the local language and culture is indispensable for adequate service delivery. Relevant cultural training for health workers should be supported. Detailed studies of the communication process with refined social science techniques would be most useful. Participation of local personnel in health services delivery, in order to minimize culture and language problems, is recommended and their education should be secured.

Knowledge of language and culture does not guarantee a sound attitude. Health personnel should be made conscious of a proper attitude and what constitutes adequate treatment through exposure to basic social and cultural issues. Detailed studies are required to improve the utilization of existing services through a detailed analysis of factors involved in under-utilization and rejection.

5.6 Recommendations

It is recommended that:

5.6.1 US/AID support anthropological and sociological research in health aand that implementation of this research should be an integral part of health program design, execution and evaluation. Focus should be on improved communication between health care providers and their patients, drawn from different cultural backgrounds.

5.6.2 where possible and practicable, USAID support programs in language and cross-cultural training for health care personnel, which will enhance communication with and understanding of patient populations. Linguistics and cultural differences need to be incorporated or integral components into all relevant health care strategies.

5.6.3 AID condition support for programs incorporating new concepts in the delivery of services so that they are first tried and evaluated in limited areas, representing different cultural and ethnic groups, before being introduced nationally.

CHAPTER 6

INTERNATIONAL AGENCIES IN THE HEALTH SECTOR

6.1 USAID

Official and bilateral U.S. assistance to the Guatemalan health sector has a long history, dating back at least to 1942 and the construction of the 600-bed Roosevelt Hospital, now one of two large general hospitals run by the Ministry of Health in the capital city.

AID's predecessor agencies focused on conventional health care when providing assistance to Guatemala. Health Advisory Services (0067), Health Cooperatives Services (0129), and Health and Sanitation Activities (029, 0085, 0132) aimed at introducing new technologies and increasing the administrative capacity of governmental organizations to deliver health care.[1] Assistance to malaria control began in 1958 (0095, B-003, and 011) and ended in 1969.

USAID assisted in the rehabilitation of Roosevelt Hospital (0131) through a variety of technical assistance and training programs. In addition, in 1968 the Mission's Development Planning and Investment project was instrumental in establishing a planning unit (now the Unidad de Planificacion y Programacion) in the Ministry of Health.

Improvement of rural health became an active area for AID/G in 1962. A Mobile Rural Health Service Project (0163) served 60 rural communities. A two-phase program began in 1971 to integrate the health care delivery system. Training para-medics, supervising sanitary standards, reporting health hazards, aiding in family planning education, nutrition, and sanitation, and equipping health posts were all parts of Project 0206 (Loan L-020). Renovating and equipping hospitals, as well as establishing a training school for nurses, fell under Project 0218 (Loan L-021).

AID's loans in the recent past have sought to respond to primary health care needs by training health promoters and midwives, providing potable water systems to largely unserved communities, and introducing environmental sanitation projects through provision of latrines, health education, and municipal sanitation activities.

Quantitative details and an evaluation of AID's participation in health sector projects following the 1977 Health Sector Assessment were presented in Chapter 3 of this report.

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[1] The following paragraphs are based in part on a summary of AID health projects, written by Clara Carr, former Program Officer in the Mission.

The Community-Based Health and Nutrition Systems Loan (Project 520-0251, Loan 520-U-033) was intended to strengthen the institutional capacity of the Ministry of Health, particularly at the local level, and was directed toward an integrated rural health delivery system in three non-metropolitan departments (provinces). An environmental sanitation component provided for construction of water systems, installation of latrines, and education in using and maintaining these systems, while primary health services at the local level supported community-based activities.

Political instability during the implementation phase, coupled with management problems in both the Ministry and the Mission did not allow this Project to achieve its goals, and led to a significant de-obligation of funds. In particular, the integrated nature of the project necessarily combined civil engineering functions with health education and promotion. That mixture of activities, each eminently desirable by itself, apparently stretched the administrative capacity of the involved agencies beyond their elastic limits.

The practical lessons seem clear. A multi-part project inevitably generates multi-part challenges -- challenges which the institutions involved may or may not be capable of meeting.

Other rural projects and loans included one in San Marcos (0272), a water-and-latrines project in Quiché (0231), and an Integrated Community Development and Water Methodology Development Project (0244) that featured field-trained "para-engineers" and self-financed rural water systems.

USAID is, of course, not alone in its concern for improving health in low-income countries. Other international agencies continue a long history of involvement with the sector, some of which antedate AID. Activities by international PVOs were reviewed in Chapter 4. In the following section, we look at major international agencies that also seek to make a difference in Guatemalan health.

6.2 Inter-American Development Bank

The Inter-American Development Bank (IADB) has been the major lender, combining concessional finance with technical assistance. Its activities in Guatemala have concentrated on water projects and hospital construction. The IADB's water projects, like those of any other organization, clearly have beneficial effects on health. Their primary purpose, however, has been infrastructural rather than aiming directly health improvement.

In the recent past, the IADB has been associated with about 80 percent of the total participation by international agencies in health assistance, narrowly defined. Its hospital construction loans, originally formulated before the earthquake of 1976, have continued to

the present. However, a shift in the Bank's lending policies has occurred. It now places less emphasis on the construction of new hospitals, with their heavy recurrent cost burdens, and more on the rehabilitation of existing health facilities.

In purely financial terms, other international agencies have played a considerably less active role. (Table 6.1), accounting for only 13 percent of external financial assistance. These data should be interpreted with care, however, as they represent a wide variety of projects -- some with long gestation periods, others with much shorter ones -- covering quite heterogeneous approaches to health-related matters.

TABLE 6.1

Participation by International Agencies in On-Going Health Projects, 1983

(in millions of quetzales)

Agency	Amounts			Share of Total International Participation
	Total	Local	International	
USAID	24.4	12.1	12.3	7.1%
IADB	193.9	55.5	138.4	80.0
Canada	4.7	1.4	3.3	1.9
UN FPA	2.0	-	2.0	1.2
UNDP/PAHO	1.0	0.5	0.5	0.3
UNICEF	1.0	0.3	0.7	0.4
CARE	7.2	0.5	6.7	3.9
Japan	5.0	-	5.0	2.9
BCEI	4.6	0.6	4.0	2.3
TOTALS	Q 243.8	Q 70.9	Q 172.9	100.0%

Notes: IADB= Inter-American Development Bank
BCEI= Bank for Central American Economic Integration

SOURCE: MOH, Unidad de Planificacion y Programacion, as quoted in OPS, Necesidades Prioritarias de Salud en Centro América y Panama, Vol. 2, August 1985.

6.3 UNICEF

Perhaps few UN agencies are better known worldwide than UNICEF. While often listed (erroneously) among PVOs working in Guatemala, the UNICEF office in Guatemala is a regional office for Central America and Panama, tied to the UNICEF headquarters in New York. Different from other U.N. agencies, UNICEF accepts individual contributions and draws upon volunteers for support of its work. The strategy of UNICEF in Guatemala focuses on child survival with emphasis on:

1. Control of high-risk pregnancies
2. Pre-natal care
3. Control of preventable diseases through immunization
4. Oral rehydration therapy
5. Prevention and treatment of acute respiratory infections
6. Child Growth and development
7. Breastfeeding

The foregoing are expected to reduce the current infant mortality rate of 79.8 per thousand live births in Guatemala. (This is a UNICEF figure, although both higher and lower figures have been used by others.)

In carrying out these objectives, UNICEF has approved two more health projects for Guatemala this year. These are: 1) strengthening infrastructure development in the Ministry of Health, and 2) organizing an immunization campaign.

The specific goals of these projects, which are centered in the Maternal and Child Health Division of the Ministry of Health, are as follows:

1) Extension of Ministry of Health coverage

2) Improvement of the Ministry of Health organizational structure

3) Inclusion of community participation in Ministry of Health activities

4) Reduction of the infant mortality rate in Guatemala

5) Improvement of intersectoral/interinstitutional coordination

As noted, one UNICEF project relates to immunization campaigns. These require maximum coordination among all potentially participating agencies, including non-governmental organizations. Campaigns have workedin some settings such as in El Salvador, where they are able to cross political boundaries. In Guatemala, however, immunization campaigns have been relatively less successful.

Immunization coverage through the Extended Program in Immunization (EPI) has reached approximately 2% of children under one year of age and up to 38% of children less than 5 years of age. (These data are for all vaccines, with some programs more advanced than others. An example of a program that has been successful in reaching children under 5 years of age is the BCG immunization effort.) These data suggest that expanded immunization programs alone cannot assure full coverage.

The point is that neither large national campaigns nor EPI alone, as currently practiced, and organized, are working. More attention to planning promotions and staffing of these efforts are needed to supplement EPI. Problems with campaigns in Guatemala include the large number of children involved; the fact that vaccines are not well maintained in the country; and the perceived failure of the most recent effort (August 1986) to immunize the entire population. The strike of health workers had some impact on the failure of this particular undertaking.

UNICEF has two basic kinds of funds. The first are "regular" funds which are UNICEF-generated. The others are "designated" funds by outside organizations for specific purposes. The total UNICEF child survival budget for Guatemala is $1.9 million.

Infrastructure development and immunization activities may all be subsumed under the general heading of child survival. In addition to child survival, UNICEF has three more projects directly related to health in Guatemala and indirectly contributing to child survival. These are:

6.3.1 "Guatemala Sur"

This is a joint program initiated in 1984. It is also supported by PAHO and INCAP, and is carried out primarily by Roosevelt Hospital. The program is aimed at the southern half of the population of Guatemala City, and extends service coverage at the community level.

The primary focus of "Guatemala Sur" is providing technical assistance and training programs to health promoters and midwives (comadronas). The program has recently been redefined and is focusing its attention on the peri-urban areas represented by the First of July and Milagro clinics. Volunteer committees are utilized in communities where the project is working, but there is no formal community organization *per se*.

The project has an operating budget of approximately $80,000 per year for recurrent expenses. The program proposes to involve the University of San Carlos through an inter-institutional committee structure.

6.3.2 UDRI ("Unidades de Desarrollo Rural Integrado")

This project, located in Alta Verapaz, seeks to establish integrated programs for rural areas. UNICEF is responsible for the health component of this large integrated program.

The program is designed to train and supervise rural health promoters, who are responsible for defined population units. The project has also established a "rotating fund" to purchase (and sell) basic medicines.

The UDRI project addresses three of the primary problems in the health sector. These are an excessively low government budget for health, an orientation toward curative medicine, and a focus on urban areas. The 1986 budget for this project is $14,000.

6.3.3 Lactation

A breastfeeding program, in effect since 1982, is the third activity (other than child survival) sponsored by UNICEF in Guatemala at the present time. Its focus is nutrition.

It provides training for government and non-governmental representatives to encourage mothers to breastfeed their children as long as possible. UNICEF provides educational materials, but does not pay for the "diffusion" of these materials. Radio, television and newspaper advertising must be funded from other sources. (In fact, many of these services have been donated to the project.) The 1986 budget for this project is $42,000.

6.3.4 Other Projects

There are a total of 11 projects sponsored by UNICEF in Guatemala, of which only four have been mentioned. The other seven include projects directed at an enhanced role for women (through involvement in home textile production) and the development of potable water systems and latrines.

6.4 Future Perspectives

Ministry of Health expectations for the near future, as reflected in health sector projects to be included in the 1987-1991 National Development Plan, are associated with a reduced list of international agencies (Table 6.2).

TABLE 6.2

Involvement of International Agencies in Health Projects to be Included in the National Development Plan, 1987-1991

	Amounts			Share of Total International Participation
Agency	Total	Local	International	
IADB	212.3	61.8	150.5	69.5%
UNICEF	22.0	8.0	14.0	6.5
AID	74.7	25.5	49.2	22.9
UNDP	2.4	-	2.4	1.1
TOTALS	311.4	95.3	216.1	100.0%

SOURCE: MOH, Unidad de Planificacion y Programacion, unpublished Table, Oct. 1986.

These figures show that the planners expect the IADB to continue its predominant role. The principal projects planned include hospital construction, rehabilitation, and equipment; construction of health posts, health centers, and peri-urban clinics; and a series of equipment maintenance centers.

AID's projects, as seen by the Guatemalan planners, will concentrate on family planning, child-centered immunization and oral rehydration, and integrated community systems of health and nutrition.

Two other agencies are mentioned in the preliminary plan documents: UNICEF, with programs in child survival and rural water supply, and the United Nations Development Program, with a project involving quality control of medicines and pharmaceutical products.

6.5 Summary and Recommendations

Shifts in the program of the principal lender in health, the Inter-American Development Bank, reflect a long series of negotiations and renegotiations with the Government of Guatemala. The Bank, now officially cognizant of the difficulties associated with a strict

bricks-and-mortar approach, appears ready to enter a new era of funding priorities.

A historical review provides a useful perspective from which to assess current directions of AID's health programs. Over the years, changing emphasis in the Mission has followed the more general evolution of conventional wisdom in the field of public health. Emerging clearly from this review is the notable shift from urban curative hospital-based projects to ones spotlighting primary and preventive care. The focus has increasingly been on children and families, but with an emphasis on water and educational programs.

While other agencies have participated in health lending or donation, their contributions have all been quite small in comparison with the Bank and with AID. Furthermore, in so far as the Ministry's planners accurately anticipate future interest by the international community in Guatemalan health, we conclude that the number of lenders is not likely to proliferate.

UNICEF has, by its very name and purpose, focused on children's issues. More particularly, UNICEF in Guatemala has concentrated on child survival. Program emphases in support of this goal at present include strengthening Ministry of Health infrastructure, support of national immunization programs, water and sanitation, and primary health care projects, which contribute significantly to child survival ("Guatemala Sur" and Alta Verapaz). The Guatemala Sur project is of particular importance, as it offers a partial model for the final recommendations of this report.

It is recommended that:

6.2.3.1 <u>AID recognize the challenge of multi-sectoral projects, particularly when health concerns are combined with other (e.g., water and sanitation) directions. This implies limiting health projects to health concerns or supplying the necessary administrative and technical support to assure the success of multi-sectoral approaches</u>.

6.2.3.2 <u>AID join other donor agencies in avoiding involvements in high technology, hospital-based programs. Construction of new health facilities at any level is discouraged, at least until existing facilities are operating adequately and near capacity</u>.

6.2.3.3 <u>Whenever AID does support water development or other environmental programs that these be couples with a health impact evaluation, both before and after the programs' initiation and operation</u>.

6.2.3.4 AID coordinate its program activities more effectively with other donor agencies, such as the IDB and UNICEF. Particular attention should be paid to "Guatemala Sur" as a possible model for future multi-institutional program development.

6.5.1 AID and other donor agencies continue to avoid involvement in high technology, hospital-based programs, as well as development of new health facilities at any level, but focus on the programmatic guidelines outlined in Chapter 1.

6.5.2 Wherever AID does suggest water development or other environmental improvement programs, that these be coupled with a health impact evaluation, both before and after the programs' initiation and operation.

6.5.3 AID coordinate its program activities more effectively with other donor agencies, such as the IDB and UNICEF, and that particular attention be paid to "Guatemala Sur" as a possible model for future program development.

CHAPTER 7

Maternal and Child Health

7.1 Current Situation and Health Trends

Maternal and child health is a priority area, not only in Guatemala, but in all developing countries. National and international agencies are now focusing their attention on this issue in order to develop and support programs designed to cope with local needs.

Major indicators of the level of maternal and child health are unacceptably high in Guatemala, (Table 7.1.1).

TABLE 7.1.1

GUATEMALA HEALTH SECTOR
HEALTH INDICATORS
MINISTRY OF PUBLIC HEALTH
1970 AND 1980-1983

INDICATORS	1970	1980	1981	1982	1983
Mortality Rate per 1,000 Inhabitants	14.0	10.1	10.5	9.7	9.6
Maternal Mortality Rate per 1,000 Live Births	16.48	9.63	10.69	12.62	11.74
Infant Mortality per 1,000 Live Births	84.7	76.45	54.4	60.1	64.08
Neonatal Mortality Rate per 1,000 Live Births	29.3	26.0	17.6	21.9	20.21
Post Neonatal Mortality Rate per 1,000 Live Births	51.3	42.6	37.0	50.0	44.6
Mortality 0 - 4 years per 1,000 Live Births	22.0	10.7	23.4	16.1	15.6
Mortality Rates due to Diarrheal Diseases per 10,000 Inhabitants	32.91	19.33	14.69	18.72	17.33
Mortality Rates Due to Acute Respiratory Infections	13.8	3.49	3.58	2.1	1.8

Source: Department of Statistics MOH. Taken from World Bank data.

7.1.1 Child Health

Infant mortality, in spite of a net drop from 1970 to 1985, increased during the last five years by 31.2%, from 54.4 to 79.1 (Table 7.1.1). These high rates indicate increasing unmet health needs and unfavorable environmental factors such as: poor economic conditions, malnutrition, low education, poor sanitation, and inadequate medical care.

Fetal, neonatal, and postneonatal mortality rates have somewhat decreased in the last 16 years (Table 7.1.1 and Figure 7.1.1). The fetal mortality rate has decreased 50.5%; the neonatal mortality rate has decreased 45%; and the postneonatal mortality rate has decreased 18.7% However, since 1981 there has been a tendency for all these rates to increase. This increment may be partially explained by better registration since 1982, when the MOH started new parallel systems of data collection and data analysis for each health program.[1/]

The probability of dying in the first two years of life was calculated for 1970, 1975 and 1980. A decrease of only 14.9% in the probability of dying was found for this age group from 1970 to 1980.[2/] Mortality in early life presents an important challenge, not only to those programs related to maternal and child health, but also to those concerned with general community health. Postneonatal mortality indicates that infections are still a major problem in Guatemala, with a decrease of only 18.7%. Neonatal mortality reflects factors such as prematurity and congenital defects, in addition to problems at delivery. In this index an important change can be seen, with a 45% decrease in neonatal mortality between 1960 and 1983. However, the neonatal mortality rate of 20.3 per 1,000 live births for 1983 remains high.

1/ World Bank, Guatemala Health Sector Assessment, September,1985.
2/ Solorzano, J. Chief of the Programming Unit, MOH. Personal Communication, September, 1986.

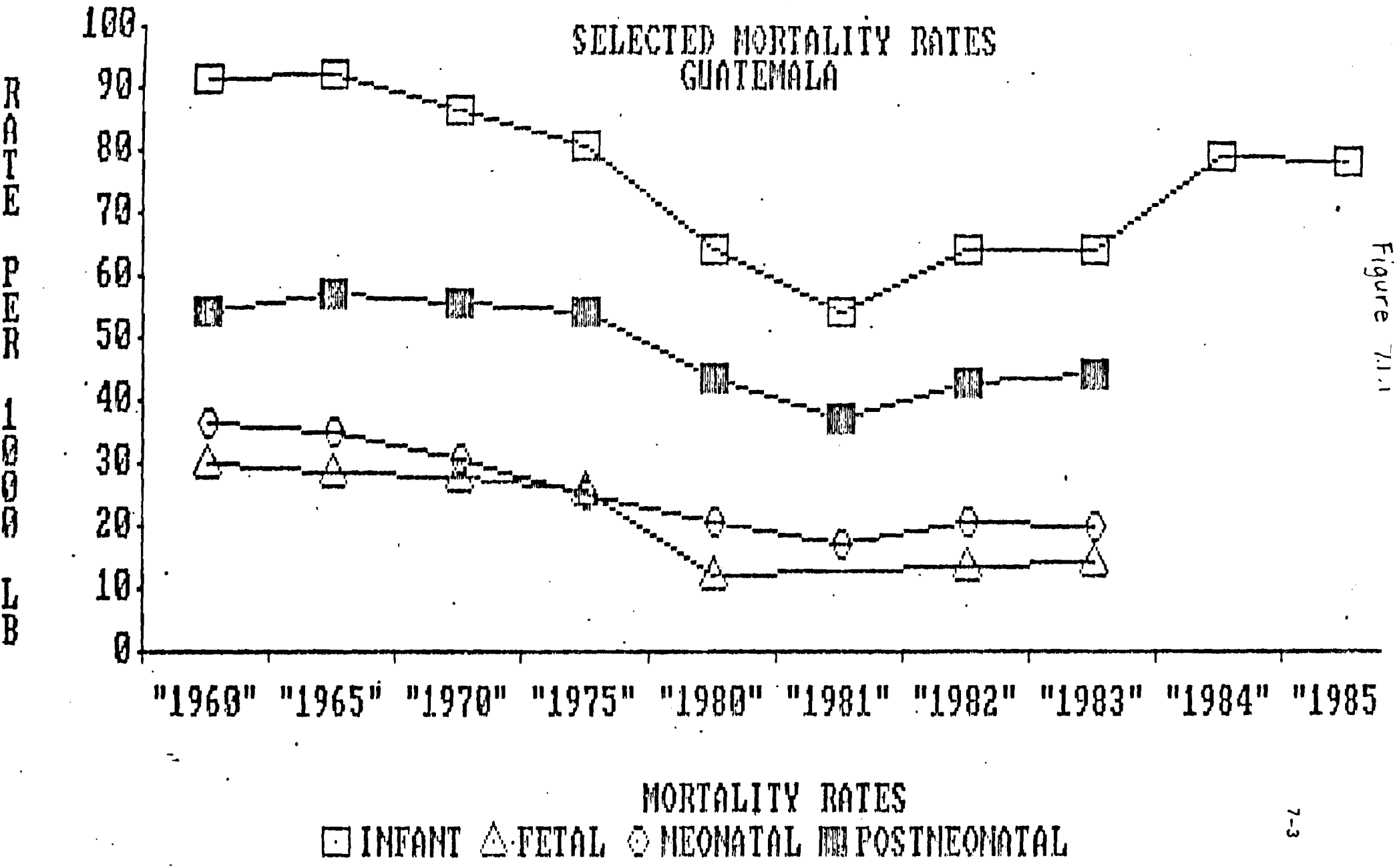

SELECTED MORTALITY RATES
GUATEMALA
RATE PER 1000 LB
100
90
80
70
60
50
40
30
20
10
0
"1960" "1965" "1970" "1975" "1980" "1981" "1982" "1983" "1984" "1985
MORTALITY RATES
INFANT
FETAL
NEONATAL
POSTNEONATAL

Figure 7.1.1

Enteritis and diarrheal diseases are the first cause of death in the age group under one year. For the year 1983 there was a mortality rate of 1,460 per 100,000, which constitutes a proportionate mortality ratio of 22.8% compared with other causes of death for the same age group.[3/] (Table 7.1.2)

TABLE 7.1.2

THE TEN MAJOR CAUSES OF INFANT MORTALITY
GUATEMALA 1983

Order No.	C A U S E S	No. of Deaths	Proportionate Mortality Ratio %	Rate Per 100,000 Live Births
1	Enteritis and Other Diarrheal Diseases	4,285	22.8	1,460
2	Pneumonia	3,728	19.9	1,270
3	Pyrexia of Unknown Origin	1,149	6.1	390
4	Certain Infections Originated During the Prenatal Period	957	5.1	320
5	Hypoxia, Asphyxia, and Other Respiratory Problems of the Newborn	835	4.5	280
6	Slow Fetal Growth, Malnutrition and Immature Fetal Status	773	4.1	260
7	Chicken Pox	663	3.5	220
8	Measles	625	3.3	210
9	Chronic Bronchitis, and Unspecified Emphysema and Asthma	595	3.2	200
10	Protein-Calorie Malnutrition	534	2.8	180

Source: Guatemala: Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico. Volume II of IV, PAHO, 1985.

Little is known about this figure for 1984 and 1985, since the MOH has not yet published a complete health statistics report for these years; however, available data from the MOH for 1985 show that the second cause of morbidity for the total population in Guatemala is diseases related to the digestive system--with 79.7 cases treated per 10,000 population. For the same year (1985), the MOH reported these diseases to be the fourth cause of death for the total population, with a specific mortality rate of 98.0 per 100,000.[4/]

Results of a survey conducted by APROFAM on diarrhea show that nearly 26% of children less than five years of age living in the sample households were reported to have had diarrhea during the week prior to the interview (September-December). According to the authors of that study, this prevalence is relatively high for Guatemala, especially during a time of the year not generally considered to be the peak season for diarrhea.[5/]

The MOH reported diseases related to the digestive system as the third cause of morbidity in 1983 for children under one year of age, with a rate of 3,784 per 100,000, and a proportionate morbidity ratio of 10.3% compared with other causes reported by a physician in clinics or hospitals in Guatemala.[6/] (Table 7.1.3)

TABLE 7.1.3

MAJOR CAUSES OF MORBIDITY IN CHILDREN LESS THAN ONE YEAR OF AGE ATTENDED BY PHYSICIANS IN OUT-PATIENT CONSULTATIONS

GUATEMALA-- 1983

C A U S E S	Number of Cases	Rate Per 100,000	Proportionate Morbidity Ratio
Infectious and Intestinal Diseases	13,886	4,553	12.3
Respiratory Diseases	13,170	4,318	11.7
Other Intestinal Infections	11,542	3,784	10.3
Skin and Osteo-Muscular System Diseases	6,384	2,093	5.7
Nutrition Deficiencies	6,085	1,995	5.4
Nervous System and Sense Organ Diseases	5,781	1,895	5.1
Anemias	4,262	1,397	3.8
Other Genito-Urinary System Diseases	2,623	860	2.3
Amebiasis	2,265	743	2.1
Other Digestive System Diseases	1,301	426	1.2
All Other Causes	45,228	14,830	1.2
Total Cases	112,527	36,897	100.0

Source: Unidad de Inform§tica, Direcciçn General de Servicios de Salud, MSPAS.

Results of a MOH survey[7/] show that 86% of children were treated for their most recent episode of diarrhea. Of the children treated, only 9% were treated with oral rehydration solutions made from commercially prepared packages or from ingredients found at home. Nearly 75% of children were treated with a variety of popular pharmaceutical products, some of which are probably ineffective in treating diarrhea [8/].

The data analyzed (Tables 7.1.2 - 7.1.6) also show the major impact of respiratory infections on child mortality and morbidity in Guatemala. It is evident that measures to reduce the effects of this group of infections are a high priority, and that additional epidemiological information is needed to design appropriate interventions. A more detailed discussion has been included in a subsequent section of this chapter.

3/ Ibid., p. 5
4/ Memoria de Labores, Año 1985. MSPAS, Guatemala, April, 1986.
5/ Rineda, M.A.; and Guerra, S.: "Family Planning and Maternal Child Health Survey," APROFAM/CDC, Guatemala, 1983.
6/ Ibid.
7/ Op. Cit. 5/.
8/ Ibid.

Table 7.1.4

The Major Causes of Deaths from 1-4 years of Age and Proportionate Mortality Ratios
Guatemala -- 1981-1983

	Percentage Over Total Causes from 1-4 Years					
	1981		1982		1983	
Causes	Number	%	Number	%	Number	%
Intestinal Infection	3,513	29.7	4,812	33.5	4,765	33.6
Pneumonia	2,121	17.9	1,706	11.7	2,285	16.1
Chicken Pox	11,60	9.8	1,783	12.5	1,252	8.8
Malnutrition	569	4.8	791	5.5	838	5.9
All Other Causes	4,473	37.8	5,282	36.8	5,037	35.6
Total Causes	11,836	100.0	14,374	100.0	14,177	100.0

SOURCE: Unidad de Informatica, Direccion General de Servicios de Salud, MOH
PAHO: PAHO Report. Volume I, 1985.

Table 7.1.5

The Five Major Causes of Mortality Between 5-14 Years -- 1981-83
Guatemala 1981-1983

Causes	1983 Correlative Order	1983 %	1982 Correlative Order	1982 %	1981 Correlative Order	1981 %
Intestinal Infectious Diseases	1	25.8	1	23.4	1	22.2
Pneumonia, influenza	2	14.7	3	9.2	2	14.3
Measles	3	7.0	4	5.3	3	8.8
Malnutrition	4	6.7	2	12.3	5	4.8
Homicides and Accidental or Intentional Injuries	5	4.1	5	5.1	4	6.1
Total other Causes	-	41.7	-	44.7	-	43.8

SOURCE: PAHO: PAHO Report, Volume II, 1985. Unidad Informatica, Direccion General de Servicios de Salud, MOH.

Table 7.1.6

The Ten Major Causes of Out Patient Consultation
Rates per 100,000 5-14 Years of Age
Guatemala, 1983

Population of 5-14 Years: Total: 2,120,788

Consultation of 5-14 Years: Total: 225,005

Principal Causes	Correlative Order	TOTAL Number of Cases	Rate	Percentage
All infectious and parasite diseases	1	30,871	1,145.6	13.72
Other respiratory system problems	2	20,349	959.5	9.04
Other digestive system problems	3	20,120	948.7	8.94
Malaria	4	15,264	719.7	6.78
Skin and osteomuscular system problems	5	11,936	562.8	5.30
Other nervous system disorders and of the senses	6	11,730	533.1	5.21
Other intestinal infectious diseases	7	10,310	486.1	4.58
Anemia	8	7,856	370.4	3.49
Fracture, luxations, and lacerations	9	7,662	361.3	3.41
Nutritional deficiency	10	7,438	350.7	3.31
Total other causes	11	81,469	3,841.4	36.22
TOTAL		225,005	10,609.5	100.0%
Signs, symptoms and morbidity, conditions not well defined		42,186	1,989.2	100.0%

SOURCE: PAHO: PAHO Report Volume II, 1985

Diseases that can be prevented by immunization, such as measles, pertussis, tetanus, poliomelitis, and diptheria, constitute a major public health problem in Guatemala. Children less than five years old and especially those less than 12 months are an easy target for these diseases when not properly immunized. From 1975 to 1980 diseases preventable by immunization were responsible for nearly half of all deaths in children below five years of age. However, after 1980 a reduction of more than 70% of the deaths due to these causes was achieved.[9/]

Results of the MOH survey regarding immunization coverage revealed low to moderate levels for primary immunization among children less than five years of age. Percentage coverage was found highest for BCG vaccination (58%) and lowest for poliomyelitis and DPT vaccination (33%). Immunization levels were similar for the Ladino population living in the Department of Guatemala and in other departments. Lowest levels were found among the indigenous population.[10/] A more detailed discussion of the vaccine-preventable diseases is presented in Chapter 8.

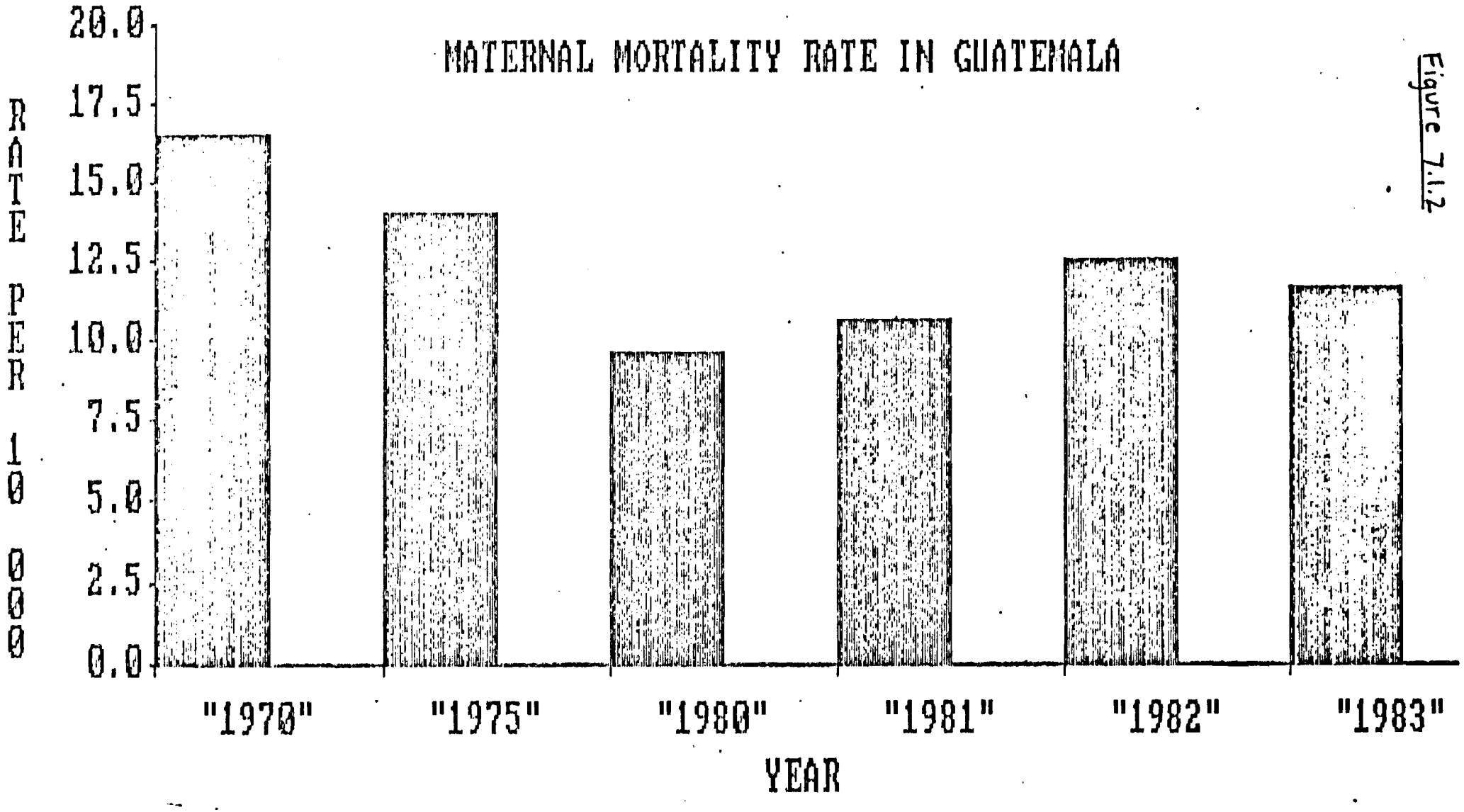
7.1.2 Maternal Health

Another major indicator of health is the maternal mortality rate. Maternal mortality in Guatemala has been high, ranging from 16.5 per 1,000 live births for 1970 to 11.7 for 1983. (Table 7.1.1 and Figure 7.1.2) These high rates indicate that complications due to pregnancy, childbirth and post-partum status are of significant importance. This is frequently due to poor health care during pregnancy and childbirth, as well as to the indeterminate number of induced abortions. Again, environmental factors such as those responsible for infant mortality, play an important role.

The findings of a maternal and child health survey conducted in 1983 by APROFAM [11/] show low to moderate (18%) use of maternal and child health services in Guatemala. Data on child delivery practices show that 58% of women were assisted only by an unskilled midwife.

9/ Op. Cit. 5/.
10/ Ibid.
11/ Ibid., p. 12.

Figure 7.1.2


MATERNAL MORTALITY RATE IN GUATEMALA
RATE PER 10 000
20.0
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
"1970"
"1975"
"1980"
"1981"
"1982"
"1983"
YEAR

The use of maternal and child health services, according to the survey, was highest for women living in the Department of Guatemala and lowest among indigenous women, most of whom live in rural areas without easy access to services.[11]

Abortion is another health problem that is obviously under-reported. In 1983 it was the second cause of maternal mortality in Guatemala. Abortion was reported as the cause of about half of the maternal deaths in the Health Sector Assessment carried out by USAID in 1977.[12/]

During the 1983 APROFAM survey [12/] it was found that 13% of the women interviewed had experienced at least one spontaneous or induced abortion. This problem was more frequently found in women living in the Department of Guatemala (16%) than in Ladino women living elsewhere (14%), or in indigenous women (9%). However, these figures are low compared with what is known about abortion rates in other countries, as discussed in the report of the survey. The Guatemalan figures show that the number of abortions was only 6% of all reported pregnancies. This is somewhat low compared to estimates of pregnancies terminating in spontaneous abortion alone, which have been found to range from 10% to 25% in prospective studies elsewhere.[13/] Therefore, under-reporting is the first explanation for such a difference.

Nearly 75% of the women who had had an abortion required medical attention, and 40% of them were hospitalized according to the data from the survey [14/]. About 50% of the indigenous women were either treated in their homes or in the home of a midwife.

11/ Fasciculo, F.: Guatemala: Estimaciones y Proyecciones de Poblaciçn, 1950 - 2025 CELADE. GUATE. 1, D.G.E, Enero, 1985.

12/ Op. Cit. 5/.

13/ Anderson, J.E. (1979). Quoted in Pineda, M.A., and Guerra, S.: "Family Planning and Maternal/Child Health Survey," APROFAM and CDC, Guatemala, 1983.

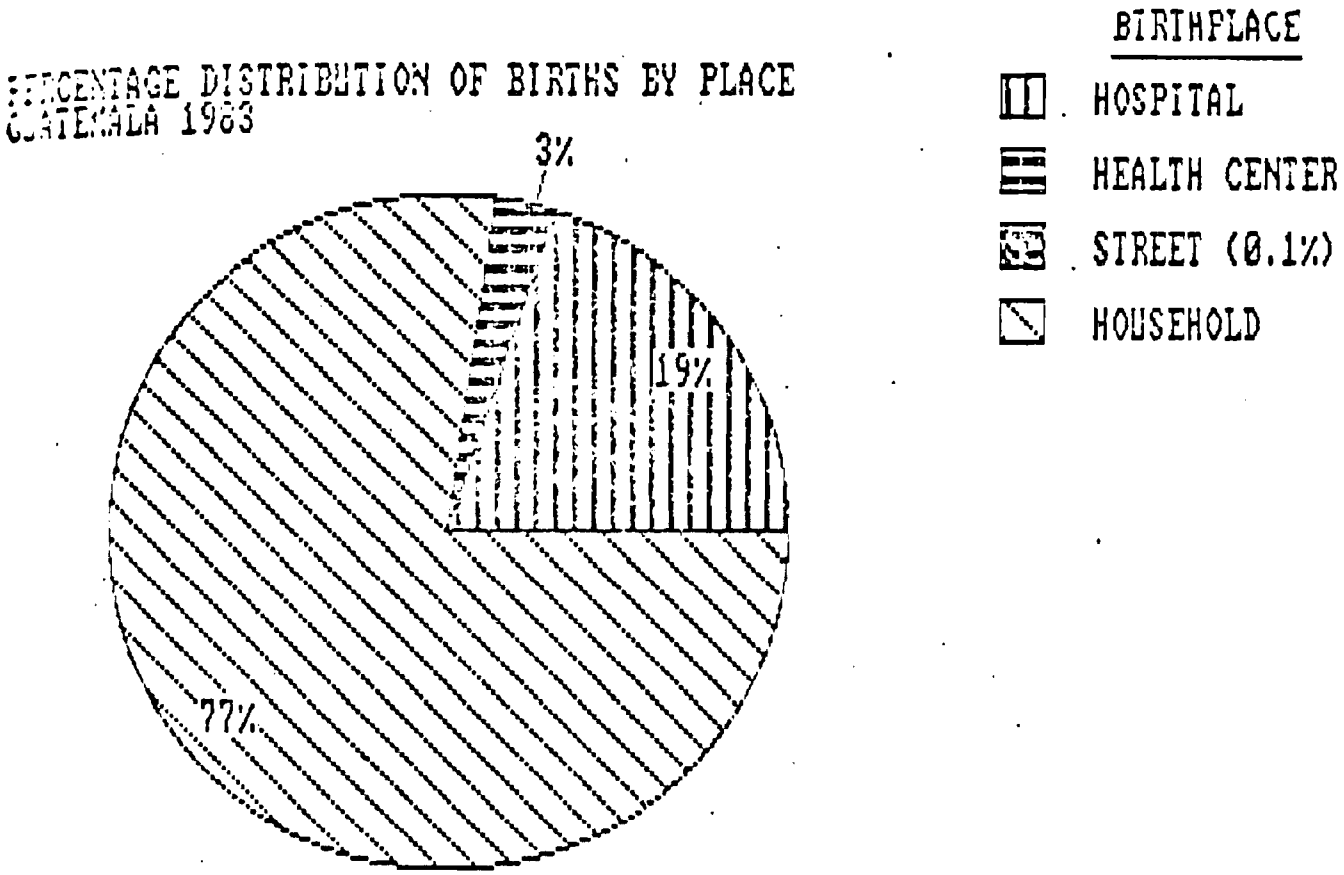
14/ Op. Cit. 5/.

7.1.3 Delivery Care

Data from the MOH for 1983 show that only 21% of births took place in a hospital or in a health center (Figure 7.1.3), and that 57% of births were not assisted by a physician or midwife [15/]. (Figure 7.1.4) Any interpretation of these figures should bear in mind the possible under-reporting of births and deaths in inaccessible rural areas.

Fetal deaths constitute a major public health concern that is widely underestimated in most countries of the world. This also seems to be true for Guatemala with reference to abortions and maternal mortality.

Figure 7.1.3



Source: MSPAS: Memoria de Labores, 1983. Guatemala 1985.

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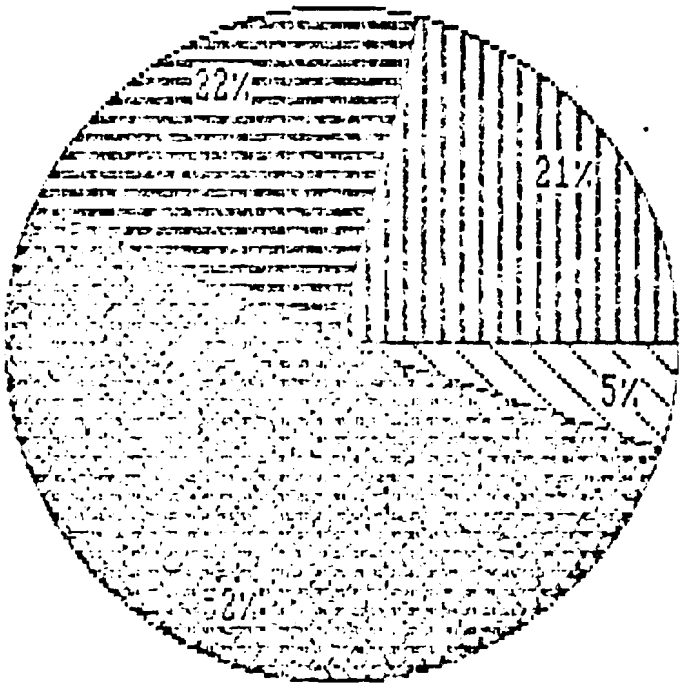
Figure 7.1.4

PERCENTAGE DISTRIBUTION OF OBSTERTICAL DELIVERY CARE IN GUATEMALA, 1983.



RESPONSIBLE

- PHYSICIAN
- MIDWIFE
- LAY MIDWIFE
- NONE

Source: MSPAS: Memoria de Labores, 1983. Guatemala 1985.

7.1.4 Overview of Activities of the MOH

Relatively recent policies of the MOH (1982) include several objectives which are important if maternal child health indices are to be improved. These include: increased coverage and accessibility of health services; improved quality of water and sanitation; intensified health education; and improved prevention and treatment of disease.[16]

The MOH has reinforced its long established core of basic material and child health services, as well as coverage in the rural areas of the country, and a child survival program has been started. This program is directed mainly at the improvement of child health care, focusing on monitoring child growth and development; oral rehydration treatment for diarrhea; child feeding; immunization; prevention and control of respiratory infections; accessibility to potable water and sanitation; and re-enforcement of health care for mothers and children in high-risk groups.[17]

Other institutions and agencies, such as USAID and UNICEF, are collaborating technically and financially in this program. These agencies have also supported a number of related projects, including an oral rehydration project in collaboration with APROFAM.

15/ Memoria de Labores, Año 1983, MSPAS, Guatemala, 1985.
16/ Op. Cit. 7/.
17/ Ibid.

7.1.5 Overview of Activities of the IGSS

The IGSS has recently (1982) introduced several activities for improvement of maternal and child health. These include: expanded immunization; better care of the newborn; supplementary feeding for children (with milk and INCAPARINA); improved prenatal and postnatal care; and health education. In 1984 a new emphasis on family planning services was added to this effort. 18/, 19/, 20/)

7.1.6 Constraints and Issues

Maternal and child health services are still not as accessible as needed in Guatemala, not only with regard to potential coverage, but also in relation to cultural barriers. Findings of a maternal and child health survey conducted in 1983 by APROFAM 21/ show low to moderate use of maternal and child health services in Guatemala, the lowest being among the indigenous population.

It is very difficult to assess the current situation on maternal and child health in Guatemala in the face of under-reporting, poor or delayed availability of the needed information and the lack of baseline data. This is particularly true in rural areas, where the problem seems to be greater.

Very little is done with regard to disease prevention and health education unless the patient presents for health services at a health center or hospital.22/ Outreach for this and other purposes from hospitals and health centers is minimal.

It is particularly difficult to cope with the health needs in high-risk groups, such as the indigenous population, primarily due to the shortage of equipment, personnel and budget, leading to low coverage for family planning services, immunization, oral rehydration, and medical care.23/

18/ IGSS: Informe de Labores. Guatemala, 1982.
19/ IGGS: Informe de Labores. Guatemala, 1983.
20/ IGSS: Informe de Labores. Guatemala, 1984.
21/ Op. Cit. Pineda, 1/.
22/ UNICEF: Child Survival Project.
23/ Ibid.

The MOH is aware of these problems. An evaluation on the efficiency of the maternal and child health services carried out in 1985[24/] showed less than 60% efficiency in most activities at each level of the health care system, according to the criteria used. The administrative problems affecting the implementation of planned activities were identified as:

1. Insufficiency of manpower and resources for manpower development;

2. Obstacles to the appropriate planning, organization, and administration of the program;

3. Poor supervision; and

4. Insufficient facilities, equipment, materials, and budget.

The following alternatives were suggested in the report [25/] to address these problems:

1. Collaborative development of appropriate human resources.

2. Administrative decentralization and inter-institutional collaboration

3. Unification of medical records and health information systems. Provisions of technical assistance in administrative matters. All vertical programs should be incorporated into the structure of the MOH.

4. Development of mechanisms for technical and administrative supervision.

5. Implementation of a national patient reference system.

24/ "Evaluacion de las Condiciones de Eficiencia de los Servicios de Salud Materno Infantil," MOH, INCAE, OPS/OMS and UNICEF: Guatemala. Julio - Agosto, 1985.

25/ Ibid.

Maternal and child health is affected by a combination of demographic, social, and economic problems, and not only by the health care delivery system. Accordingly, a multi-faceted approach must be taken to improve the life style of the target population in order to see important changes in their health status. Without a proper assessment of the specific indicators for each component of this approach, it is difficult to assess which components of a multiple program are producing the necessary changes. Nevertheless, assessment activities should not delay initiation of the most urgent interventions needed.

7.1.7 Summary, Conclusions and Recommendations

7.1.7.1 Summary and Conclusions

Maternal and child health is definitely a major priority in Guatemala. It is known that the use of maternal and child health services is low in Guatemala, particularly among indigenous women. The indigenous population is located primarily in rural areas where health care coverage is limited and under-reporting of health data is frequent. Lack of prenatal, postnatal, and medical care at childbirth are also more important in rural areas in Guatemala. This interaction between inadequate coverage and insufficient information makes it difficult to assess the true situation with regard to maternal and child health in Guatemala.

Diarrhea, respiratory infections, and vaccine-preventable diseases are major causes of morbidity and mortality in children. Diarrhea and respiratory infections were the main causes of death during the first year of life in Guatemala during 1983. Little is known about the current situation, as there are few available data for the last two years. However, 1985 data show that the general category of diseases related to the digestive system are the second most frequent cause of morbidity and the fourth highest cause of mortality in the total population.

Major indicators of the level of maternal and child health (i.e., infant and maternal mortality rates), are high in Guatemala. There has been an overall increment in infant mortality, neonatal mortality, fetal mortality, and postneonatal mortality since 1981, reversing a longstanding downward trend. Among 52 countries which reported maternal mortality (1977-78), Guatemala occupied the third place, preceded only by Paraguay and Barbados. However, only 0.62% of the budget for the MOH was specifically allocated to maternal and child health protection from 1980 to 1984.

During the evaluation by the MOH of the maternal and child program in 1985 [26/], no major provisions were made with regard to important issues, such as: improvement of the existing health information system; increasing coverage; improvement of preventive activities; and development of epidemiological evaluations. Even if necessary actions to overcome administrative problems, which contribute to inadequate health care, are carried out, they may not be sufficient to cause a major impact on the maternal and child health in Guatemala. A multi-sectoral approach is required to improve living conditions of the population before important changes in health status can be seen. Unfortunately, the foregoing is expensive and time-consuming.

One approach which may be carried out within Ministry of Health facilities, using a multi-institutional health sector model, is the development of child health units within primary care centers. A model child health unit is defined as a section of a health center devoted to maternal and child health that is as modern and professionally adequate as resources permit. It would have a clean and attractive interior, would maintain comprehensive medical records, would be staffed by well trained professionals and technicians, would contain necessary equipment and would maintain an aggressive outreach program. It would concentrate on the needs of high risk groups in its patient population.

A follow-up survey, using as baseline data results of the survey conducted by APROFAM [27/], is necessary to learn more about the epidemiology of these high-risk groups, and to "fine-tune" actions which need to be taken in Guatemala.

Such a survey should attempt to cover the same individuals interviewed in the baseline as best as possible. In addition, pilot projects, such as community trials, should be conducted to assess the impact of each action on maternal and child health before implementing new approaches.

7.1.7.2 Recommendations

It is recommended that:

7.1.7.2.1 USAID increase support of child survival programs conducted by the Guatemalan MOH. Particular attention given to activities aimed at improving coverage of health services, developing human resources, and improving the health information system.

26/ Ibid. p 24
27/ Op. Cit. 5/.

7.1.7.2.2 USAID carry out a follow-up family planning survey, using as baseline data survey results obtained by APROFAM in its 1983 survey. In addition, further statistical analysis of the previous survey's data should be performed.

7.1.7.2.3 USAID support epidemiological studies, such as community trials, that lead to signficant improvement in child health. These studies assess the effectiveness and cost-benefit for each action that is being taken or is proposed to be taken.

7.1.7.2.4 USAID support oral rehydration therapy and expanded immunization programs as a coordinated and integral part of the overall emphasis on community-oriented primary care in Guatemala. Such activities could best be carried out in model child health units, to be situated in existing primary care health centers.

7.2 FAMILY PLANNING

7.2.1 Status, Trends and Constraints

It is impossible to separate the subjects of family planning and maternal child health (MCH), as family planning provides one of the most solid bases for reaching the goals of MCH programs. Accessibility and use of family planning services (FPS) provide an effective way of reducing the incidence of high risk pregnancies, abortion, and perinatal mortality.

7.2.1.1 Service Utilization and Acceptability

As previously discussed in this chapter for prenatal, postnatal, and child delivery services, family planning services are not always available or accessible in Guatemala, particularly in rural areas. This situation must be carefully analyzed, however, since wide availability does not guarantee their use. Cultural, religious, and educational barriers are common obstacles to the acceptability of these services.

Various studies have been conducted on the receptivity of potential FPS users. Unless specified otherwise, the date presented hereon is based on women 15-49 (as the denominator). In 1976 a Knowledge, Attitude and Practice Survey was conducted by APROFAM 28/. This study showed that, although 73.3% of the rural population were aware of family planning and 52.6% were in favor of family planning, only 7.2% were currently using some method of contraception.

A repetition of the study, undertaken by APROFAM in 1978, has shown that 78.7% were aware of family planning, and 11.5% used family planning techniques. Both Ladino and indigenous populations experienced favorable changes in attitude toward family planning during these two years. Ladino disapproval of family planning decreased from 25% to 20% and overall indigenous resistance to family planning dropped from 75% to 53%.29/

28/ "Expansion of Family Planning Services", USAID, Guatemala, 1982.

29/ Ibid.

The 1978 survey showed contraceptive user rates of 21% for the rural Ladino population and 4% for the Indigenous population. At that time 18.2% of currently married women nationwide were using contraceptives (184,000 women).[30/] In a later study conducted in 1983, about 25% of married women age 15-44 were using contraceptives.[31] This prevalence level is low in comparison with some other countries in the area, such as Costa Rica, which in 1981 reported 65% of women in the country using contraceptive methods. (However, it must be remembered that Costa Rica has a much higher educational level and markedly lower infant mortality.) In the 1983 survey, 90% of Ladino women knew of at least one effective method of contraception, as compared to 52% of indigenous women. The practical implication of these cultural differences in attitudes and practice is the appropriate prioritization of promotional activities, targeted at indigenous women.

The most prevalent method of contraception found in the 1983 survey was female sterilization (10%), which together with male sterilization (vasectomy), accounted for about 45% of all family planning intervention. While reasons for this high rate of sterilization has not been fully explored, it would appear that the limited availability of reversible methods in certain areas is one of the contributing factors. The second most used method, oral contraceptives, had a relatively low prevalence (5%), followed by rhythm, intrauterine device (IUD), condoms, and other methods (e.g., injectable, intra-vaginal).

The Department of Guatemala had the highest prevalence rate for family planning practice, with almost 50% of married women being current users, compared with 29% for Ladino women elsewhere and less than 5% for the indigenous population not living in the Department of Guatemala.[32/]

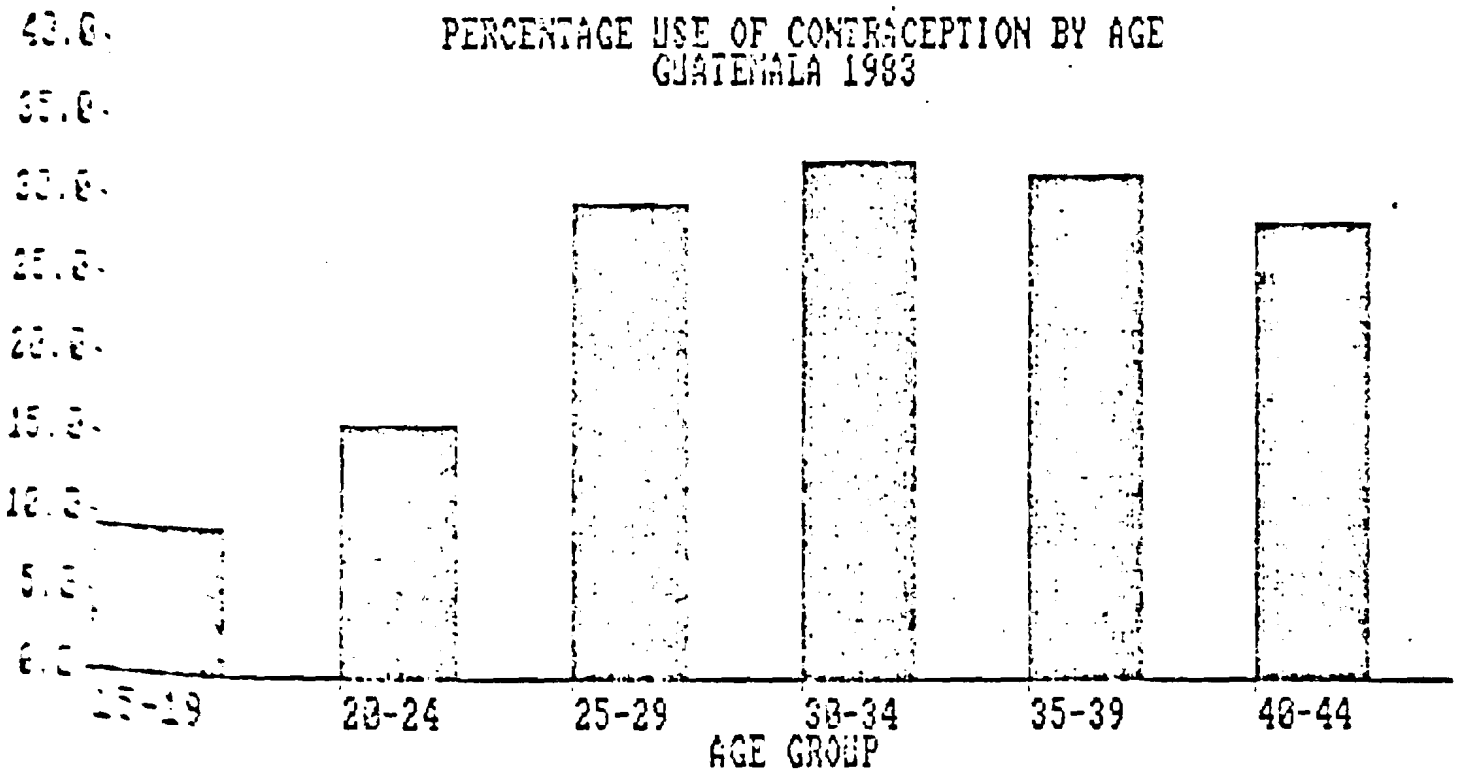
As expected, contraceptive use varied by age, reaching a peak among married women 30-39 years of age. Use was lowest for married women 15-24, of whom a relatively large proportion were either currently pregnant or desiring to become pregnant. As age increased, sterilization accounted for an increasing proportion of total family planning practice. (Figures 7.2.1 and 7.2.2) These findings, indicate that a majority of women who use family planning chose surgical sterilization to prevent births after the peak reproductive ages. These data also indicate that although the use of any method is poor among young married women, survey results on contraceptive use according to the number of living children correlate with previous findings. Women with no living children or with one living child had lower levels of contraceptive use (12%) than women with 2 or more living children (25%).

30/ Ibid.

31/ Pineda, M.A., and Guerra, S.: "Family Planning and Maternal/Child Health Survey", APROFAM and CDC, Guatemala, 1983.

32/ Ibid.

Figure 7.2.1



Estrada, M.A., and Guerra, S.: Family Planning and Materal/Child Health Survey. APROFAM and CDC. Guatemala, 1983.

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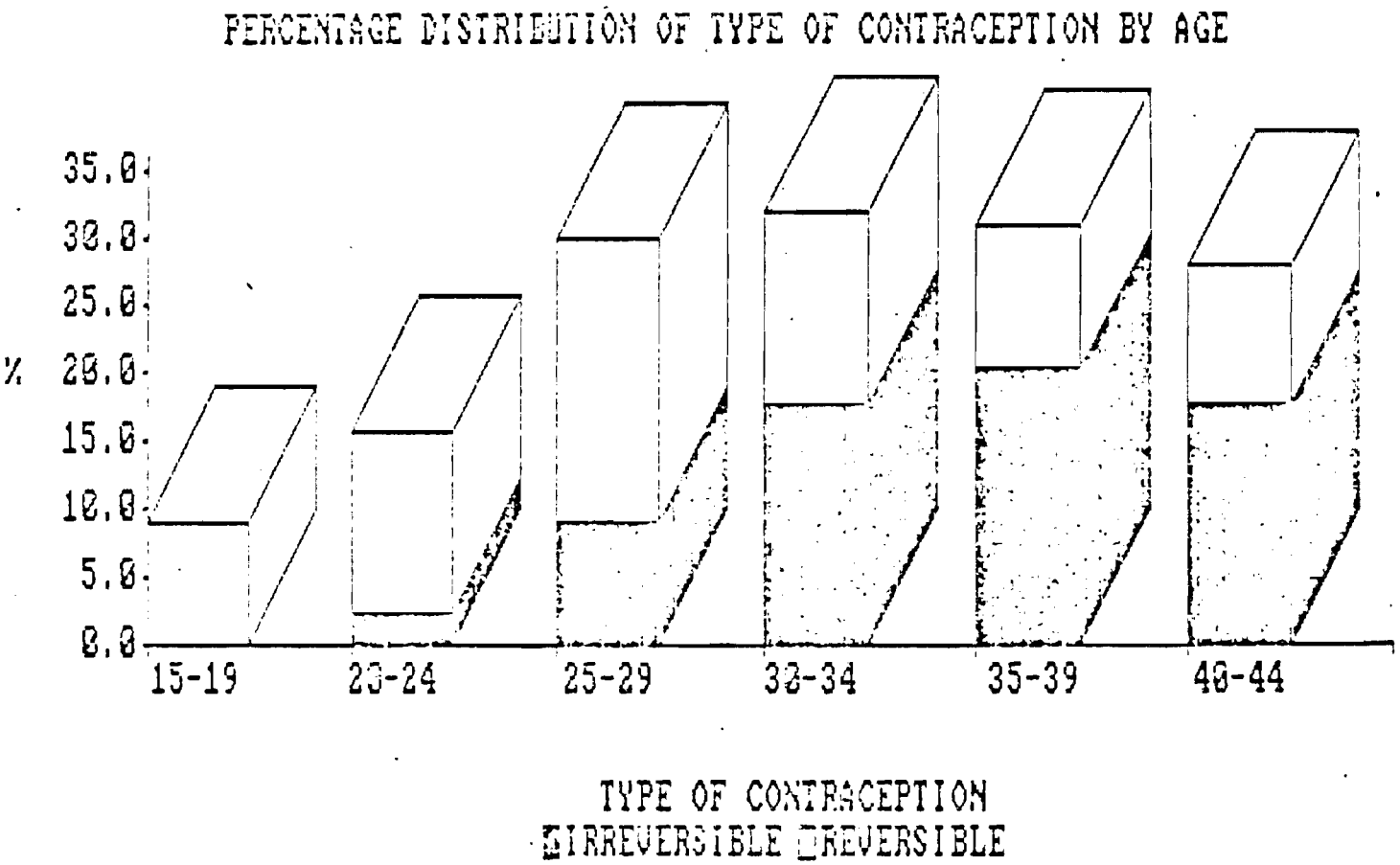
Figure 7.2.2


PERCENTAGE DISTRIBUTION OF TYPE OF CONTRACEPTION BY AGE
35.0
30.0
25.0
% 20.0
15.0
10.0
5.0
0.0
15-19
20-24
25-29
30-34
35-39
40-44
TYPE OF CONTRACEPTION
IRREVERSIBLE REVERSIBLE

The use of contraception was strongly related to education. Women who had at least an elementary school education were about five times as likely to use contraception than women with no formal education and twice as likely as those who had an incomplete primary education (Figures 7.2.3 and 7.2.4). Women who had at least a primary education use reversible methods of contraception from 5 to 17 times more than women with no formal education and from 2 to 6 times more often than women with less than a primary education. (Figures 7.2.5 and 7.2.6) Sterilization was also the most prevalent method among women with lower educational levels in Guatemala.

Contraceptive use was higher for women who are gainfully employed outside the household (41%) than for women working out of their homes (33%) and for housewives (25%). (Figures 7.2.7 and 7.2.8)

In general, contraceptive use increased with education when data were controlled for age, working status, and number of living children. However, this relationship was weak for women with no living children, perhaps because of social pressure to have children soon after marriage, which appears to be independent of socioeconomic status. In addition, there was no apparent association between current use of contraceptives and working status, when data were controlled for age and number of children.

When data were controlled for age, education, working status, or number of living children, the percentage of women using family planning techniques in the Department of Guatemala still was higher than that for women elsewhere. Only 5% of indigenous women whose last pregnancy was unwanted were using contraception, compared with 42% of women living in the Department of Guatemala and 28% of the Ladino women living elsewhere. Only 20% of women whose last pregnancy was planned were using contraceptives. This finding indicates that use of contraceptives for the purpose of child spacing is low in Guatemala.

Figure 7.2.3

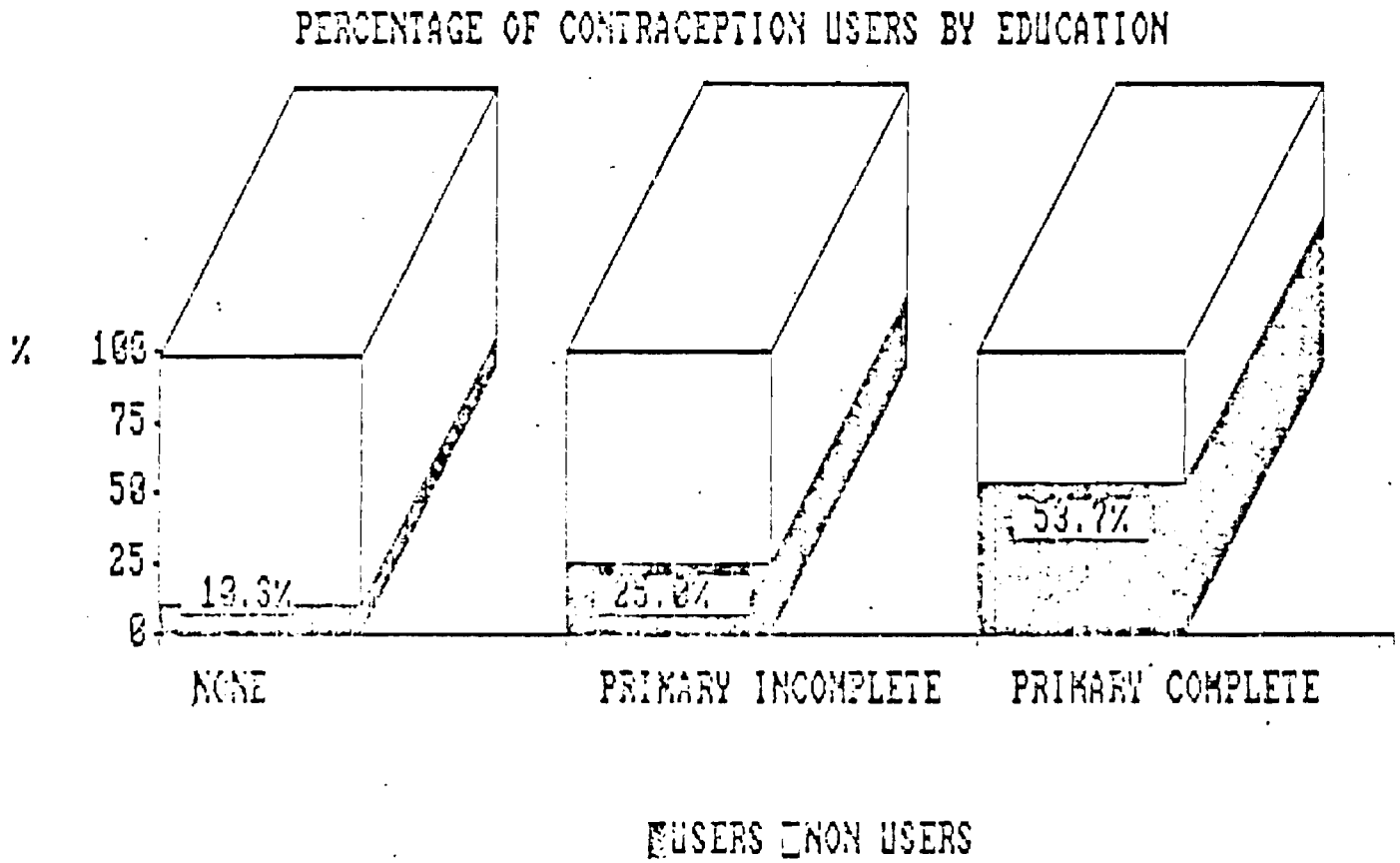
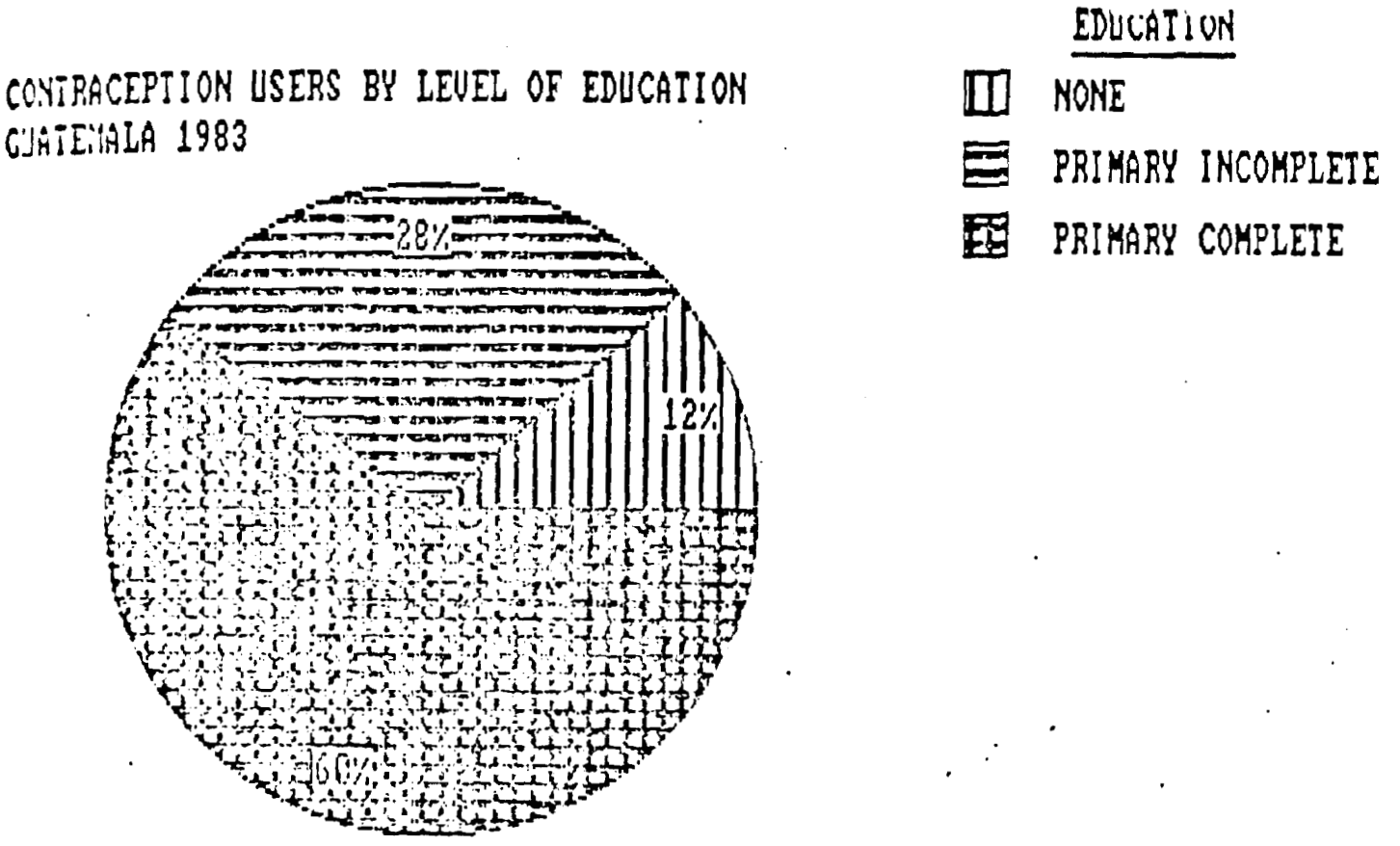

PERCENTAGE OF CONTRACEPTION USERS BY EDUCATION
%
100
75
50
25
0
13.3%
25.8%
53.7%
NONE
PRIMARY INCOMPLETE
PRIMARY COMPLETE
USERS
NON USERS

Figure 7.2.4



Source: Ibid.

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Figure 7.2.5

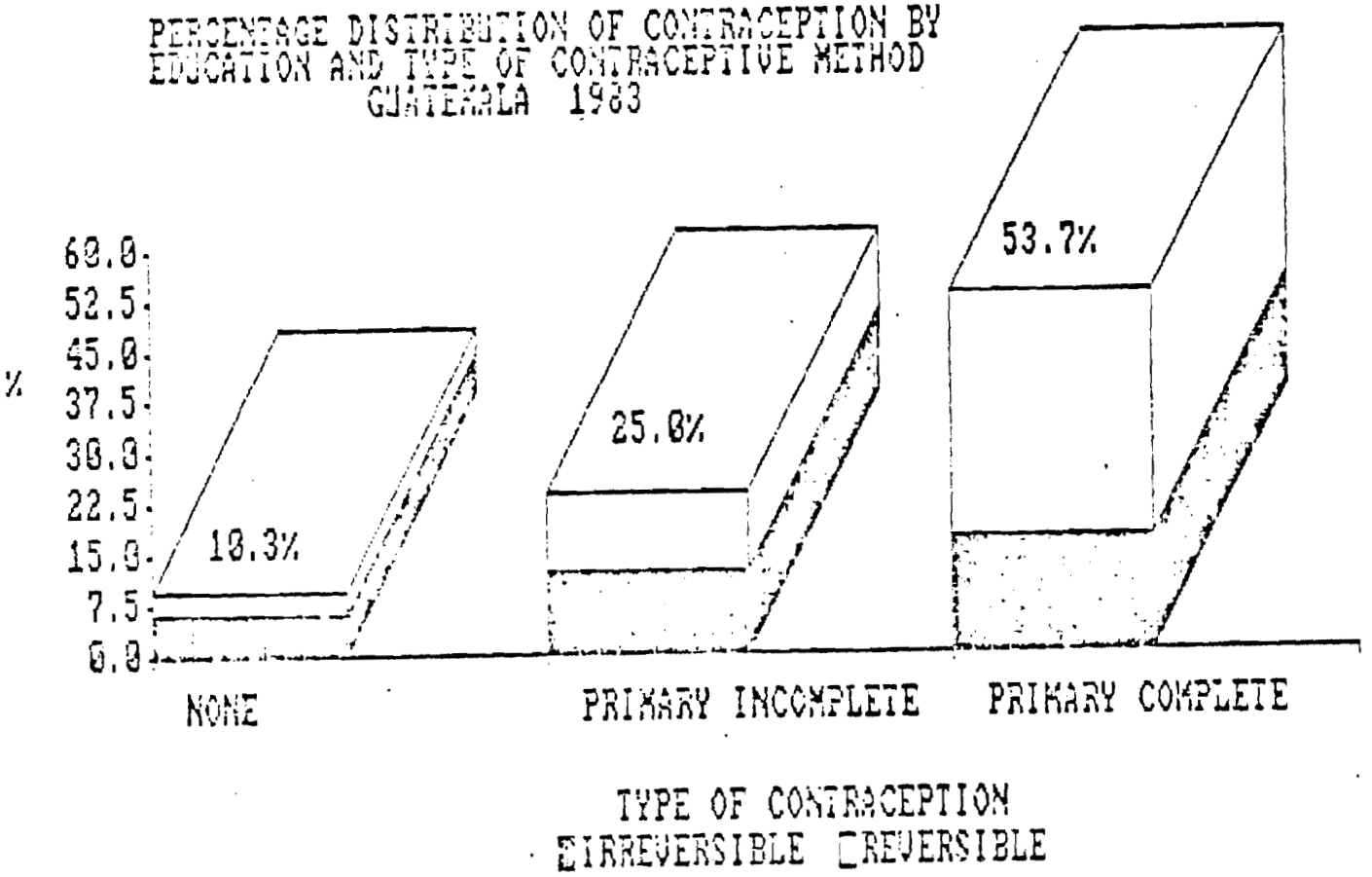
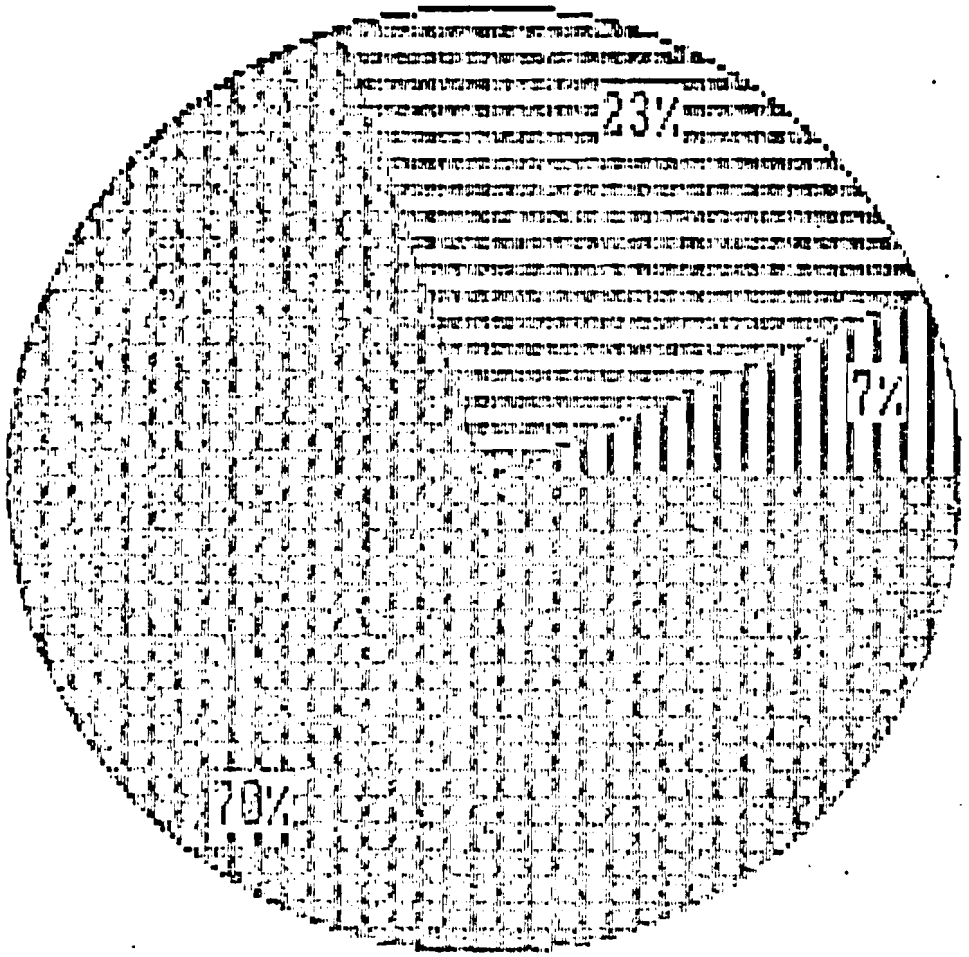

PERCENTAGE DISTRIBUTION OF CONTRACEPTION BY
EDUCATION AND TYPE OF CONTRACEPTIVE METHOD
GUATEMALA 1983
%
60.0
52.5
45.0
37.5
30.0
22.5
15.0
7.5
0.0
10.3%
25.0%
53.7%
NONE
PRIMARY INCOMPLETE
PRIMARY COMPLETE
TYPE OF CONTRACEPTION
IRREVERSIBLE
REVERSIBLE

Figure 7.2.6

REVERSIBLE CONTRACEPTION USERS BY LEVEL OF EDUCATION, GUATEMALA 1983



EDUCATION

NONE

PRIMARY INCOMPLETE

PRIMARY COMPLETE

Source: Ibid.

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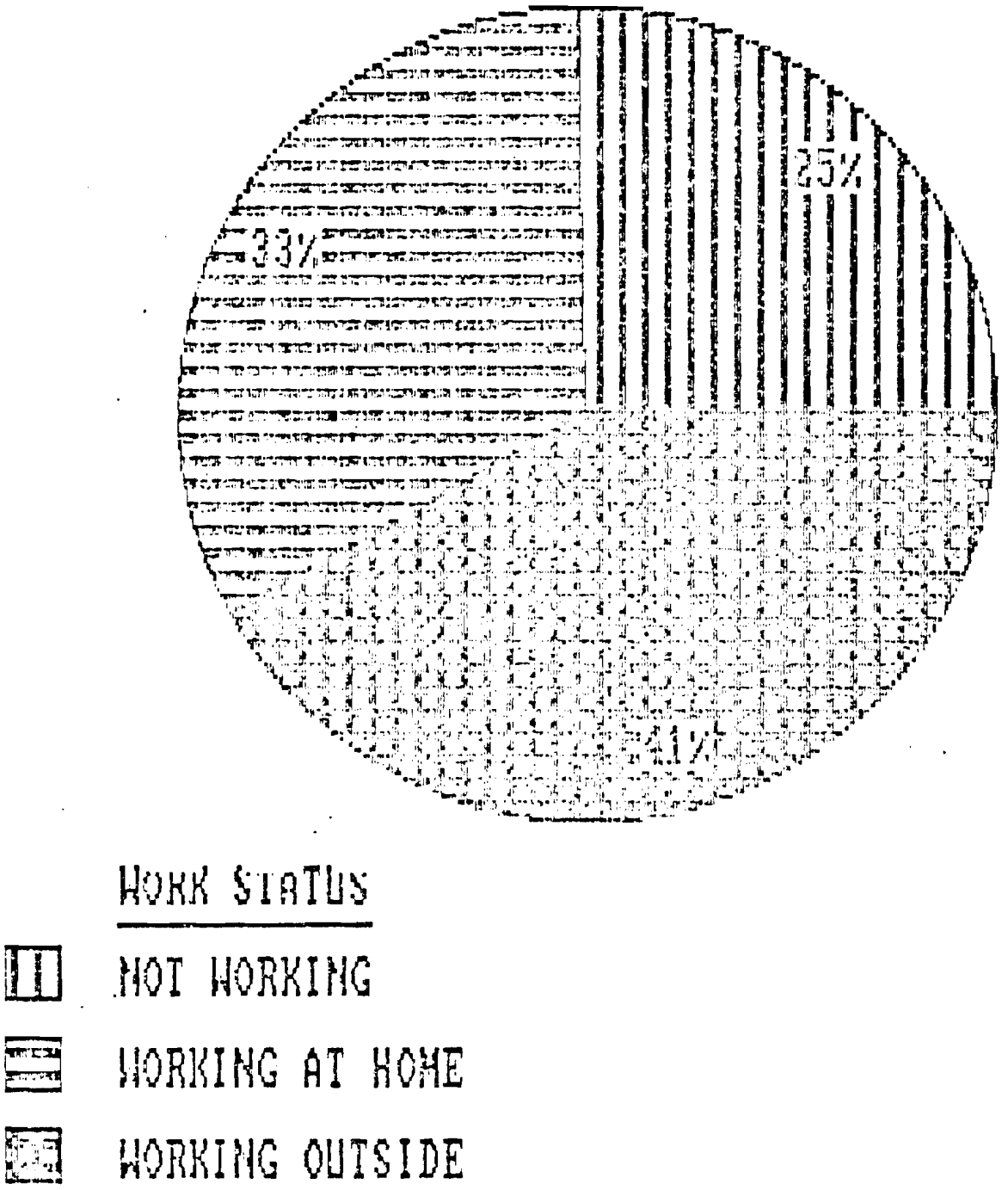
Figure 7.2.7

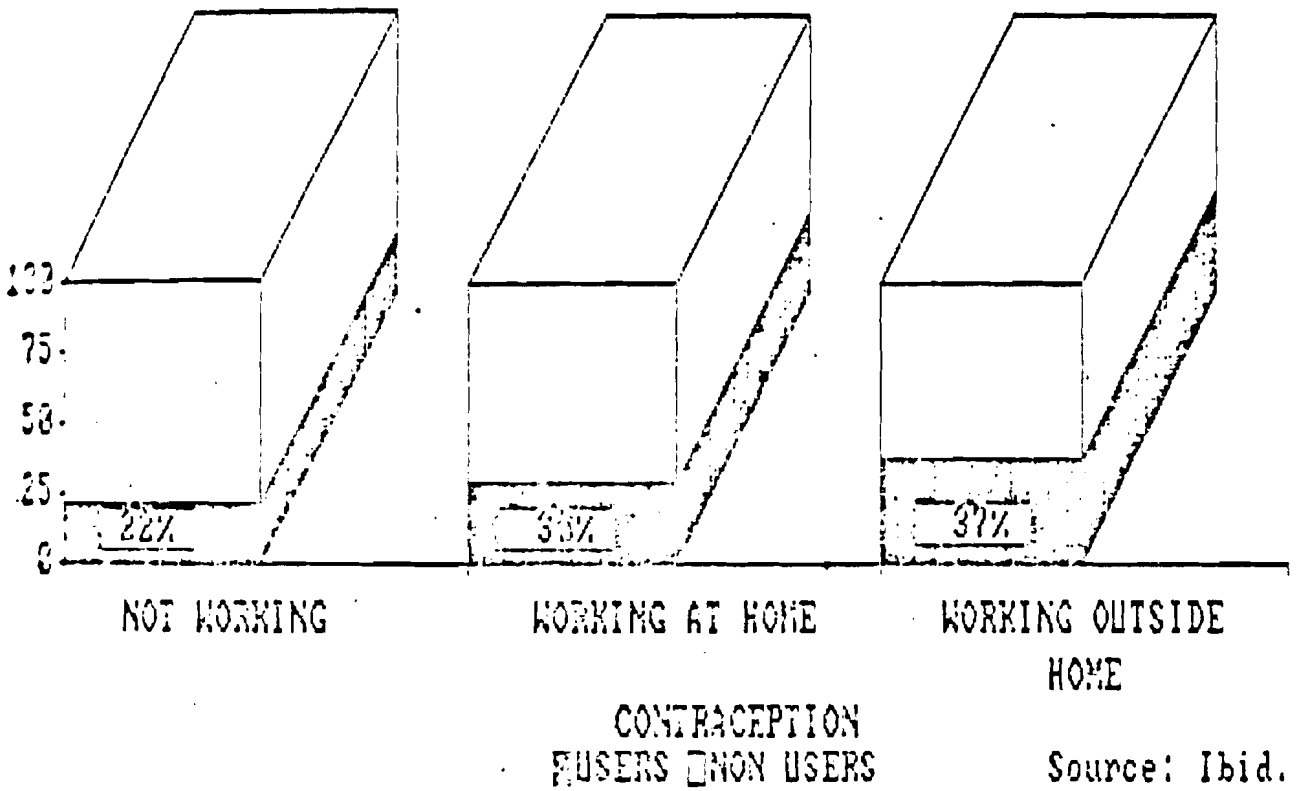
CONTRACEPTION USERS BY WORKING STATUS
GUATEMALA 1983



Source: Ibid.

Figure 7.2.8

PERCENTAGE USE OF CONTRACEPTIVE METHODS BY WORKING STATUS
GUATEMALA 1983



Source: Ibid.

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Abortion is a health problem that is likely to be under-reported. In 1983 reported cases made it the second cause of maternal mortality in Guatemala. At that time a maternal mortality rate of 11.7 per 1,000 live births and a proportionate mortality of 5% (for abortion) compared with other causes of maternal mortality was found.[33/] The main cause of maternal deaths during 1983 was due to complications of birth at delivery, with a proportionate mortality ratio of 78.2% [34/]. However, abortion was reported as the cause of about half of the maternal deaths in the Health Sector Assessment carried out by USAID in 1977.[35/]

The 1983 APROFAM survey [36/] revealed that 13% of the women interviewed had had at least one spontaneous or induced abortion. This finding was more frequently found in women living in the Department of Guatemala compared to the Ladino women living elsewhere, and to indigenous women.

APROFAM data needs to be analyzed further, and there is a need to assess the program's impact on fertility. These answers can be obtained by measuring fertility levels before and after initiation of the program in each community (or a sample of communities) where it is introduced and by using multivariate analysis techniques together with sample stratification. Such techniques can help to clarify the relation of relevant variables to fertility or acceptance and use of contraceptives by the population.

7.2.1.2 Fertility Trends

Over the past three decades, the birth rate and fertility (TFR) decreased signficantly in Guatemala. (Table 7.2.1).

33/ Memoria de Labores aBo 1983, MOH, Guatemala, 1985.
34/ Memoria de Labores, ABo 1982, MOH, Guatemala, 1985.
35/ Health Sector Assessment, USAID, Guatemala, 1977.
36/ Op. Cit. 5/.

Table 7.2.1

Birth Rate Trend and Percentage Reduction
Guatemala --1953-83

Year Period	Average Birth Rate Per 1,000 Live Births	Percentage Reduction Between Year Periods
1953 - 1957	48.9	
1958 - 1962	47.3	0.7
1963 - 1967	45.9	0.6
1968 - 1972	42.5	1.5
1973 - 1977	41.9	0.3
1982	38.2	1.8
1983	37.0	3.2

Source: Guatemala: Recopilaciçn y Ordenamiento de Informaciçn para Diagnçstico de la Situaciçn de Salud y su Relaciçn con el Desarrollo Econçmico. Volume II of IV, PAHO, 1985.

However, in 1982, the birth rate in Guatemala (38.2) was above the average rate for Central America for the same year (37.9), as well as for the rest of Latin America (37.9) for the preceding five-year period (1975-1980). A similar situation was found for fertility (TFR) trends for Guatemala, and in comparison to data (unweighted averages) from Central and all of Latin America. (Figures 7.2.9 and 7.2.10)

Table 7.2.9

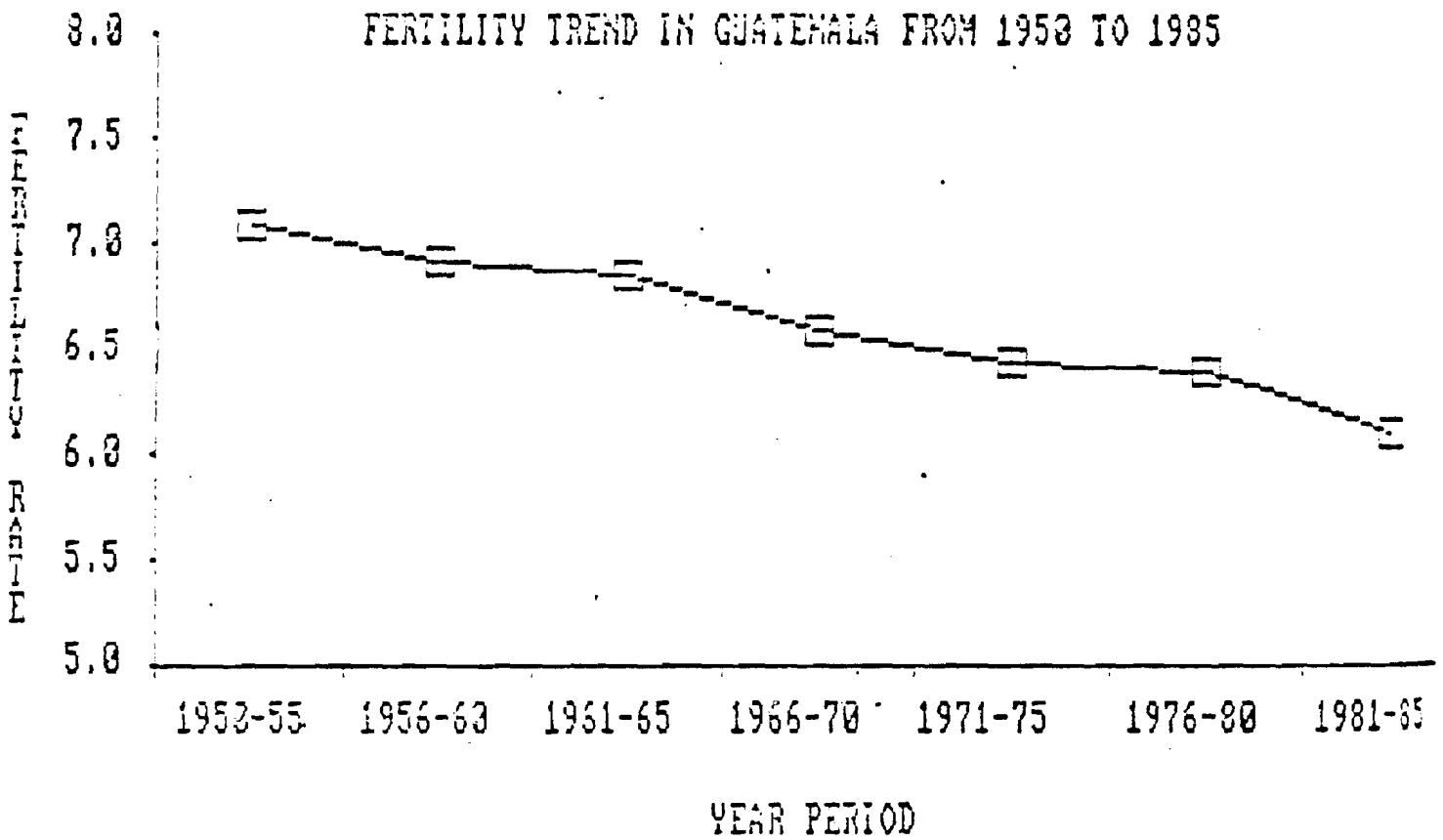
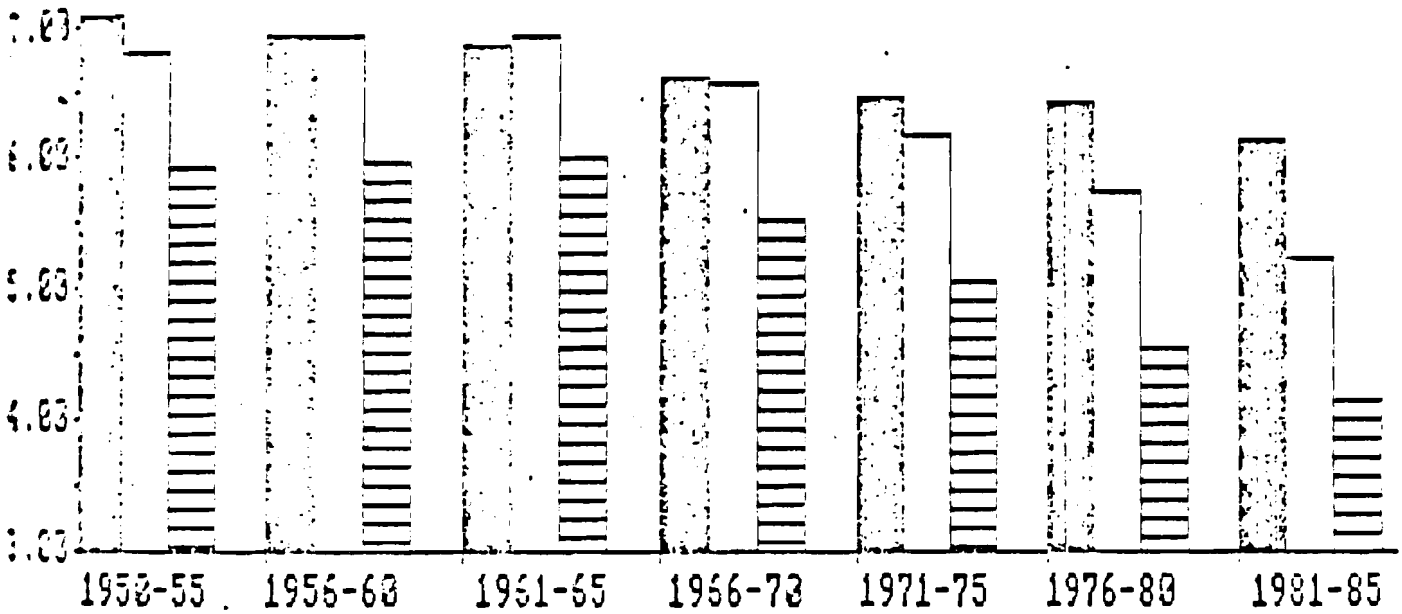

FERTILITY TREND IN GUATEMALA FROM 1950 TO 1985
8.0
7.5
7.0
6.5
6.0
5.5
5.0
FERTILITY RATE
1950-55
1956-60
1961-65
1966-70
1971-75
1976-80
1981-85
YEAR PERIOD

Table 7.2.10

FERTILITY TRENDS OF GUATEMALA, CENTRAL AMERICA AND LATIN AMERICA



GUATEMALA CENTRAL AMERICA LATIN AMERICA

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Important information in this regard was reported by the MOH in 1982, when it was found that the highest proportion of births (29%) was for women with more than 5 living children. Moreover, 51.4% of births in women 25 years of age and older were to those who already had 5 or more living children [37].

37/ Memoria de Labores, AÑo 1982, MOH, Guatemala, 1983.

In terms of fertility trends by age group, higher reductions were found for the age groups 45-49 (37% reduction); 15-19 (16.7% reduction), and 35-39 (12.9% reduction). The rest of the age groups showed less than a 10% reduction.[38/] (Table 7.2.2 and Figure 7.2.11).

Table 7.2.2

Fertility Rates* by Age -- Guatemala 1950-1980
Number of Children per 1,000 Women

Age Group	1950 1955	1955 1960	1960 1965	1965 1970	1970 1975	1975 1980	Percentage Reduction From 1950 to 1980
15-19	174	166	161	150	143	145	16.7
20-24	313	314	315	311	304	298	4.8
25-29	321	317	315	307	301	299	6.9
30-34	280	269	264	254	256	255	8.9
35-39	209	205	203	193	184	182	12.9
40-44	93	91	89	85	84	84	9.7
45-49	27	24	23	19	18	17	37.0
General Fertility Rate*	7.9	6.93	6.85	6.60	6.45	6.40	9.7

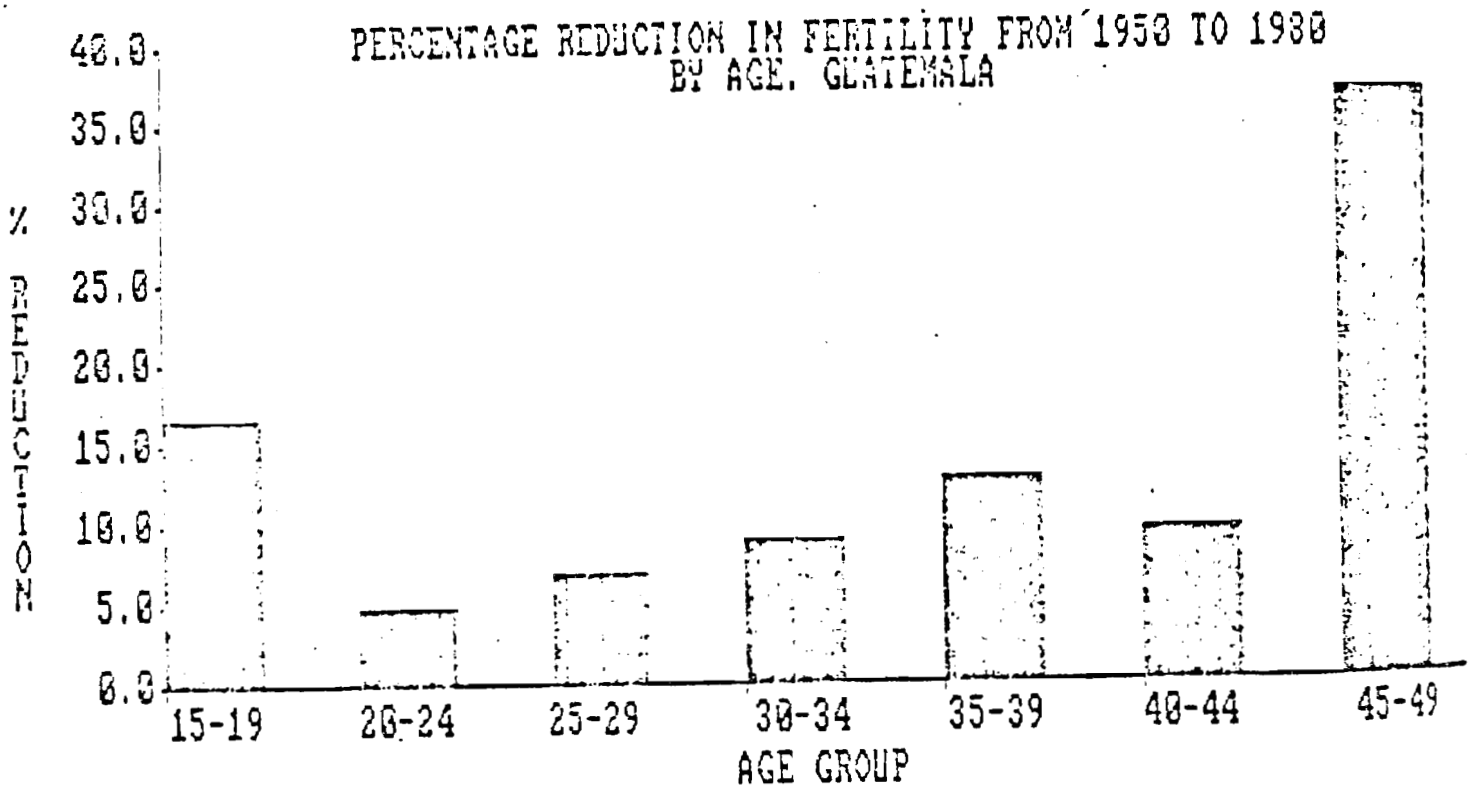
* Average number of children per women 15 - 49 years of age.

Source: Direccion General de Estadéstica y CELADE, 1983.

38/ Op. Cit., 7/

Fertility rates decreased faster for women living in the Department of Guatemala then for women living elsewhere.

Figure 7.2.11



Fertility rates 10 to 25% higher than in the Department of Guatemala have been observed in the Departments of El Progreso, San Marcos, Huehuetenango, El Quiche, El Peten, Jalapa, and Jutiapa (2-3 children (women 15-44) more than in the Department of Guatemala), which have higher concentrations of rural indigenous populations than the rest of the Departments in the country (1971-80).38/

A socioeconomic assessment of fertility (Table 7.2.3) for 1980 showed that 85.8% of women in the country with a CFR of 6 came from the agricultural sector. Of this group (with 6 or more children) had a disproportionately high percentage (70.9%) of all live births among women in the 15-49 age range. Also, in this group 98.1% of women have less than 3 years of formal elementary school education (Figure 7.2.12).39/ These findings support the results of the APROFAM surveys.

The MOH, APROFAM, IGSS and some other institutions have implemented a variety of programs for family planning. These programs provide relatively good coverage for urban and suburban areas. While MOH and IGSS coverage of rural areas is incomplete, these areas are being better covered by APROFAM. However, recent efforts by the MOH and IGSS to improve coverage of health services have been somewhat effective in increasing family planning, although limitations continue in a number of the more inaccesible areas.

Table 7.2.3
Fertility and Distribution of Fertile Woman by Socioeconomic Group, Educational Level, and Geographical Location

Percentage of Total for the Country		Socioeconomic Group				Maternal Education				Geographical Locations			
Women	Active	Agricultural	Non Agricultural	Other	Total	0-3	4-6	7y+	Total	Guatemala City	Other Urban	Rural	Total
39.2	70.9	85.8	13.6	0.6	100.0	98.1	1.9	0.0	100.0	0.0	9.7	90.3	100.0
12.5	11.3	21.5	68.9	9.6	100.0	63.1	36.0	0.0	100.0	14.8	50.9	34.3	100.0
12.9	10.1	7.8	87.0	5.2	100.0	27.1	69.3	3.6	100.0	62.7	33.7	3.6	100.0
14.4	7.7	4.7	46.2	49.1	100.0	0.0	11.1	88.9	100.0	69.0	26.9	4.1	100.0
100.0	100.0												

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7.2.2 Summary, Conclusions and Recommendations

7.2.2.1 Summary and Conclusions

It is impossible to separate the subjects of family planning and maternal and child health (MCH), as family planning provides one of the more solid bases for reaching the goals of MCH programs. Accessibility and use of family planning services (FPS) provide the most cost-effective method for avoiding high risk pregnancy, abortion and perinatal mortality, and allow for an appropriate child spacing. Adequate prenatal, postnatal, and delivery care are often lacking in rural areas in Guatemala, where FPS are not always either available or accessible.

It is now widely accepted that family planning is an instrument for the prevention of avoidable deaths and disease, and for the promotion of health, thus development of FPS is a public health responsibility.

Promoting the use of FPS appears to be less successful where availability of MCH service is poor, as there is an important correlation between coverage of MCH services and high fertility rates. These areas also have the highest mortality rates for fertile women and children.

The problem of accessibility of FPS must be carefully analyzed, since wide availability does not guarantee their use. Cultural, religious, and educational barriers are common obstacles. Guatemala has shown birth and fertility rates higher than the averages for Central and the rest of Latin America.

Various studies have been conducted by APROFAM on the receptivity of potential FPS users. The lowest acceptance levels were found in rural areas and among indigenous women. Other important factors related both to high fertility and lower use of FPS were low educational level, younger ages, and the lack of gainful employment outside the house.

The use of oral contraceptives and other reversible methods of family planning is very low in general, but is preferred among younger and more educated women. Female sterilization is the most prevalent method used in Guatemala and has been most used by less educated women.

Expansion of health education programs needs to be developed simultaneously with the increasing availability of FPS, especially in rural areas.

38/ Ibid.
39/ Ibid.

An assessment of socioeconomic factors and fertility conducted in 1980 showed that 85.5% of women in the country with completed fertility rates of 6 or more came from the agricultural sector. Of this group, which was responsible for 70.9% of all live births, 98.1% had less than 3 years of formal elementary school education, which is consistent with the results of APROFAM surveys.

Abortion seems to be an important problem in Guatemala, and family planning appears to be the most feasble alternative.

Many factors influence the fertility of women and populations. In Guatemala, fertility has been shown to be influenced by age, education, cultural and religious factors, work availability, level of living, and availability of family planning services (FPS). Further studies on the impact on fertility and use of FPS for each factor in Guatemala are required. It appears that only intervention involving all these factors simultaneously can produce important changes in fertility. Special attention should be placed on the 25 to 34 year age group from, as the lowest reduction in fertility between 1950 to 1980 was found in this age group.

Changes in agricultural technology, expanded opportunities for employment in rural areas, and availability of education have led to an improvement in the standard of living and to an associated drop in fertility.

Educational level seems to be the most important factor relating to fertility and use of FPS. However, careful consideration should be given to interpreting this association. Educational level may be only an indicator of cultural and/or socioeconomic status, and this association may be indirect. In other words, only increasing educational levels may be insufficient to reduce fertility.

Contraceptive use for child spacing is low in Guatemala. Educational programs on the importance of child spacing for health reasons and for improving family structure, social relationships, and standards of living should be instituted. Consideration should be given to different educational approaches responsive to the socioeconomical structure of each area of the country.

7.2.2.2 Recommendations

It is recommended that:

7.2.2.2.1 USAID continue to support family planning services, such as the one conducted by APROFAM. This is especially important for inaccessible rural areas and for educational programs in use of contraceptives.

7.2.2.2.2 USAID develop and/or finance basic assessments on changing fertility patterns, attitudes towards FPS, and major MCH indicators. This should be done before and after launching interventions at the community level in order to properly evaluate the program.

7.2.2.2.3 USAID continue to support agricultural programs in Guatemala, since these programs contribute to the increase of job opportunities in rural areas, and which factor is associated with reduction of fertility rates.

7.3 Nutrition

7.3.1 Overview and Limitations

Nutritional status is the basis for many pathological disorders. Consequences of nutritional deficiencies are interrelated, yet surprisingly different. 1/

Malnutrition is difficult to diagnose when the condition is mild, but severe stages of malnutrition such as kwashiorkor or marasmus are easily identified, not only by medical personnel, but by the parents and relatives of children who suffer from these advanced nutritional deficiencies. However, relatives of these children often do not associate the clinical picture with nutritional deficiencies, but with other preexisting diseases or culturally accepted conditions, such as "mal de ojo." (See Chapter 5.)

Chronic malnutrition in children is a result of the low purchasing power of families. 2/ and may be associated with inadequate access to and utilization of health and educational services, as well as poor sanitation facilities. If malnutrition is to be effectively dealt with, the government should strengthen programs oriented toward significantly reducing the existing levels of poverty, and towards increasing availability of health and sanitation services. 3/

In order to estimate the expected nutritional effects of social and economic interventions by the government, one could examine data from coffee plantations in Western Guatemala. Families in these plantations were afforded a medical care program, an increase in minimum wages, and the distribution of a higher protein corn (Opaque-2) for 17 months 4/. Weight retardation in children, which is an important and sensitive indicator of nutritional status, dropped from 32.4% to 22.2% one year after a new wage scale was enacted. In communities receiving the high-protein corn, a medical care program, and an increase in wages, children's growth was better than in communities with only medical care and improvement in wages. 5/

1/ Fierro-Benitez, R; Ramirez, I., Estrella, E.; y Stanbury, J. B.: "The role of iodine in intellectual development in an area of endemic goiter." In Endemic Goiter and Cretinism: Continuing threats to World Health (J. T. Dun y G. S. Medeiros-Neto eds.) Pan American Health Organization (Scientific Publication No. 193), Washington, D.C. 1984.

2/ Joy, L.; Payne, P.R.: "Nutritional and national development Planning." Food Nutr. 1 (4):2-17-1975.

3/ Op. cit., 1/, (Fierro-Benitex, R. et.al)

4/ Delgado, H.; Valverde, V.; Hurtado, E.: "Case studies on infant mortality, primary health care and nutrition in rural Guatemala." INCAP Guatemala INCAP, (mimeograph), 1983.

5/ Ibid.

Medical care alone was reported to reduce infant mortality and mortality in children one to four years of age, but the effects were not immediately reflected in children's growth. 6/, 7/ In spite of dramatic declines in infant mortality and mortality in children one to four years of age in Western Guatemalan communities included in an effective but simplified medical care program. 8/, 9/ no reductions were seen after three years in the percentage of children weighing less than 75% of the standard weight for the same age group.

Since the 1940s the Guatemalan government has been working with nutritional programs through the MOH, and, more recently, through other ministries, as well as other governmental and private institutions 10/. These efforts, however, have been independent and uncoordinated, as well as without effective multisectorial participation, thus limiting their potential impact on the nutritional status of the country. In addition, the political, economical and social events of the past 20 years have had important repercussions on the nutritional status of the population 11/.

7.3.2 Nutritional Situation

The following summary of the epidemiological situation of nutrition for 1984 was adapted from a summary presented in the PAHO Report on the Health Situation in Guatemala 12/, and data from the "Unidad de Informatica, D.G.S.S., MOH 13/, and is focused on the major epidemiological determinants of malnutrition, that is, person, time, and space (i.e., place).

7.3.2.1 Persons

About half the Guatemalan population is affected by some degree of malnutrition. Malnutrition is more frequently found in the indigenous population than in the Ladino population. Further, it is more frequently found among families of low income and with a low level of education.

6/ "Sistemas Integrados de Nutricion y Atencion Primaria de Salud, SINAPS", Ministerio de Salud Publica y Asistencia Social/Instituto de Nutricion de Centro America y Panama. Guatemala. 1983.

7/ Delgado H., Valverde V., Hurtado E.: "Case studies on infant mortality, primary health care and nutrition in rural Guatemala." INCAP Guatemala (mimeograph). 1983.

8/ Op. Cit. 4/.

9/ Ibid.

10/ Op. Cit. 1/.

11/ Ibid.

12/ PAHO: PAHO Document. Volume II. 1985.

13/ Unidad de Informatica: Anuario Estadistico 1985. D.G.S.S., MOH., Guatemala. 1986.

Growth retardation and malnutrition are among the ten major causes of infant mortality in Guatemala. Available information for 1983 shows that various conditions related to malnutrition were associated with 1,307 infant deaths (449 per 100,000 live births), which represented about 7% of all infant deaths for that year. In the one-to four-year-old age group, malnutrition was the fourth most frequent cause of death from 1981 to 1983, with a proportionate mortality ratio (PMR) of 4.8% for 1981 and 5.9% for 1983.

During 1983, out of 35,100 out-patient consultations provided to patients with nutritional deficiencies, the highest percentage (41.9%) was for children under 5 (Table 7.3.1).

Table 7.3.1

Out Patient Consultations Due to Nutrition Deficiencies by Age Groups, Ministry of Health Guatemala, 1983

Age	No. of Out-Patient Consultations	Percentage
0 - 1	6,085	17.3
1 - 4	8,640	24.6
5 - 14	5,450	21.2
15 - 44	6,523	18.6
45 - 64	3,729	10.6
65 and older	2,241	7.0
(unknown)	244	0.7
TOTAL	35,100	100.0

SOURCE: Unidad de Informatica, D.G.S.S.
PAHO: PAHO Report, Volume III, 1985.

In the 5 to 14 year age group, malnutrition was the fourth leading cause of death, with a PMR of 4.8% for 1981 and 6.7% for 1983. For 65 years and older, protein-calorie malnutrition was also the fourth most frequent cause of mortality for 1983, with a death rate of 485 per 100,000 and a PMR of 7.8%. Table 7.3.2 summarizes data for malnutrition-related mortality by age for 1983. Malnutrition impact on mortality, as expected, was more important below 5 years of age and above 65.

Table 7.3.2

Mortality Caused by Malnutrition by Age Group -- 1983

Age	Deaths	Ratio % (1)	Rate per 100,000	Ratio % (2)
0 - 1	617	16.2	210.6	3.2
1 - 4	838	22.1	74.5	5.9
5 - 14	303	8.0	14.3	6.5
45 - 64	418	11.0	12.5	3.8
65 and older	1,073	28.3	487.0	7.9
unknown	14	0.3	-	5.8
TOTAL	3,797	100.0	47.9	5.0

(1) - Refers to % of deaths caused by malnutrition for all ages.

(2) - Refers to the % of total deaths for each age group.

SOURCE: Unidad Informatica, D.G.S.S.
PAHO: PAHO Report, Volume III, 1985.

Pregnant and lactating women are also high-risk groups for malnutrition. Prevalence of malnutrition is as high as 40% in rural and indigenous areas for these two groups, with obvious consequences for their offspring.

Of people 60 years of age and older, 65.2% suffer from mild malnutrition (grades I and II--Gomez Classification). This seems to be one of the contributing causes of the high mortality rates in the early stages of this age group.

7.3.2.2 Time

In the rural areas of Guatemala malnutrition often peaks during the months immediately preceding the harvest season. Malnutrition has also been part of the aftermath of natural disasters.

7.3.2.3 Place

Malnutrition in Guatemala is a countrywide problem. However, it is more important in rural areas (75.8% of total prevalence) than in urban areas (24.2% of total prevalence). In urban areas malnutrition is more frequently found in the newer settlements on the periphery of urban areas ("cinturones de pobreza"), which are characterized by low income, underemployment, and poor sanitation.

The prevalence of weight retardation in children is higher in those living in the East, West and Southern regions of the country compared with those living in the Central Region and Metropolitan Area 14/, 15/.

14/ Valverde V., Martorell R., Mej a-Pivaral V., Delgado H., Lechting A., Teller C., Klein R.E. Relationship between family land availability and nutritional status. Ecol. Food. Nutr. 6:1-17. 1977.

15/ Secretaria General del Consejo Nacional de Planificacion Economica. Instituto de Nutricion de Centro America y Panama. Informe Preliminar del Proyecto Regionalizaci n de la Problem tica nutricional en Guatemala y sus posibles soluciones. Guatemala, INCAP. 1980.

7.3.2 Specific Nutritional Deficiencies

National nutrition surveys were conducted in 1965, 1976, and 1978 [16/] [17/]. They identified protein-calorie malnutrition, hypovitaminosis A, iodine eficiency, and iron and folate-related anemias as the most serious nutritional problems affecting the population. Deficiencies in rivoflavin and thiamine were also identified.

Infant and pre-school mortality and growth retardation, to a large extent, may reflect prevailing calorie and protein deficiencies. [18/] [19/].

Table 7.3.3 shows the mortality due to the different nutritional deficiencies for 1983. Protein-calorie malnutrition--other than kwashiorkor and nutritional marasmus was associated with 3,665 deaths, which represents 96.5% of all nutrition-related deaths for that year. These figures support the thesis that milder forms of malnutrition and not the more severe stages represented by kwashiorkor or marasmus constitute the major nutritional problem in Guatemala. These conditions are easier to identify and are usually treated in local medical facilities.

16/ Evaluacion Nutricional de la Poblacion de Centro America y Panama. Instituto de Nutrici n de Centro América y Panama. (INCAP)/Oficina de Investigaciones Internacionales de los Institutos Nacionales de Salud de los Estados Unidos de Norte America. Guatemala. 1969.

17/ Arroyave, G.; Aguilar, J.R.; Flores M.; Guzman M.A.: Evaluation of Sugar Fortification with Vitamin A at the National Level. Pan American Health Organization Scientific Publication 384, Washington, D.C. 1979.

18/ Op. Cit. 14/.

19/ Op. Cit. 15/.

Table 7.3.3

Mortality due to Nutritional Deficiencies
Guatemala -- 1983

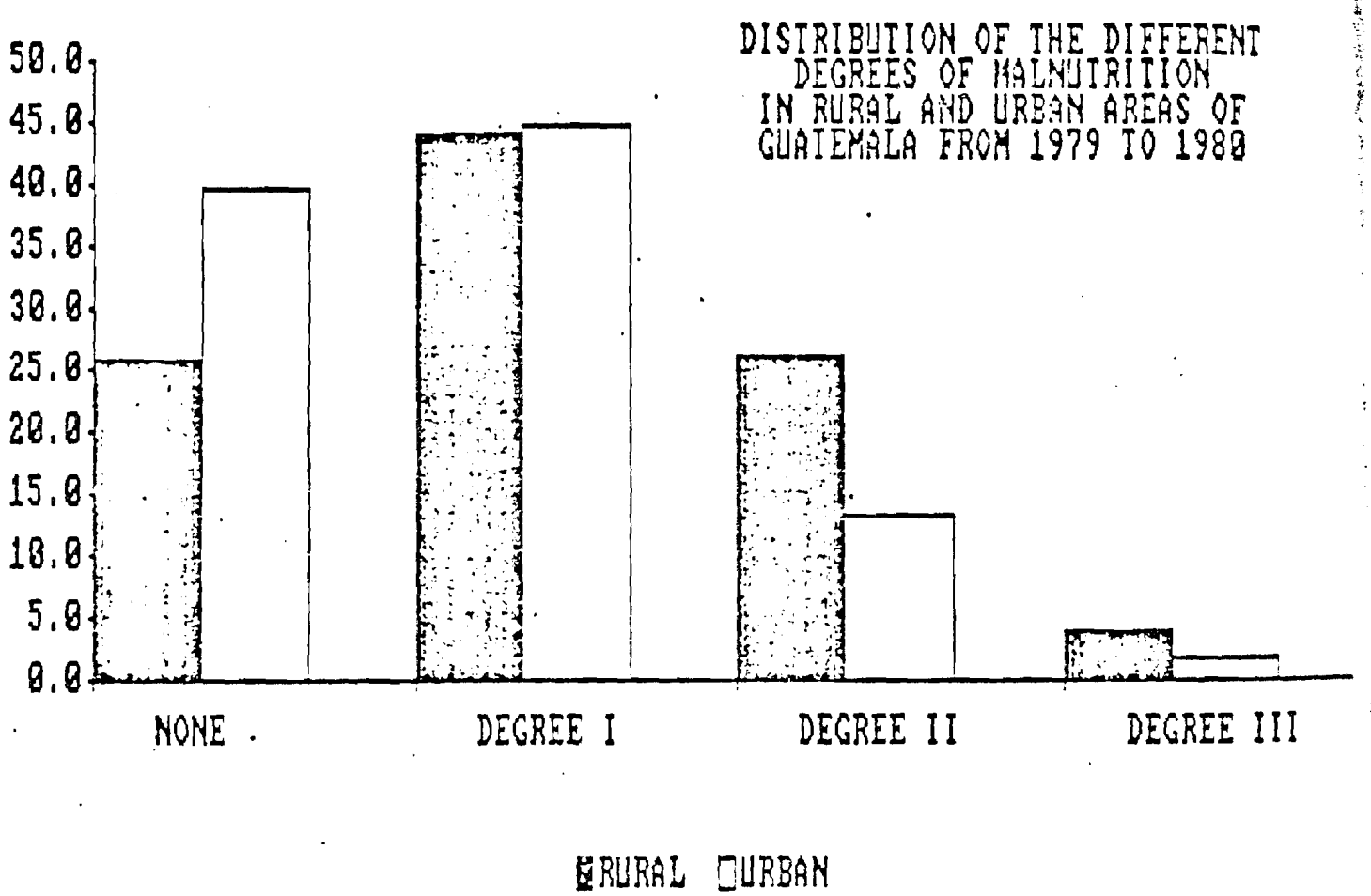
Group	Deaths Number	Deaths %
Kwashiorkor (260)	83	2.2
Nutritional marasmus	42	1.1
Other protein-calorie malnutrition (262-263)	3,665	96.5
Avitaminosis (264-269)	7	0.2
TOTAL	3,797	100.0

SOURCE: Unidad de Inform tica, D.G.S.S.
PAHO: PAHO Report. Volume II, 1985.

Figure 7.3.1 shows the proportionate prevalence of the different degrees of malnutrition in Guatemalan children 0 to 5 years of age for the years 1979-80. The highest proportion belongs to first-degree malnutrition, which is over 44%, both in urban and rural areas. A difference of only 14.1% in the prevalence of malnutrition was found between children below 5 years of age in urban (60.1%) and rural areas (74.2%). However, the proportionate (prevalence) of second-degree and third-degree malnutrition for this age group was about twice as high in the rural areas as in urban areas.

Nutritional deficiencies were the sixth cause of mortality for 1984 (PMR of 4.6%) and the fourth cause for 1985 (PMR of 4.4%).

Figure 7.3.1


DISTRIBUTION OF THE DIFFERENT
DEGREES OF MALNUTRITION
IN RURAL AND URBAN AREAS OF
GUATEMALA FROM 1979 TO 1980
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
NONE
DEGREE I
DEGREE II
DEGREE III
RURAL
URBAN

Specific nutrients, deficiencies such as iodine, iron, and Vitamin A, have a direct impact on the health of the population. Recent research has shown that effects of Vitamin A or iodine deficiencies on visual acuity defects, increased susceptibility to infectious diseases, and growth retardation are important. Vitamin A deficiency is highly correlated to an increased incidence of diarrhea and respiratory infections in preschool children [20/], [21/], as well as an increase in overall mortality.

7.3.3.1 Vitamin A Deficiency

In a 1965 nutritional survey [22/], unacceptably low levels of serum retinol were found in children. In rural areas 50% of the families reported Vitamin A intake below 50% of dietetic recommendations. For this reason, a short-term solution to the hypovitaminosis A problem was developed at INCAP in the early 1970s. [23/] In addition, the Guatemalan government passed laws in 1974 requiring that all sugar for internal consumption be fortified with Vitamin A. Surveys in 1965 [24/], just before the fortification started, and on two occasions in 1977, two years after the fortification was initiated, [25/] showed a 50% reduction in the prevalence of retinol deficiency. (Figure 7.3.2) In the early 1980s the program was interrupted due to administrative and financial constraints, but, a recent PAHO report [26/] states that the fortification program is still operating in Guatemala.

A 1984 evaluation of ocular damage showed that 0.7% of children examined had corneal xerosis and 1.4% had scars, which is 28 times higher than the level (0.05%) established by PAHO to define ocular damage as a public health problem. [27/]

20/ Sommer, A.T.; Tarwotjo, G.; Hussaini y D. Susanto: "Increased Mortality in Children with Mild Vitamin A Deficiency." Lancet 2: 585 (1983).

21/ Sommer, A.; Katz, I., y Tarwotjo, T. "Increased Risk of Respiratory Disease and Diarrhea in Children with Pre-existing Mild Vitamin A Deficiency." Am. J. Clin. Nutr. 40: 1090 (1984).

22/ Op. Cit. 16/.

23/ Comite Nacional Pro-Ciegos y Sordomudos de Guatemala/UNICEF. Informe de la jornada Oftalmologica-Nutricional, realizada en las Comunidades Nuevas de Nebaj, Quiché del 16 al 25 de mayo de 1984. Comite Nacional Pro-Ciegos y Sordomudos, Guatemala, 1984.

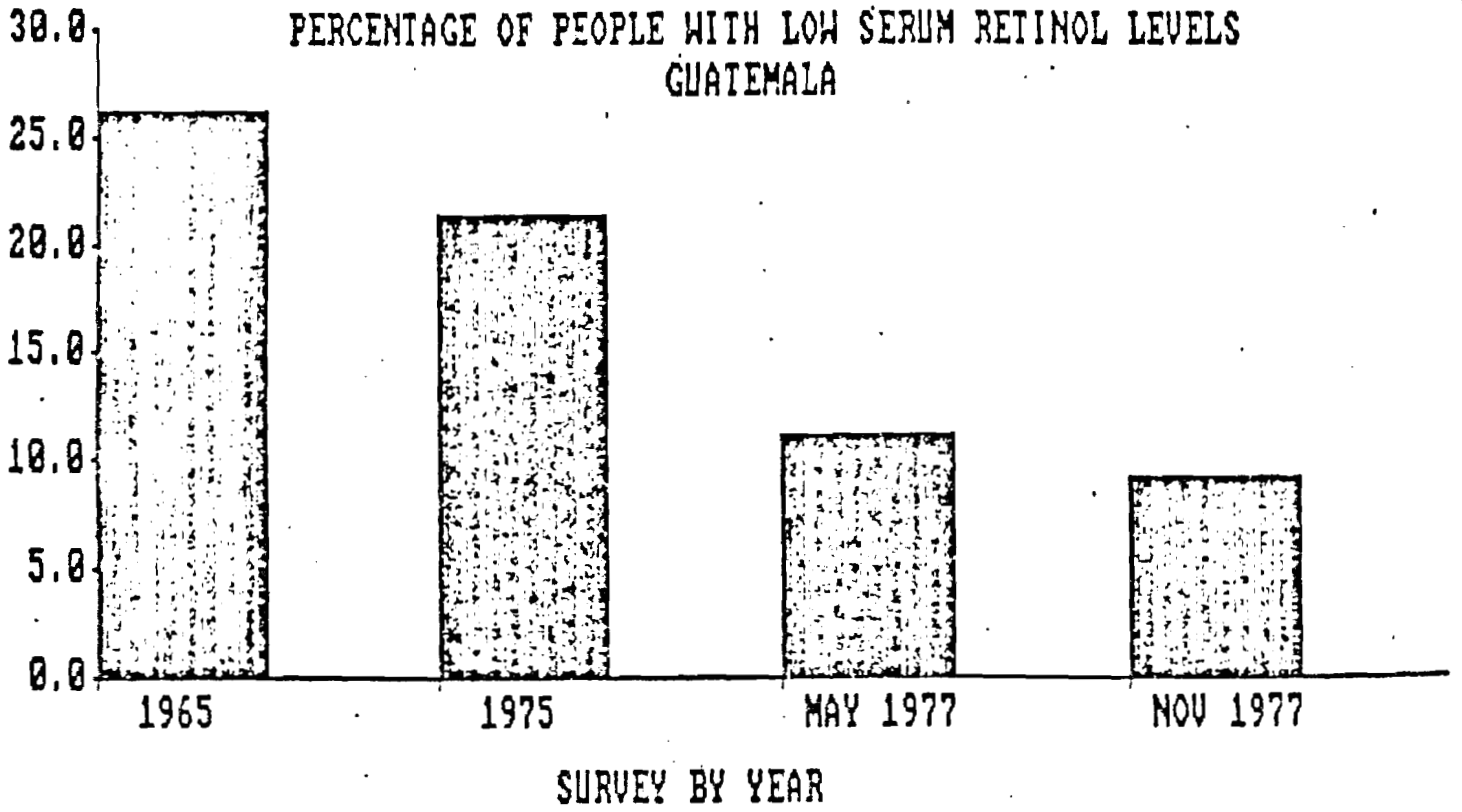
24/ Op. Cit. 16/.

25/ Ibid.

26/ PAHO: PAHO Report, Volume II, 1985.

27/ Op. Cit. 23/.

Figure 7.3.2


PERCENTAGE OF PEOPLE WITH LOW SERUM RETINOL LEVELS
GUATEMALA
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1965
1975
MAY 1977
NOV 1977
SURVEY BY YEAR

7.3.3.1 Anemia

An evaluation in 1965 found anemia prevalence rates of 30% to 40%, of which 90% were due to iron deficiency. 28/ No recent systematic compilation of data was identified by the assessment team concerning the current national situation with regard to anemia. However, the 1978 National Nutritional Survey did identify folate and iron deficiency anemia as serious public health problems.

7.3.3.2 Iodine Deficiency

A 38% prevalence of goiter was found in a survey conducted in 1954. 29/ In 1956 an iodine salt fortification program was started. A 5% prevalence of goiter was found in a second survey in 1965. Salt fortification went into decline during the 1970s, and an evaluation carried out in 1979 found a goiter prevalence of 11%. 30/ The Nutrition Department at the MOH estimates an increase of about 20% in goiter prevalence since the 1979 survey. 31/(Figure 7.3.3)

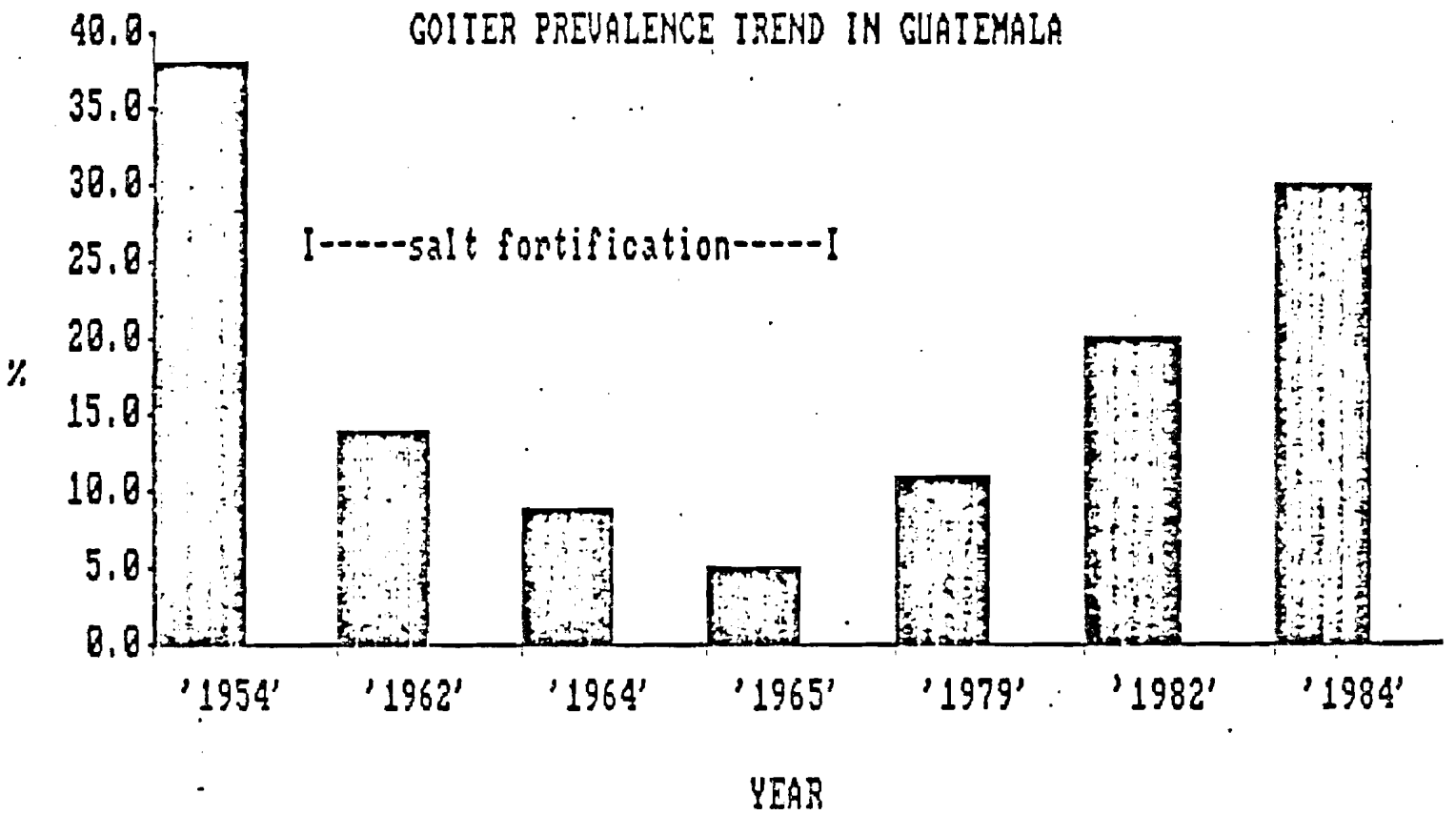
28/ Op. Cit. 20/.

29/ Mu os, J. Antonio; Perez, Carlos,; y Scrimshaw, Nevin S,: Distribucion Geografica del Bocio Endémico en Guatemala, Rev. Col. Med. Guatemala, 6:36-43, 1955.

30/ Quezada, Marco Antonio: Evaluacion del Impacto del Programa de la Yodizacion de la Sal en Guatemala, a través de una Encuesta de Prevalencia de Bocio Endémico en una Muestra de Escolares en la Republica de Guatemala. Monografra (Magister Scientificae), Guatemala, INCAP, 1979.

31/ Op. Cit. 1/.

Figure 7.3.3


GOITER PREVALENCE TREND IN GUATEMALA
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
%
I-----salt fortification-----I
'1954'
'1962'
'1964'
'1965'
'1979'
'1982'
'1984'
YEAR

7.3.3 Food Consumption

The most important etiologic factors for malnutrition are those related to food consumption: dietetic habits such as use of nutritious foods, and accessibility to such foods. These factors, in turn, are related to family income and poverty, nutritional education, and cultural patterns of food consumption and food production. 32/, 33/

During 1980, of the approximately seven million inhabitants in Guatemala, 32% lived in poverty, and their income was insufficient to cover their basic needs. About 40% of the population did not have sufficient income to cover the costs of the minimum food basket. 34/ In 1985, when the rate of inflation reached figures above 400%, the situation was considered alarming. In rural areas, 58% of total family income was allocated to food in 1966, vs. 66% in 1980. In urban areas, it was found that families allocated 33% of their total income to food in 1969 and 54% in 1980. 35/ Food consumption per person has decreased through the years. 36/ Family protein and energy intakes studied in national food consumption surveys in Guatemala from 1965 to 1976 showed that the mean intake per person was lower in the more recent survey. 37/ 38/

Proteins of animal origin are consumed regularly only by a small proportion of the population with the highest income. 39/ Other sources of protein, such as grains and some vegetables, are not always locally available, due to the lack of adequate agricultural technology and to poor food distribution. 40/ This is especially true in some rural areas of the country.

32/ Op. Cit. 1/.
33/ Op. Cit. 12/.
34/ The Crisis in Central America, its Origins, Scope and Consequences. Economic Commission for Central America. Doc. E/CEOAL/G, 1261, p 16.
35/ Secretarea General del Consejo Nacional de Planificacion Economica, Ministerio de Salud Publica y Asistencia Social, Ministerio de Educacion Publica, Ministerio de Agricultura y Alimentacion. Revision de los Avances en el Proceso de Planificacion Alimentario Nutricional. Presentado en el Seminario Aporte de los Censos de Talla de Escolares a los Sistemas de Vigilancia Alimentario Nutricional. Guatemala, 1984, (mimografiado).
36/ Op. Cit. 1/.
37/ Op. Cit. 14/.
38/ Op. Cit. 15/.
39/ Op. Cit. 12/.
40/ Ibid.

In the central urban area the energy intake is mainly obtained from corn, bread, and sugar, which accounts for about 55% of total energy intake. For the remaining urban areas in the country, corn, sugar, oils and greases supply 62% of such intake. In rural areas corn, sugar and beans supply 69% of the total energy. 41/

In reports on the patterns of food consumption in Guatemala, 42/, corn, coffee and oil occupy first place, with over 50% of families consuming such products regularly. In contrast, less than 35% of the families consume dairy products. Poultry, pork, or beef is consumed daily by less than 38% of families. Further information on consumption patterns can be obtained from the "Departamento de Alimentacion y Nutricion" (DAN), INCAP and the "Secretaria General de Planificacion Economica" (SEGEPLAN).

7.3.4 Nutritional Programs

National nutrition programs in Guatemala are conducted by and/or under the supervision of the MOH or other governmental institutions such as IGSS. 43/ These programs can be divided into six categories:

Feeding for selected groups;
Feeding for preschool and school children;
Feeding services in institutions;
Food fortification;
Nutrition education programs; and
Production and availability of food.

7.3.4.1 Feeding Programs for Selected Groups

Feeding programs for selected groups have been operating in the country for more than 40 years, and are usually funded in part by the MOH, Ministry of Education, and Ministry of Agriculture. 45/ Initially directed at high risk groups, such as children under five, and pregnant and lactating women, in 1970, these programs were included as a part of multifaceted development programs and as a part of aid for refugee camps. 46/

41/ Op. Cit. 35/.
42/ Op. Cit. 12/.
43/ Op. Cit. 1/.
45/ Op. Cit. 1/.
46/ Ibid.

There are 15 different programs under this rubrique. The "Comite de Reconstruccion Nacional" was designated in 1984 as the responsible agency for the coordination of all nutritional programs in Guatemala. At the moment, food supplies for these programs come from the "Programa Mundial de Alimentos" and AID-PL 480. 47/, 48/, 49/, 50/, 51/, 52/, 53/, 54/
In addition, the government has a nationally financed feeding program for schoolchildren. 55/ All these programs include over one million people, of which 68% are preschool children and pregnant and lactating women.

7.3.4.2 Feeding Regimen for Children

Feeding programs for preschool and school children are financed by the MOH, IGSS, and the "Secretaria de Bienestar Social de la Jefatura del Estado". 56/

47/ PMA-GUA/784, Resumen del Proyecto "Desarrollo Rural y Obras Sanitarias Mediante Auto-Ayuda". Octubre, 1975.

48/ PMA-GUA/2587, Resumen del Proyecto "Production of Basic Food Crops by Small Farmers". October, 1981.

49/ PMA-GUA/2547. Ministerio de Agricultura y Ganaderéa. Manual de Normas y Procedimientos del Proyecto "Desarrollo Agrécola en la Franja Transversal del Norte". Octubre, 1983.

50/ PMA-GUA/2581. Presidencia de la Republica, Direccion de Desarrollo de la Comunidad. Reglamento de la Unidad Ejecutora del Proyecto "Capacitacion Feminina para el Desarrollo Comunal (CAFEDESCO)". Abril, 1983.

51/ PMA-GUA/2705. Peticiçn de Asistencia al Programa Munidal de Alimentos para el Proyecto "Programa de Alimentaciçn Suplementaria para Grupos Materno Infantil Desplazados". 1983.

52/ AID-GUA. Memorandum. PL-480 Title II Program Plan, CARE and CRS in Guatemala. July, 1981.

53/ CARE. Contrato de Alimentos CARE-Gobierno de Guatemala. Agosto, 1977.

54/ Catholic Relief Services. Contrato entre el Gobierno de Guatemala y Catholic Relief Services - United States Catholic Conference. Marzo, 1968. Decreto No. 1770 del Congreso de la Republica, 22 de Julio, 1968.

55/ Congreso de la Republica. Decreto del Congreso No. 13-71 sobre "Refacciones Escolares". Febrero 1971.

56/ Op. Cit. 1/.

The MOH operates 13 nutritional rehabilitation centers for preschool children with second and third degree malnutrition or below 85% of their normal weight, with a capacity of 75 children per year. The budget to operate these centers exceeds six and a half million dollars per year. In addition to treating patients, these centers offer nutrition and health education to the mothers of the patients.

The IGSS distributes food to affiliated children below two years of age, and has been offering nutrition education to pregnant and lactating women. Children less than six months of age receive five pounds of milk every month and, if signs of malnutrition are found, ten pounds of INCAPARINA are provided additionally every month until the child reaches two years of age. 57/

The "Secretaria de Bienestar Social de la Jefatura del Estado" provides nutritional services to approximately 10,000 malnourished children in 45 centers located throughout the country, as well as surveillance for malnutrition, nutrition education, and provision of food to school children of low income families. According to INCAP, the costs for each child attended ranges from Q0.56 to Q1.61 per day. 58/ These programs have been expensive for Guatemala, and the results have been poor. In addition, during 1985 activities were reduced due to budget insufficiency. 59/

7.3.4.3 Feeding Regimens in Health Institutions

Feeding services in institutions are those offered to in-patients in hospitals, health centers and nursing homes for the elderly. All belong to the MOH. The budget for purchasing the food needed for these services is over four million dollars per year. Again, these services have been deficient for the last two years, due to budgetary cuts. 60/

57/ Op. Cit. 1/.

58/ Evaluacion de los Servicios de Alimentacion de los Centros y Hogares de las Direcciones de Bienestar Infantil y Familiar y de Asistencia Educativa Especial de la Secretaréa de Bienestar Social de la Presidencia de Guatemala. Instituto de Nutricion de Centro America y Panama. Guatemala, 1982. p 49-50 (Documento de Distribucion Limitada).

59/ Op. Cit. 1/

60/ Ibid.

7.3.4.4 Food Fortification Programs

Private sector food fortification programs carried out have been limited to iodine and Vitamin A fortification of salt and sugar, respectively. However, these activities were discontinued due to the impossibility of obtaining foreign currency for the importation of Retinol Palmitate and the equipment needed for quality control of nutrients added to these products. The approximate cost of iodine fortification per person per year is fourteen cents (U.S.). For 1985, the only fortified salt available was imported and constituted about 20% of all salt consumed in Guatemala. At the moment, PAHO/WHO-UNICEF plan to assist in overcoming the problems mentioned above and to re-start these programs. 61/

7.3.4.5 Nutrition Education Programs

The MOH is the Guatemalan institution primarily responsible for carrying out nutrition education programs in all its health facilities, mainly through the use of health promotors. Other governmental institutions, including the IGSS, contribute as well. However, there is a lack of sufficient educational material and specific budgets to carry out such activities. 62/

The only educational activity that is specifically funded and is somewhat organized at present is the "Campana de Lactancia Materna," which is coordinated by a multi-institutional commission, and focuses on the study, surveillance, and promotion of breast feeding. Its budget for 1985 was over 8.8 million dollars, with external financing from UNICEF (75%) and PAHO (10%). 63/

7.3.4.6 Programs for Food Productions

Programs for food production and availability are carried out by the Ministry of Agricultura, Ganaderia y Alimentacion, 64/, and can be summarized as follows:

a. Improvement of crops and development of appropriate technology for vegetable and fruit production.

b. Technical assistance for farmers to increase production, offered by the "Direccion General de Servicios Agrécolas" (DIGESA), and the "Direccion General de Servicios Pecuarios" (DIGESEPE).

61/ Plan de Necesidades Prioritarias de Salud de Centroamerica y Panama, Area: Mejoramiento de la Situacion Alimentaria y Nutricional. Organizacion Mundial para la Salud/Oficina Sanitaria Panamericana. 1984.

62/ Op. Cit. 1/.

63/ Lactancia Natural, Doc. presentado ante el Gabinete Social. Mimeografiado, Comision Nacional de Promocion de la Lactancia Materna. Guatemala, 1984 (Documento de Distribucion Limitada).

64/ Op. Cit. 1/.

c. Price regulation, distribution, and storage of food products, carried out by the "Instituto Nacional de Comercializacion Agrecola" (INDECA).

d. Credit facilities for crop production through the "Banco Nacional de Desarrollo Agrecola" (BANDESA).

e. Redistribution of land to small farmers throughout the country by the "Instituto Nacional de Transformacion Agraria" (INTA).

f. Control and surveillance of the quality of crops, plagues, and health of farm stock through vaccination programs conducted by DIGESA and DIGESEPE.

Further information on this matter can be found in the "Plan de Desarrollo 1984-86 para el Sector Agricola." 65/

The Ministry of Community Development, which formerly was part of the President's office, is developing activities to improve the nutritional status of the population. 66/ This Ministry offers technical assistance, including nutrition education to farmers, and promotes small community enterprises to improve the local economical situation in rural areas. The 1985 budget for these activities was $903,480 (U.S.).

7.3.5 External Cooperation

Economic and technical cooperation for programs in nutrition have been provided through several institutions as previously explained. However, such assistance has not been sufficient. 67/ At present, the MOH is applying for more assistance for its nutritional programs, which are prominently featured in the PAHO regional plan and in the Guatemalan government's own National Development Plan. 68/

65/ Plan Nacional de Desarrollo 84-86. Plan Sectorial componente: Alimentacion y Nutricion. Secretarea General del Consejo Nacional de Planificacion Economica. Guatemala, 1983.

66/ 3 Anos de Labor Intensiva de la Direccion de Desarrollo de la Comunidad de la Presidencia de la Republica. Direccion de Desarrollo de la Comunidad, Presidencia de la Reupblica. Guatemala, 1981.

67/ Op. Cit. 1/.

68/ Op. Cit. 61/.

7.3.6 Summary, Conclusions and Recommendations

7.3.6.1 Summary and Conclusions

Malnutrition is still an important cause of morbidity and mortality in Guatemala, although many efforts have been made over the last 40 years to cope with the nutritional needs of the population. However, many of these activities have been isolated, have lacked multisectoral participation, and have not made a real impact on the nutritional status of the population.

Concurrent diseases in groups at risk of malnutrition (i.e., children and pregnant women), are contributing factors and may cause nutritional programs to fail. Low family income, low educational levels, and cultural patterns of food consumption may be the most important constraint for nutrition and health in Guatemala.

Protein-calorie malnutrition is still the most important nutritional problem in Guatemala, especially among children and pregnant or lactating women. This problem appears to be worst in rural and periurban areas. Again, this type of malnutrition is associated with low income and low educational levels.

Very little is known about the health and nutritional status of the population in isolated rural areas, since limited availability of health services and underreporting are the rule in these areas. Different sources of data often show different information, and data are not always presented using the same classifications or indices. This makes it practically impossible to establish comparisons or to identify any trends of nutritional or health indicators over time. Improvement in the health information system is essential for an appropriate evaluation of the current situation.

Little is known about the nutritional situation of peri-urban areas, thus masking the true situation in such areas has been masked. Statistics need to be separated out to determine the health and nutritional status of populations living in such areas (cinturones de pobreza).

Specific nutritional problems such as Vitamin A, iodine, and iron and folate deficiencies are an increasing problem in Guatemala because it has not been possible to change the dietary patterns of the population. Programs to fortify food with the first three of these nutriients have been abandoned for financial reasons, even when they have proved successful. As a result, ocular damage, goiter, and anemia are increasing. Additional technical and financial support is urgently needed to overcome these problems.

Production, distribution and availability of nutritious food is poor. Several plans have been formulated and carried out, but, very little has been achieved because of budgetary limitations.

Specialized human resources are insufficient in the MOH to cope with the technical needs. Program evaluation is poor and is not a high priority. Thus, human resources development must be supported and coordinated with INCAP and other international institutions specialized in nutrition. External collaboration seems to be effective, but insufficient.

7.3.7. Recommendations

It is recommended that:

7.3.7.1. USAID review and use more fully existing data derived from surveys already carried out by INCAP and others before starting or supporting any new program in this area.

7.3.7.2. USAID continue supporting agricultural programs and farming enterprises, especially those related to locally consumed crops because of the relationship of nutrition to good health.

7.3.7.3. USAID support human resources development for the MOH in the field of nutrition and health in collaboration with INCAP, as well as in the field of agricultural engineering.

8.0 Communicable Disease Control

8.0.1 Diarrheal Diseases

Enteritis and other diarrheal diseases are the major cause of infant mortality in Guatemala (Chapter 7, Table 7.1.2) In 1983 the infant mortality rate due to diarrheal diseases was 1,460/100,000 live births, and the proportionate mortality ratio for these diseases was 22.8%. During that same year physician diagnosed cases of diarrhea for children under one year of age was 3,784/100,000. Therefore, the probability of dying among diagnosed cases of these diseases was 39%. Inadequacy of these figures can be seen, in the fact that in 1983 only 32% of deaths were medically certified; this percentage is lower among young children and infants.1/

Sufficient data to determine the major causes of diarrhea (bacterial, viral, or parasitic) and the associated environmental factors does not exist. Therefore, in the short run, preventing death and illness due to diarrhea through programs addressing the causes may not be practical and is certainly not cost efficient. As a result emphasis should be placed on the prevention of moderate and severe dehydration through the use of Oral Rehydration Therapy.

8.0.2 Constraints

In 1985, AID/Guatemala commissioned an analysis of the National ORT Program in Guatemala, and PAHO included a section in their broad review of health and economic development 2/. The observations made in the AID Analysis are particularly pertinent. The major constraints included (among others):

a) Lack of a national diarrheal disease control program.
b) Lack of standardized norms.
c) Inadequate training of health personnel.
d) Resistance of physicians and pharmacists.
e) Lack of an adequate system for data collection and monitoring effective use.
f) Other technical constraints.

1/ USAID "Technical Analysis, National ORT Program, Guatemala," Guatemala, December, 1985.

2/ PAHO: "Recopilacion y Ordenamiento de Informaciçn para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico," Guatemala," IV Tomos, 1985.

These major limitations in administration of ORT are not unlike the problems that are faced in other sections of the health care system. If these cannot be improved at the management level, there are certain to be inadequacies at the field level. This seems to have been the cause of the termination of ORT activities of the SCISW program in 1984.

There is an obvious need to coordinate anti-diarrheal measures in the country, but this cannot be done unless the peripheral units are strengthened both by training and higher administrative support. The general problems associated with the higher administrative support are discussed in Chapter 12: although Chapter 12 deals with the higher levels of administration, the results are reflected in all of the health sections (e.g. diarrheal diseases, EPI, malaria control, water and sanitation, etc.) where overlap and/or lack of coordination, and even competition, exist.

8.2 Diseases Prevented by Immunization

8.2.1 Overview and Status

Vaccine-preventable diseases discussed in this section are measles, pertussis (whooping cough), tetanus, poliomyelitis and diphtheria. Reports from 1983 indicate that these preventable diseases constituted the fourth cause of death for children less than five years of age, with a mortality rate of 250 per 100,000 children of that age. [1/], [2/] Guatemala showed the highest mortality rates in Latin America for almost all vaccine-preventable diseases reported in 1982. [3/] The mortality rates of measles and pertussis were over 28 times higher than those reported from other Latin American countries (Table 8.2.1).

Table 8.2.1.

MORTALITY DUE TO IMMUNOPREVENTABLE DISEASES DURING 1982 IN LATIN AMERICAN COUNTRIES
RATE/100,000

Country	Polio	Tetanus	Pertussis	Measles
Chile	0.0	-	0	0.1
Cuba	-	0.1	0	0.2
Guatemala	0.0	3.0	14.2	43.9
México	-	-	-	-
Nicaragua	0.5	5.5	0.5	1.3
Paraguay	0.5	5.5	0.5	1.3
Rep blica Dominicana	0.4	0.9	0.05	1.3
Uruguay	0.0	0.3	0.4	0.0
Venezuela	-	0.7	0.3	1.0

SOURCE: AID: Guatemala, Project Paper. Immunization/Child Survival. AID/LAC/P-267. 1985.

1/ PAHO Document, Vol 11,1985
2/ MOH, Memoria de Labores, 1983.
3/ AID: Guatemala. Project Paper. Immunization/Child Survival. AID/LAC/P-267. 1985

8.2.2 Measles

From 1975 to 1984 measles was reported as one of the ten major causes of mortality in the general population of Guatemala.[4/], [5/] Table 8.2.2 and Figure 8.2.1 illustrate the mortality trend of measles for this time period. An overall decrease in mortality can be seen from 1975 to 1984. However, the mortality rate increased incremently from 1980 to 1984. The figures for 1979 show a peak of unknown origin, which may represent an outbreak, or an artifact due to changes in reporting.

As expected, mortality in Guatemala associated with measles by age shows the highest rates in children under five years of age, especially in infants, with mortality rates as high as 22 per 1000 live births. In infants the mortality rate was 1.4 times higher in 1983, than in 1980 (Table 8.2.3).

Table 8.2.2

MEASLES-RELATED MORTALITY IN GUATEMALA 1975 - 1984

Year	Place	No. of Deaths	Rate per 100,000	PMR %
1975	5	5,319	82	6.1
1976	3	7,003	105	7.6
1977	6	4,644	67	5.8
1978	7	2,027	28	3.2
1979	4	4,890	66	6.9
1980	8	1,766	23	2.5
1981	8	2,214	30	3.1
1982	7	3,247	42	4.2
1983	6	2,340	30	3.1
1984	7	3,247	46	4.2

SOURCE: PAHO: PAHO Document. Volume II. 1985.
MOH: Memoria de Labores, 1984.

4/ Op. Cit 1/
5/ MOH: Memoria de Labores, 1984.

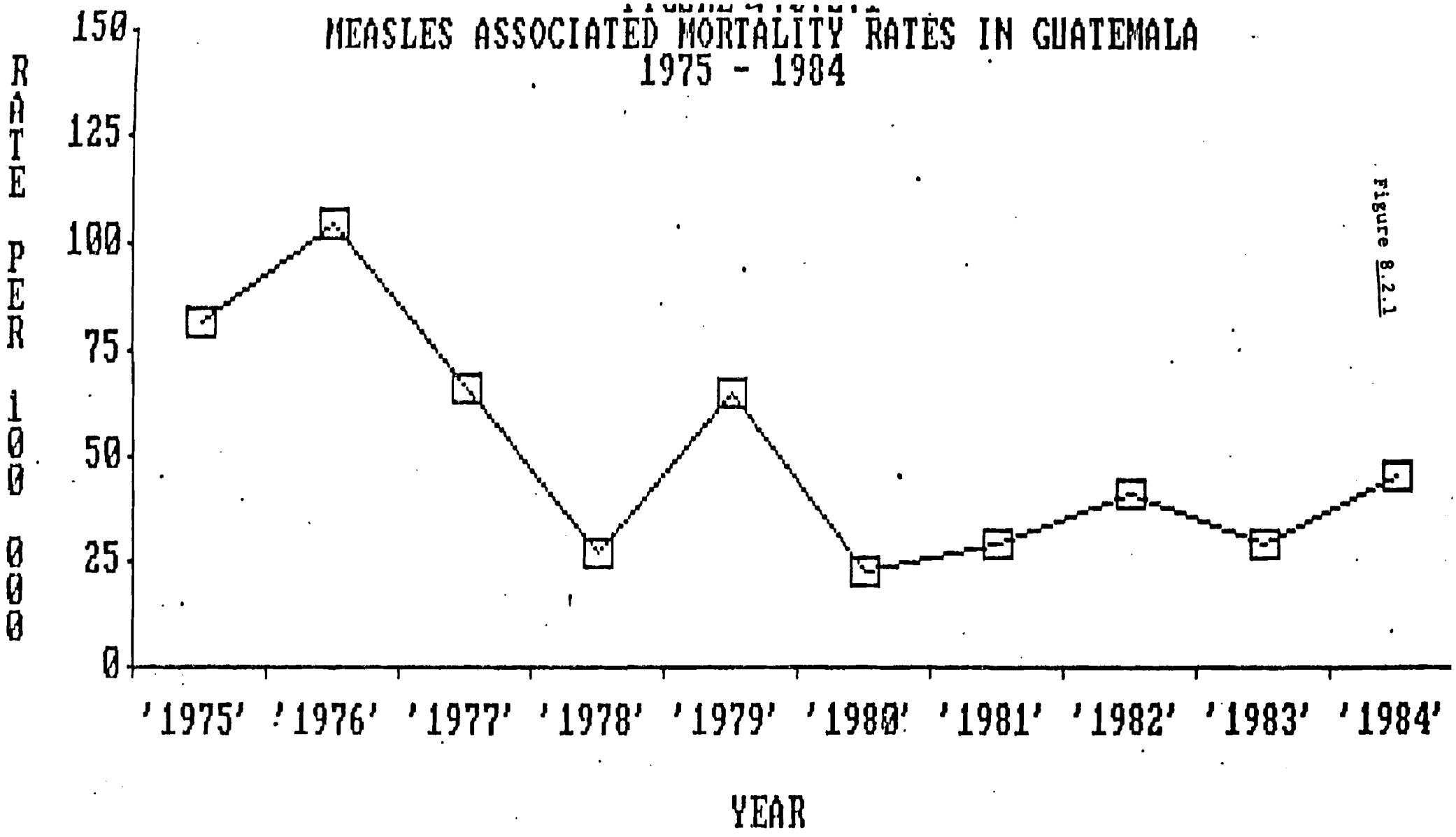

MEASLES ASSOCIATED MORTALITY RATES IN GUATEMALA
1975 - 1984
RATE PER 100 000
150
125
100
75
50
25
0
'1975'
'1976'
'1977'
'1978'
'1979'
'1980'
'1981'
'1982'
'1983'
'1984'
YEAR

Figure 8.2.1

Table 8.2.3

MEASLES-RELATED MORTALITY BY AGE GROUP
RATE PER 100,000 INHABITANTS BY AGE GROUP
GUATEMALA

	1980		1981		1982		1983	
Age	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 - 1 year	462	161	629	206	786	220	663	220
1 - 4	1,004	95	1,160	112	1,783	158	1,252	111
5 - 14	245	10	328	16	548	27	325	15
15 and +	55	1	97	2	130	3	100	2
TOTAL	1,766	23	2,214	30	3,247	42	2,340	30

NOTE: Rates are per 100,000

SOURCE: Unidad de Informatica. Direccion General de Servicios de Salud. PAHO: PAHO Document. Volume II.

Geographical distribution of mortality associated with measles for 1981 (Table 8.2.4) showed higher rates for the departments of Totonicapan (77.4), Huehuetenango (56.0), and San Marcos (50.4), when the rate for the country was 25 per 100,000 inhabitants. During 1985, measles associated mortality was considered among the ten major causes of death in the departments of Chimaltenango, Totonicapan, Quetzaltenango, El Quiché, El Petén, and Zacapa.[6/] However, measles was not found to be among the ten major causes of morbidity in any department of Guatemala during 1985. [7/]

As can be seen by the fact that the number of measles deaths recorded has been considerably larger than the number of cases (Tables 8.2.2 and 8.2.5), morbidity is under-reported for measles. This under-reporting is mainly due to more accurate registration of deaths compared with cases of disease. However, in spite of the inconsistency in reporting, a decline can be seen in the number of cases and rates that somewhat correlates with the mortality trend from 1975 to 1980 (Table 8.2.5). Measles as well as the other immuno-preventable diseases are considered compulsory reported diseases.

6/ MOH: Anuario Estadistico, 1985.
7/ Op. Cit. 9/.

Table 8.2.4

MEASLES AND PERTUSSIS MORTALITY BY DEPARTMENT AND POSITION
AMONG THE 20 MAJOR CAUSES OF DEATH
GUATEMALA -- 1981

	MEASLES			PERTUSSIS		
Departments	Deaths	Rate(*)	Position	Deaths	Rate(*)	Position
Guatemala	188	11.5	16	0	0.0	-
Chimaltenango	47	19.2	13	54	22.1	12
Escuintla	55	12.1	12	0	0.0	-
Zacapa	0	0.0	-	26	19.2	14
Progreso	0	0.0	-	0	0.0	-
Chiquimula	16	8.2	15	28	14.3	13
Izabal	35	13.6	13	24	9.3	18
Jutiapa	15	5.0	19	0	0.0	-
Jalapa	8	5.4	20	0	0.0	-
Santa Rosa	0	0.0	-	22	9.7	16
Suchitepequez	38	13.6	16	0	0.0	-
Retalhuleu	29	15.4	14	0	0.0	-
Quetzaltenango	147	36.1	9	105	25.8	12
Totonicapan	167	77.4	7	177	82.0	5
Solola	34	21.5	9	53	33.5	7
El Quiché	184	47.1	9	102	26.1	12
Huehuetenango	272	56.0	5	269	55.4	6
San Marcos	254	50.4	6	166	32.9	8
Alta Verapaz	173	49.9	8	249	71.9	4
Baja Verapaz	31	22.4	14	46	33.2	8
El Petén	56	62.7	6	37	41.4	8
TOTAL	1,749	25.0	-	1,358	19.4	-

(*) Rate per 100,000 inhabitants

SOURCE: Departamento de Bioestadistica, Direccion General de Servicios de Salud. PAHO: PAHO Document, Volume II.

Table 8.2.5

CASES OF IMMUNOPREVENTABLE DISEASES GUATEMALA -- 1971-1980

	MEASLES		PERTUSSIS		TETANUS		POLIO	
Year	Cases	Rate(*)	Cases	Rate(*)	Cases	Rate(*)	Cases	Rate(*)
1971	3,250	58.5	2,063	37.1	(-)	(-)	301	5.4
1972	1,474	25.2	2,210	37.8	(-)	(-)	135	2.3
1973	296	4.9	1,436	23.8	97	1.6	208	3.4
1974	926	14.8	1,870	29.9	87	1.4	30	0.5
1975	3,007	46.5	724	11.2	92	1.4	44	0.7
1976	3,791	56.8	915	13.7	65	0.9	27	0.4
1977	2,682	38.9	1,047	15.2	85	1.2	46	0.7
1978	2,178	30.2	1,099	15.2	64	0.9	37	0.5
1979	3,351	45.1	1,452	19.5	67	0.9	35	0.5
1980	2,703	35.2	1,513	19.7	60	0.8	76	1.0

(*) Rate per 100,000 inhabitants
(-) Information not available

SOURCE: Division de Epidemiologia, Direccion General de Servicios de Salud. PAHO: PAHO Document, Volume II, 1985.

8.2.3 Pertussis

Whooping cough, like measles, is also associated with high mortality rates. It has been one of the ten major causes of deaths for a number of years in Guatemala. From 1950 to 1954 and from 1960 to 1964 it was in the fourth place, during 1971 the seventh, and in 1980 it was the tenth cause of death.[8/] More important reductions on mortality have been achieved for pertussis than for measles.[9/] From 1971 to 1983 a reduction of the death rate associated with pertussis was observed (Table 8.2.6). Not surprisingly, pertussis-associated mortality has been over four times higher in children below five years of age than in any other age group. However, reductions of about 30% in mortality related to pertussis were seen from 1980 to 1983, except in the age group 5 to 14 years. (Table 8.2.7).

Important differences were found in geographical distribution. [10/] Pertussis was considered one of the ten major causes of death for 1981 in the departments of Totonicapan, Huehuetenango, Alta Verapaz, Solola, Baja Verpaz and El Petén, with mortality rates ranging from 33.2 to 82.0 per 100,000 (Table 8.2.4). During 1985, mortality associated with pertussis was included as one of the ten causes of death in the departments of Totonicapan, Quetzaltenango, and Baja Verapaz. [11/] In 1985, however, pertussis was among the ten major causes of morbidity only in the department of Alta Verapaz. [12/]

As with measles, underreporting for pertussis cases exists, as deaths are also more numerous than the number of cases (Tables 8.2.5 and 8.2.6). However, there is an overall reduction in morbidity from 1971 to 1980 (27% reduction) that corresponds with the reduction in mortality.[13/]

8/ Op. Cit. 1/.
9/ Ibid.
10/ Ibid.
11/ Ibid.
12/ Op. Cit. 9/.
13/ Ibid.

Table 8.2.6

MORTALITY ASSOCIATED WITH PERTUSSIS
GUATEMALA 1971 - 1983

Year	Deaths	Rate per 100,000
1971	2,975	53.6
1972	2,867	49.1
1973	1,299	21.5
1974	2,120	33.9
1975	1,346	20.8
1976	1,321	19.8
1977	1,291	18.7
1978	1,271	17.6
1979	1,412	19.0
1980	1,517	19.7
1981	1,358	19.4
1982	1,054	14.2
1983	1,085	13.7

SOURCE: PAHO: PAHO Document. Volume II, 1985.

Table 8.2.7

PERTUSSIS-ASSOCIATED DEATHS AND MORTALITY RATES PER 100,000 BY AGE
GUATEMALA -- 1980-1983

	1980		1981		1983	
Age	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 - 1 year	718	250	514	168	532	181
1 - 4	671	59	443	43	436	39
5 - 14	81	3.3	80	3.9	84	3
15 and +	47	1.2	321	8.0	33	0.8
TOTAL	1,517	19.0	1,358	18.0	1,085	13.7

SOURCE: Unidad de Informatica, Direccion General de Servicios de Salud.
PAHO: PAHO Document. Volume II, 1985.

8.2.4 Tetanus

Tetanus in the newborn (neonatal tetanus) is the most frequent form of the disease in the country. This is due to poor hygienic conditions during child delivery, as more than half of child births are assisted by unskilled midwives (see Maternal and Child Health section). The number of deaths being reported are low in comparison with those due to other immuno-preventable diseases. Therefore, tetanus has not been among the ten major causes of mortality for the total population or for any age group. 14/ However, in 1982, Guatemala had the second highest mortality rate due to tetanus (3.0 per 100,000) in comparison with other Latin American countries, preceded only by Paraguay (5.5 per 100,000) (Table 8.2.1).

An important reduction (71.8%) in mortality rates due to tetanus was observed from 1971 to 1980. However, mortality tripled, from 1.1 in 1980 to 3.3 per 100,000 in 1983 (Table 8.2.8). This increment was particulaly important for infants, with a mortality rate of 50.5 per 100,000 observed for 1983, representing a mortality rate 18 times higher than in 1980 (2.8 per 100,000) (Table 8.2.9). A potential explanation for the differences from 1980 to 1983 for these and any other diseases in Guatemala is the change in the reporting system instituted in 1982 (see Chapter 15).

In addition, 133 neonatal deaths in 1983 represented 89.8% of the total infant deaths (148) due to tetanus. 15/ These figures illustrate the impact of the poor child birth conditions that are common in Guatemala, as well as the low level of immunization coverage for pregnant women with tetanus toxoid.

Again, tetanus cases are grossly underreported as can be seen when comparing the number of reported deaths to cases (i.e., in excess of 100%). Therefore, the only reliable figures are deaths.

14/ Op. Cit. 1/.
15/ Op. Cit. 1/.

Table 8.2.8

MORTALITY DUE TO TETANUS
GUATEMALA -- 1971-1983

Years	Deaths	Rate per 100,000
1971	215	3.9
1972	235	4.0
1973	214	3.5
1974	176	2.8
1975	187	2.9
1976	184	2.7
1977	179	2.6
1978	164	2.3
1979	66	0.9
1980	87	1.1
1982	-	3.0
1983	266	3.3

SOURCE: PAHO: PAHO Document, Volume II, 1985
AID: Guatemala. Project Paper, Immunization/Child Survival. AID/LAC/P-267. 1985.

Table 8.2.9

TETANUS MORTALITY BY AGE
GUATEMALA -- 1980 AND 1983

	1980		1983	
Age	Deaths	Rate(*)	Deaths	Rate(*)
0 - 1 year	8	2.8	148	50.5
1 - 4	10	0.9	16	1.4
5 - 14	7	0.3	15	0.7
15 and +	62	1.6	87	1.9
TOTAL	87	1.1	266	3.3

SOURCE: PAHO: PAHO Document

8.2.5 Poliomyelitis

Poliomyelitis is not usually a major contributing cause of mortality. In Guatemala low mortality rates for poliomyelitis have been registered for the last 15 years. An 85.7% reduction in mortality rates from this cause was found between 1971 to 1977. However, mortality seemed to increase slightly from 1978 to 1983, with the exception of 1982 when no deaths due to poliomyelitis were reported (Table 8.2.10).

Mortality due to poliomyelitis is more frequently found in children under five years of age. During 1983, 73% of the deaths related to poliomyelitis were found in that age group, especially in children from 1 to 4 years of age. However, in 1971 and 1980 higher mortality was found in infants (Table 8.2.11). Important reductions were observed from 1971 to 1983 for infants (89%) and for children 1 to 4 years of age (52%). 16/

Table 8.2.10

POLIOMYELITIS ASSOCIATED MORTALITY
GUATEMALA -- 1971 - 1983

Year	Deaths	Rate per 100,000
1971	78	1.4
1972	58	1.0
1973	49	0.8
1974	42	0.7
1975	10	0.1
1976	14	0.2
1977	13	0.2
1978	36	0.5
1979	23	0.3
1980	37	0.5
1981	31	0.4
1982	0	0
1983	41	0.5

SOURCE: PAHO: PAHO Document, Volume II, 1985.

16/ Op. Cit. 1/.

The main health problem associated with poliomyelitis is the sequelae of the paralytic form. Of all cases infected with the poliovirus, only 5% progress to the stage that can produce temporal and/or permanent handicap, and 5% developed mild symptomas not leading to paralysis. 17/ Death is rare and is due to complications such as severe neurological damage, which in turn may produce paralysis of vital muscles. Therefore, information about morbidity for poliomyelitis only represents 5% to 10% of all infected children (if registration is acceptable).

From 1971 through 1980, the number of reported cases of polio declined (63.5%). However, during 1980 and 1982 epidemic outbreaks in some regions of the country increased the number of cases during these years.18/ In 1985, 35 cases were reported.19/ This last figure is similar to those reported from 1974 to 1979 (Table 8.2.5).

Table 8.2.11

MORTALITY ASSOCIATED WITH POLIOMYELITIS BY AGE
GUATEMALA -- 1971, 1980 and 1983

	1971		1980		1983	
Age	Deaths	Rate(*)	Deaths	Rate(*)	Deaths	Rate(*)
0 - 1 year	19	9.2	11	3.9	3	1.0
1 - 4	40	5.2	14	1.3	30	2.7
5 - 14	-	-	9	0.4	4	0.2
15 and +	-	-	3	0.1	4	0.1
TOTAL	78	1.4	37	0.5	41	0.5

(*) Rate per 100,000

SOURCE: PAHO: PAHO Volume II, 1985

17/ Ibid.
18/ Ibid.
19/ Op. Cit. 9/.

Table 8.2.12 shows the percentage distribution of the types of paralysis in patients seen at the poliomelitis clinic of the "Instituto de Rehabilitacion" from 1974 to 1982. 20/ Of 562 patients, 85.1% were monoplegic and paraplegic. Legs were the most frequently affected parts of the body. Children less than three years of age represented 89.6%, and children less than two years represented 74.1% of all cases. Distribution by sex showed a slight difference between males (52.4%) and females (47.6%). 21/ The patients came from all departments of the country except from Totonicapan. Forty-seven percent of the patients were living in urban areas (mainly Guatemala City) and 53.2% in rural areas. 22/

Table 8.2.12

PERCENTAGE DISTRIBUTION OF 562 PATIENTS OF THE POLIOMYELITIS CLINIC BY TYPE OF PARALYSIS/

"INSTITUTO DE REHABILITACION"
GUATEMALA 1974 - 1982

Type of Paralysis	Percentage
Monoplegic	47.4
Hemiplegic	1.1
Paraplegic	37.7
Triplegic	4.8
Tetraplegic	6.6
Other	2.3

SOURCE: PAHO: PAHO Document Volume II, 1985.

During 1985, 35 cases of poliomyelitis were reported. 23/ All 35 patients were less than 14 years of age; 30 of them were less than five years old (85.7%). Only one nonparalytic case was reported (Table 8.2.13).

20/ Op. Cit 1/.
21/ Ibid.
22/ Op. Cit. 1/.
23/ Op. Cit. 9/.

Table 8.2.13

DISTRIBUTION OF CASES OF POLIOMYELITIS BY AGE AND TYPE
GUATEMALA -- 1985

Age Group	Total	Number of Cases		
		Paralytic	Non-Paralytic	Unknown
- 1	3	1	0	2
1 - 4	27	6	1	20
5 - 14	5	1	0	4
TOTAL	35	8	1	26

SOURCE: PAHO: PAHO Document, Volume II, 1985.

8.2.6 Diphtheria

Mortality rates for diptheria have been low in Guatemala. For a number of years no deaths due to diphtheria have been reported. In 1971, and 1983, the number of deaths reported represented a mortality rate of 0.4 and 0.1 per 100,000, respectively. 24/ Children below five years of age are the most often affected, especially those below one year of age (Table 8.2.14). During 1985, eight cases of diphtheria were reported, six of them in children less than five years of age. 25/

24/ Op. Cit. 1/.
25/ Op. Cit. 9/.

Table 8.2.14

DIPHTHERIA MORTALITY BY AGE GROUP
RATE PER 100,000

GUATEMALA -- 1971, 1980 and 1983

Age	1971		1980		1983	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 - 1 year	5	2.4	0	0	4	1.4
1- 4	10	1.3	0	0	3	0.3
5 - 14	7	-	0	0	3	0.1
TOTAL	22	0.4	0	0	10	0.1

8.2.7 Levels of Immunization

In 1972 annual national immunization campaigns were started, and later, in 1978, the activities of the "Programa Ampliado de Immunizaciones" (PAI) were begun. To date, sufficient coverage has not been achieved. 26/

A survey was conducted by APROFAM and CDC in 1983 to assess, among other endpoints, the immunization coverage of children less than 5 years of age. 27/

The 19883 survey results 28/ show that complete immunization coverage ranged from 33% to 53% for poliomyelitis, DPT and measles. The lowest percentages of immunization were found in children less than two years of age for DPT and poliomyelitis, and in children less than one year of age for measles (Table 8.2.15). Indigenous children were the least likely to have received complete primary immunization. The immunization levels of Ladino children living in Guatemala City were higher than those of Indigenous children or Ladino children living in the interior, except for the levels of immunization against measles of Ladino children living in the interior (Table 8.2.16). The highest percentage of measles

26/ Op. Cit. 1/.
26/ APROFAM/CDC: Guatemala Family Planning and Maternal and Child Health Survey. 1983.
27/ Ibid.

Table 8.2.15

PERCENTAGE OF CHILDREN LESS THAN 5 YEARS OF AGE WITH REPORTED COMPLETE POLIO, DPT, AND MEASLES IMMUNIZATION, BY AGE OF CHILD GUATEMALA -- 1983

Immunization	Total	Age of Child <1	1	2	3	4
Polio	33.4	5.3	28.0	43.2	48.3	43.5
DPT	33.0	5.5	28.3	42.8	46.7	42.9
Measles	53.0	11.3	54.4	66.0	69.0	65.7
No. of children (unweighted)	(4,185)	(837)	(846)	(784)	(843)	(87.5)

SOURCE: APROFAM/CDC: Guatemala Family Planning and Maternal and Child Health Survey. 1983.

immunization in all age groups was found in Ladino children living outside the city of Guatemala. This suggests that, at least for measles, mass immunization campaigns in the interior were more effective in immunizing children than were campaigns and routine services were in the Department of Guatemala. 28/

8.2.8 Summary, Conclusions and Recommendations

Immuno-preventable diseases are a major public health problem in Guatemala. Throughout the 1970s, several of these diseases rated as one of the 10 major causes of death. In 1982, Guatemala had the highest mortality rates for measles, pertussis and tetanus, in Latin America. They remain a major cause of death only in some departments due to a significant reduction in morbidity in the last years. This is most probably due to the national immunization campaigns and activites of the PAI. However, coverage has been poor and mortality rates in Guatemala may still be among the highest not only in the Central American region but in Latin America. This may be due to the lack of medical services, problems of compliance, and an insufficient cold chain for proper availability of immunization products at all times outside the urban areas of the country. Therefore, financial and technical support should be studied in order to improve distribution and availability of such products in collaboration with APROFAM or other private organizations.

28/ Op. Cit. 34/.

Table 8.2.16

PERCENTAGE OF CHILDREN LESS THAN 5 YEARS OF AGE RECEIVING MEASLES, POLIO, AND DPT IMMUNIZATION, BY RESIDENCE/ETHNIC GROUP, AND AGE (PERCENT DISTRIBUTION)
GUATEMALA -- 1983

	Measles Percentage with complete Immunization*	Poliomyelitis Percentage with Complete Immunization	DPT Percentage with Complete Immunization
Total	53.0	33.4	33.0
< 1	11.3	5.3	5.5
1	54.4	27.9	28.3
2-4	66.9	45.0	44.1
Dept. of Guatemala	48.8	43.6	43.0
< 1	8.9	14.0	14.3
1	47.4	48.3	48.6
2-4	62.5	51.7	50.6
Interior, Ladino	60.4	38.3	37.8
< 1	11.3	3.0	3.6
1	62.2	27.4	27.7
2-4	76.5	53.9	27.7
Interior, Indigenous	45.8	19.2	18.9
< 1	13.0	2.4	2.1
1	49.0	13.8	14.1
2-4	56.6	27.3	26.8

* Three or more doses.

SOURCE: APROFAM/CDC: Guatemala Family Planning and Maternal and Child Health Survey. 1983.

Geographically, the highest mortality appears to be in the rural areas and amongst the predominantly Indian groups. This corresponds to vaccination surveys that indicate coverage for these 5 diseases also is amongst the indigenous population living in rural areas.

In 1983, mortality rates for measles, pertussis and tetanus were highest in children less than 1 year of age. However, during that same year, immunization coverage for these three diseases was lowest amongst children in this age group.

While no figures were given for complete tetanus toxoid amongst pregnant women and women of child-bearing age, it would appear from the high neonatal tetanus mortality rates that coverage in this group is also quite low.

Ample technical and financial support should be provided to carry out national campaigns properly. sufficient personnel, vehicles, materials, and equipment must be available before implementing any campaign. Short-term expert consultants and a sufficient number of well-paid skilled technicians must be included in the planning and developing of such campaigns until the MOH attains essential logistics and technical skills to increase the coverage to achieve herd immunity. Collaboration with PAHO/WHO, together with various local and private organizations must continue for these activities. Voluntary collaboration should be promoted for medical and paramedical students in order to help the personnel in charge of the work. For inaccesible or restricted rural areas additional collaboration with the National Army to carry out immunization activities must be explored. Publicity by using national and local mass media in all languages and dialects should be encouraged, not only during national campaigns but at all times.

If campaigns, PAI, or any other special actions that decrease morbidity and morality due to these diseases are to have any effect, they must be targeted toward the at-risk population would appear to be children under 12 months of age living in rural area.

Only 35% of all children surveyed in 1983, had vaccination cards. The survy results showed that children with certificates were from 1.6 to 22 times more likely to have completed that vaccination services than those without.

Measles is the number one killer of the immuno-preventable diseases, and immunization levels to protect against this disease are the lowest in the country.

8.2.9.5 USAID encourage publicity in the media, utilizing the major linguistic groups in Guatemala, and regarding the importance of immunizations.

8.2.9.6 USAID explore the costs and feasibility of incentives directed at both providers and users of health services, especially during immunization campaigns. Incentives could take the form of immunization certificates for mothers, balloons for children, and special uniforms for providers.

8.2.9.7 USAID make available an adequate supply of vaccines and other immunization products where and when they are needed. In Guatemala this may require the provision of certain major commodities, such as vehicles and other components of the cold chain.

8.3. Respiratory Diseases

8.3.1 Acute Respiratory Infections

These diseases represent one of the most serious health problems in Guatemala. These and the diarrheal diseases generally rank as the two leading causes of mortality in the country. In 1983 the mortality rate due to respiratory illness was 165.3/100,000 and 17.2% of the general mortality. Of these illnesses, the two most common causes of death are influenza and pneumonia, jointly causing 83.9% of the deaths associated with the respiratory tract, and 14.5% of the total deaths in 1983 (Table 8.3.1).

Table 8.3.1

Mortality Rate for Respiratory Diseases, 1983

Disease	Deaths	%	Rate for 100,000
Upper Respiratory Diseases	294	2.3	3.7
Pneumonia	9,634	73.5	121.5
Influenza	1,404	10.7	17.7
Chronic and non-specific Bronchitis, emphysema and asthma	1,225	9.4	15.5
TOTAL	13,000	100.1	165.3

Source: Unidad de Informatica, IGSS.

It is surprising that prevention of death due to respiratory illness in children does not receive, along with diarrhea and vaccine-preventable diseases, a greater role in AID's strategy on child survival. In 1983, 22.1% of all deaths among children less than 1 year of age and 18.1% of those between 1-4 years, were attributable to respiratory illnesses (Table 8.3.2.). Of all reported deaths associated with infections of the respiratory tract (11,038 in 1983), 62% occurred in children less than 5 years of age. Considering that only 32% of deaths are medically certified by cause 1/, one has to assume that there is considerable underreporting, perhaps greatest among the young in general and those in the rural areas in particular. Underreporting coupled with the lack of statistics for geographic and ecological conditions associated with case distribution prohibit a true understanding of the full impact of respiratory infections.

For those who have access to medical services, children less than 5 years of age comprise 37.2% of the consultations for respiratory diseases, 14.8% being less than one year. By each year of age, the greatest number of consultations are required for children less than one, followed by the 1 - 4 age group (Table 8.3.2.): Together these two groups also show the greatest mortality of those treated.(Table 8.3.3)

Table 8.3.2.

Morbidity for Respiratory Diseases by Age Groups, 1983

Age	% of Consultations for Respiratory Diseases
< 1	14.8
1-4	22.4
5-14	21.7
15-44	24.3
45-64	10.2
65 or older	4.8
Unknown	1.8
TOTAL	100.00

Source: Unidad de Inform§tica, IGSS.

1/ USAID: "Technical Analysis, National ORT Program, Guatemala," Guatemala, December, 1985.

Table 8.3.3

Influenza and Pneumonia Mortality by Age Groups, 1983

Age	Deaths	%(1)	Rate for 100,000	%(2)
< 1 year	4,203	38.1	1,434.8	22.1
1-4	2,664	24.1	236.8	18.1
5-14	678	6.1	32.0	14.7
15-44	968	8.8	28.9	8.8
45-64	853	7.7	103.9	9.5
65 and older	1,644	14.9	746.1	12.1
Unknown	28	0.3	-	11.6
Total	11,038	100.0	139.3	14.5

(1) Mortality for Influenza and Pheumonia
(2) General Mortality

Source: Unidad de Informtica.

Because of the paucity of microbiological laboratory facilities, the etiology of respiratory tract infections is poorly known, but it is estimated (PAHO) that 95% may be due to viral agents.

It is difficult to make general recommendations concerning the control of respiratory illness and their consequences except to identify the great need for diagnosis and symptomatic treatment during the early stages. When a bacterial origin can be identified, antibiotics are required.

Since Acute Respiratory Infections are so common amongst the poor, both urban and rural, the only population-based remedy (without broad socio-economic improvement) is that of implementing the WHO prescribed case management approach within the context of the PHC system. The magnitude of this problem and the relative success of the case management approach in other countries should provide an incentive to USAID to increase its efforts in this area.

8.3.2 Tuberculosis

For the past 12 years tuberculosis has not been listed among the ten major causes of mortality in the country. In 1983, 951 deaths were recorded, having a fatality rate of 12.1/100,000 inhabitants and 1.2% of the total mortality.

The distribution of mortality by age is presented in Table 8.3.2.1, and the age-specific case rate in Table 8.3.2.2. It is notable that in the population group 20-39 years of age, women are most often affected, whereas above 80 years of age women are less likely to be affected. This group (20 -39 years of age) corresponds to the childbearing period. The areas of indigeneous populations show lower rates of infection, but this may reflect of lack of diagnostic services.

TABLE 8.3.2.1

Distribution of Mortality from Tuberculosis by Age

Age	Deaths	% 1/	Rate for 100 100.000 inh.	% 2/
<1	17	1.8	0.2	0.1
1-4	33	3.5	2.9	0.2
5-14	55	5.8	2.6	0.8
15-44	349	36.7	10.4	3.2
45-64	284	29.8	34.6	3.2
65 and older	213	22.4	96.7	1.6
TOTAL	951	100.0	12.0	1.2

1/ - Total deaths by TBC.
2/ - Total age group deaths.

Source: Tuberculosis Division Bulletin.

TABLE 8.3.2.2

National Program for Control of Tuberculosis Infection by Years and Age Indices

Ages	4	5-9	10-14	15-24	25 & over	Total
1978	683	694	3,073	10,122	7,470	22,042
%	3.1	3.1	13.9	45.9	33.9	29.4
1979	120	184	3,949	7,760	7,248	19,261
%	0.6	0.9	20.5	40.3	37.6	27.9
1980	125	161	1,873	4,203	5,226	11,588
%	1.2	1.4	16.2	36.3	45.1	25.7
1981	176	178	2,944	7,178	6,893	17,324
%	1.0	1.0	17.0	41.4	39.8	27.0
1982	141	197	2,537	5,505	6,621	15,201
%	0.9	1.3	16.7	36.2	43.6	28.5

Source: Tuberculosis Division Bulletin.

The responsible agency is the National Program for Control of Tuberculosis and Acute Respiratory Illnesses of the MOH. The campaign against tuberculosis began in 1955 as a vertical program but was transformed after 7 years to a horizontal program coordinating all activities within the MDH and elsewhere. The total number of health centers, posts, and hospitals integrated into the system was 856 in 1985 (Table 8.5.2.3).

As of the 1985 review by PAHO, no studies had been carried out to identify the five epidemiological characteristics of TB in the country, such as sex, age, geographic distribution, ethnic groups, socio-economic conditions, family group contacts, association with malnutrition, etc. These are clearly needed for planning further control work, as the observed attack rate in the general population has decreased.

TABLE 8.3.2.3

Total Number of Hospitals and Health Posts in the Country Integrated into the National Program for Control of Tuberculosis, 1984

Institutions	Integrated	%	Non-Integrated	%	Total
Hospitals	27	77.1	8	22.8	35
Health Centers	205	95.3	10	4.6	215
Health Posts	624	95.7	28	4.3	652
Total	856	94.9	46	6.1	902

Source: Tuberculosis Division Bulletin.

Antituberculosis vaccination with BCG falls into four (4) subprograms:

a) Vaccination of the newborn
b) Vaccination in specialized centers.
c) As part of the National Immunization Plan
d) Expanded Program for Immunization

In 1984, 291,666 persons were vaccinated (the proportions by each of the subprograms in not given), as compared to 237,259 in 1983. In 1984 the National Immunization Plan vaccinated 139,305 children entering school and 11,254 infants less than one year old. That same year,the Expanded Program on Immunization vaccinated 110,705 children less than one year of age, but the figures were not integrated into the national statistical total (PAHO, 1985).

The major limitations to the tuberculosis program appear to be: lack of active case detection and association of environmental or related factor to the distribution and intensity of tuberculosis in the country; and lack of coordination between the various agencies and programs providing BCG vaccination to children. Administrative assistance in coordination of the immunization program(s) should provide greater effective results.

8.4 Sexually Transmitted Diseases

Available statistics would indicate that the prevalence rates for syphilis and gonorrhea in Guatemala are the lowest in the hemisphere (Table 8.4.1). Within Guatemala the rate in the indigenous population is considerably lower than in the general population. Nevertheless, Guatemala has not escaped the upsurge of sexually transmitted diseases seen throughout the world, because of increased tourism, increased sexual activity among the youth, availability of oral contraceptives, and migration into the cities. It has been suggested 1/ that the underreporting may be significant.

Table 8.4.1

Incidence of Gonorrhea and Syphilis
1977-1980 American Continent

AREAS	INFECTIONS Gonorrhea 1977	1978	1979	1980	Syphilis 1977	1978	1979	1980
Guatemala	39.9	41.9	44.2	27.5	14.6	18.1	3.6	20.5
North America	433.6	432.6	424.8	421.8	27.8	27.6	28.2	28.6
Meso América	87.9	75.4	86.5	60.8	48.0	42.6	39.9	34.2
The Caribbean	176.0	137.9	154.2	137.3	101.4	87.2	92.7	91.0
The Continent	61.8	55.6	67.2	39.5	32.3	28.5	24.8	18.8
South America	118.0	108.1	76.6	93.4	68.6	65.5	44.8	42.9
Tropical	149.4	131.9	83.9	89.5	78.9	67.5	39.0	40.8
Tempered	69.8	71.4	66.8	112.3	52.8	68.3	52.5	45.9

Source: PAHO: "Guatemala: Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico", Tomo III de IV, 1985

The MOH is following PAHO guidelines in its program, including factors associated with newer sexual concepts, pre-and extra-marital relations, behavior and knowledge related to venereal diseases; and is developing a sex-education program.

1/ Valdez, R.M.: "Informacion Basica Sobre las Enfermedades Transmisibles," 1983.

It is recommended that:

8.4.1 AID assist in the control of sexually transmitted diseases in Guatemala through: 1.) support of studies of factors associated with newer sexual concepts, pre- and extra-martial relations, behavior and knowledge related to venereal diseases; and 2.) development of programs in sex education for school age children and adults.

8.5 Malaria

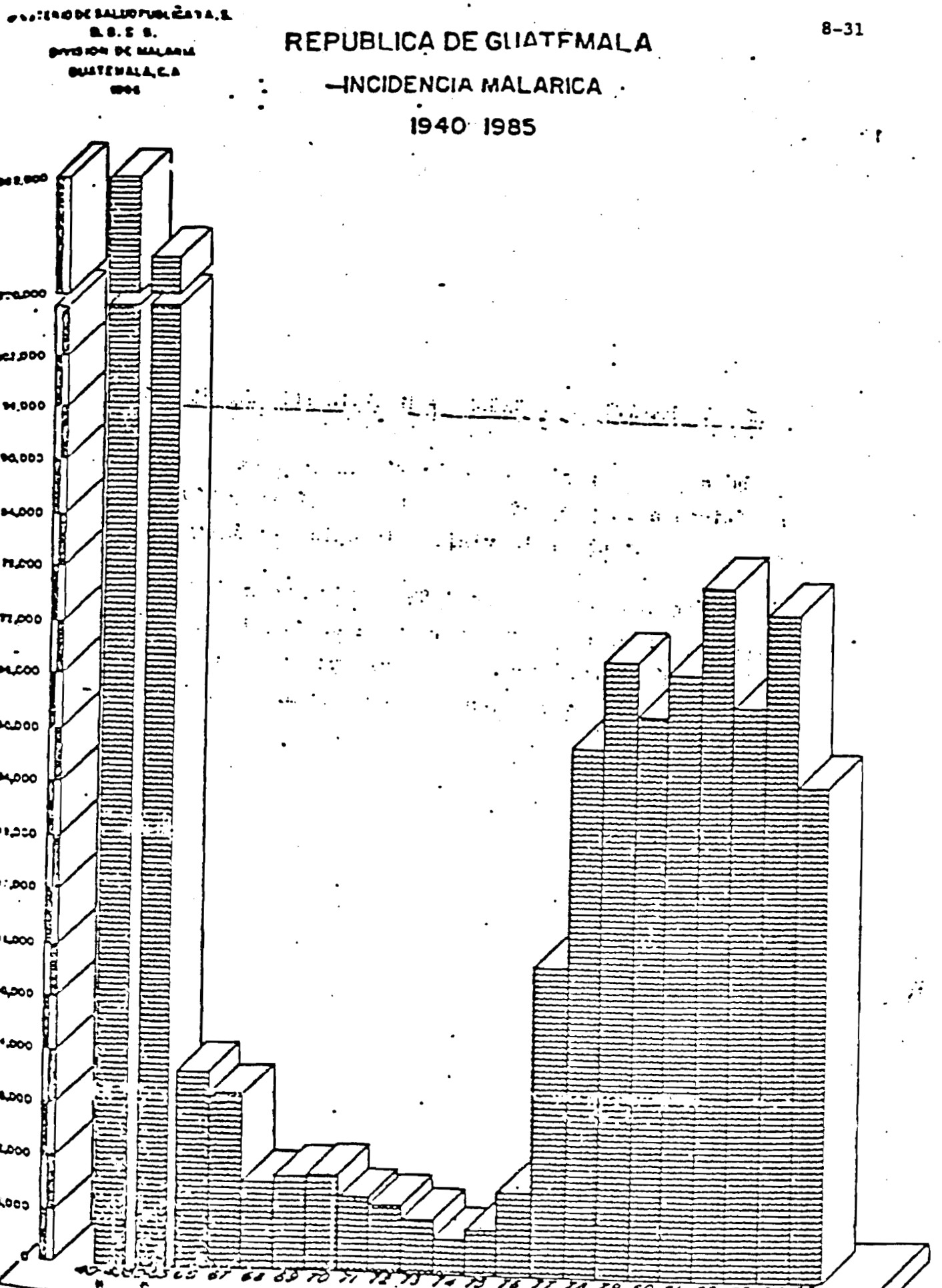
During the 1940's and 1950's there were approximately 300,000 cases of malaria per year in Guatemala (1977 Guatemala Health Sector Assessment). With an intensified control program the number of cases diminished, so that from 1971 through 1976 the number of confirmed cases/year averaged fewer than 7000, with a low of 4030 cases in 1974. A dramatic increase followed, with 69,000 cases reported in 1979, and over 77,000 confirmed cases in 1982 (Figure 8.5.1).

Malaria continues to be the most common transmissible disease reported in Guatemala.[1/]. In 1983 the 63,024 cases confirmed parasitologically represented 43.4% of the morbidity due to communicable diseases (followed by influenza, with 16.7%). The number of cases dropped to 54,958 in 1985, and some reduction has been seen in the first six months of 1986 (37% lower than the corresponding months of 1985), possibly due to a cool spring and lack of rain. However, malaria transmission is highest during the rainy season (June-November) so the number of cases may still equal the 1985 total.

These recent figures may be misleading, however, as surveillance for malaria is based solely on passive case detection (i.e., people who experience chills and/or fevers and suspect malaria present themselves to voluntary collaborators, (details below) requesting anti-malaria drugs and allowing the collaborator to make a blood slide. Out of 441,757 seeking treatment in 1985, 54,958 were subsequently diagnosed as positive by microscopic examination of the blood samples.

1/ Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico, tomo III de IV (unpublished document), PAHO, 1985.

Figure 8.5.1



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Nevertheless, in a recent evaluation of the efficiency of the passive case detection system in Guatemala [2/] only 23.6% of a sample of known positive cases had visited a volunteer collaborator, 59% had automedicated themselves with drugs purchased at local stores or pharmacies, and 13% had not sought treatment at all. Assuming that this approximately 25% coverage applies nationwide, the official count of 54,958 malaria cases in 1985 would really represent a national case total of some 220,000 cases during 1985, only 25% of whom received treatment through the national service. (Table 8.5.1)

TABLE 8.5.1

Data on Malaria Incidence (reported cases) in Guatemala
1981 - 1985

Year	Blood Samples Taken voluntary collaboration for system	% Positive	Reported Cases	P. vivax Cases	P. falciparum Cases	% P.f.	North (approximate to 500)	Central	South
1981	475,777 (68.9)	14.3	67,994	62,176	5,623	8.2	22,342	14,054	31,568
1982	468,400 (69.5)	16.5	77,375	69,534	7,398	9.6	30,958	15,250	31,126
1983	442,745 (72.8)	14.5	64,024	59,668	4,184	6.5	30,400	11,883	21,695
1984	526,694 (79.5)	14.1	74,132	67,597	6,270	8.5	41,232	13,112	19,779
1985	441,757 (80.3)	12.4	54,958	51,833	3,125	5.7	29,974	11.378	13,593
TOTALS	2,355,373	14.2	335,483	308,883	26,600	7.9			

5 years malaria = 67,100/year
5 years P.F. x = 5,320/year

Source: Compiled by author from Memorias de Labores, Division de Malaria.

8.5.1 Geographic Distribution of Malaria

The National Malaria Erradication Service (SNEM) has estimated that a population of 3.2 million people live in malarious areas. Of these, where cases are reported, 17% have been confirmed as positive. For the country as a whole (approximately 8 million), the incidence rate is 3.25%.

For both surveillance and control purposes, SNEM has divided the country into three zones: North, East-Central, and South (Pacific Coast) (Figure 8.5.2). Over the past 5 years (1981-85) the number of cases has increased in the north (22 to 30 thousand cases); remained stable in the East-Central at about 13 thousand; and decreased in the South (from 31 to 14 thousand) (Figure 8.5.3). The percentage of confirmed cases of *Plasmodium falciparum* from 1981-1985 has averaged 7.9 (range 5.7 in 1985 - 9.6 in 1983) (Figure 8.5.4). Malaria is more frequent in the second six months of the year, except for 1985, during which the number of cases in the first semester was slightly higher (Figure 8.5.5).

8.5.2 Age, Sex and Social Impact

The only figures available are those resulting from the passive surveillance system, in which the age groupings of cases closely parallel the age distribution of the total population. Incidence is slightly higher (about 10%) in men and young boys than in women and girls. No studies have been carried out using active case detection laboratories or clinical techniques (e.g., spleen size) to determine whether the incidence among young children is higher than has been reported. It is not known if parents are less prone to have microscopic diagnosis (requiring a finger prick) of children, or if other cultural factors are involved. As 60% of medication is purchased through stores, precise treatment regimes used for children are unknown. This is an area that needs clarification, and active studies of age-specific rates in highly endemic areas are required.

2/ Ruebush, T.K., Godoy-Bonilla, H.A. and Klein, R.E.: 1985, *World Health Forum* Vol. 6: pp 274-277.

TABLE 8.5.2

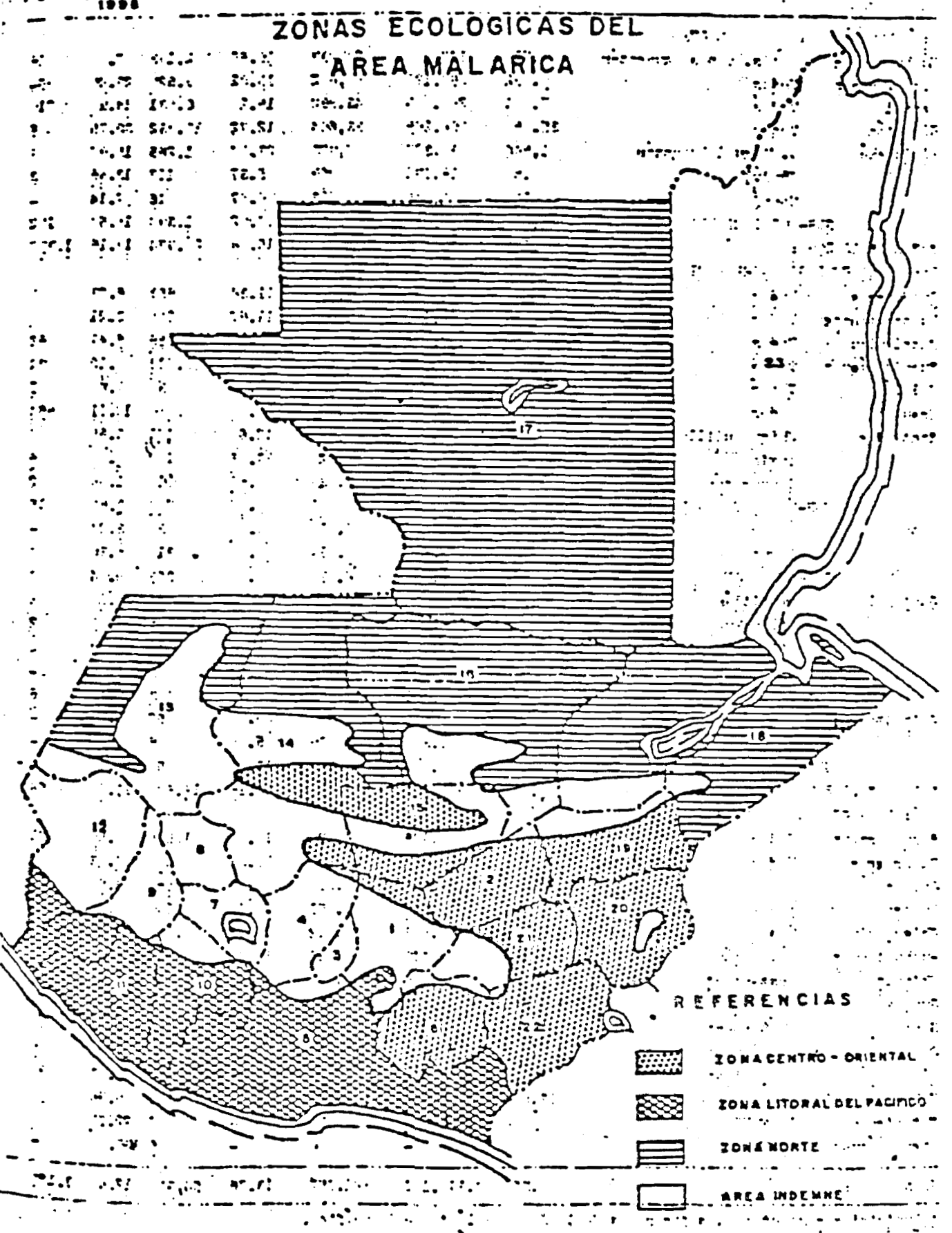
Variation in Sampling and Incidence of Malaria in the Three Malarious Ecological Zones of Guatemala 1985

Zone	Population in Malarious Zone	Blood Samples Taken (positive)	% Population Sampled	% Samples Positive	Cases/ 1000 Persons
Northern	1,039,764	156,442 (29,974)	15.0	19.2	28.8
Southern	997,668	121,287 (13,593)	12.2	11.2	13.6
East-Central	1,172,669	163,991 (11,378)			

Source: Compiled by author from Memorias de Labores, Division de Malaria.

MINISTERIO DE SALUD PUBLICA Y A.S.
D.G.S.S.
DIVISION DE MALARIA
GUATEMALA, C.A.
1998

Figure 8.5.2



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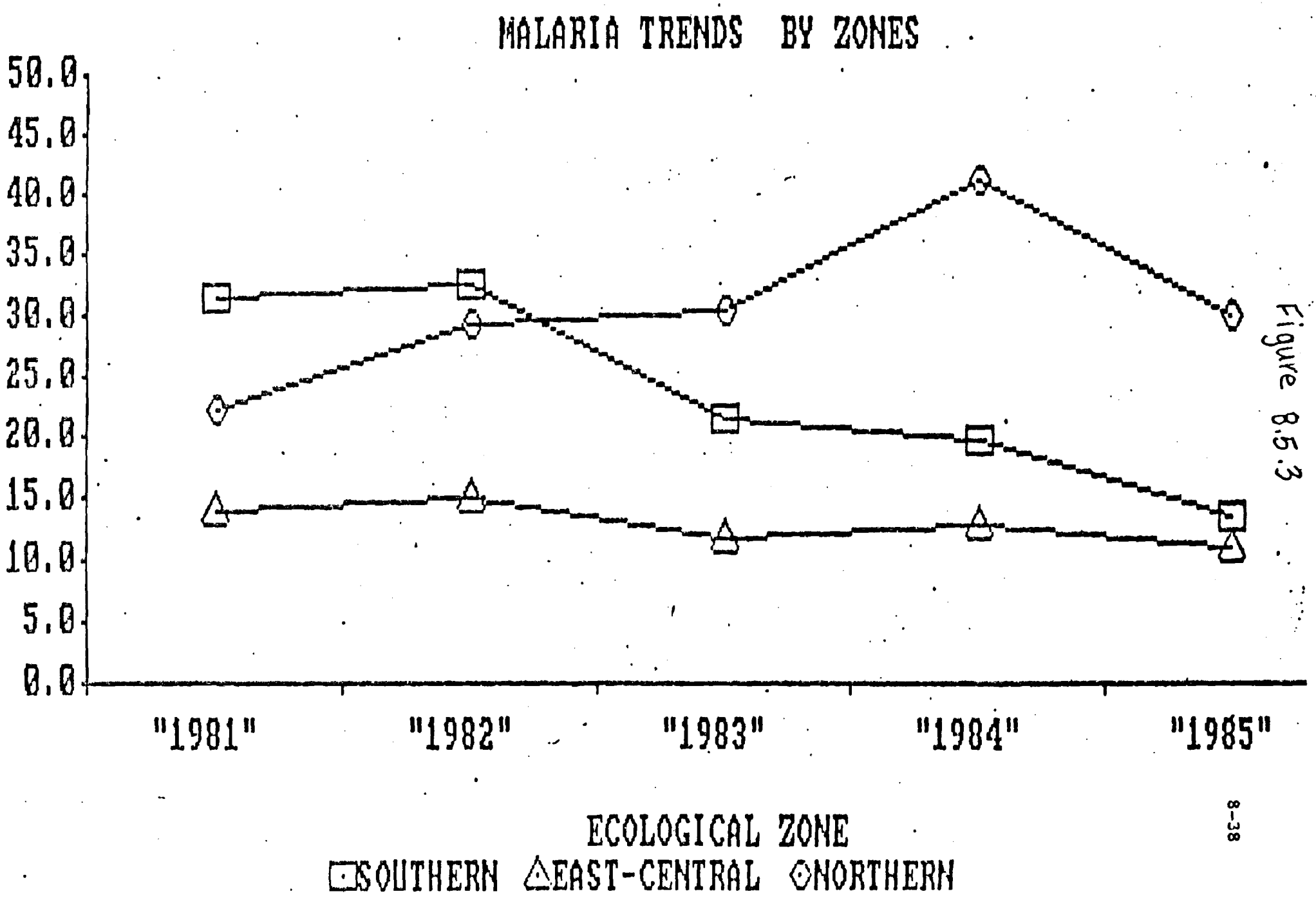
MALARIA TRENDS BY ZONES
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
"1981"
"1982"
"1983"
"1984"
"1985"
ECOLOGICAL ZONE
SOUTHERN
EAST-CENTRAL
NORTHERN

Figure 8.5.3

Figure 8.5.4

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DIVISION DE MALARIA
GUATEMALA, C.A.
1986

M A L A R I A

EVOLUCION DEL PLASMODIUM FALCIPARUM

1968-1985

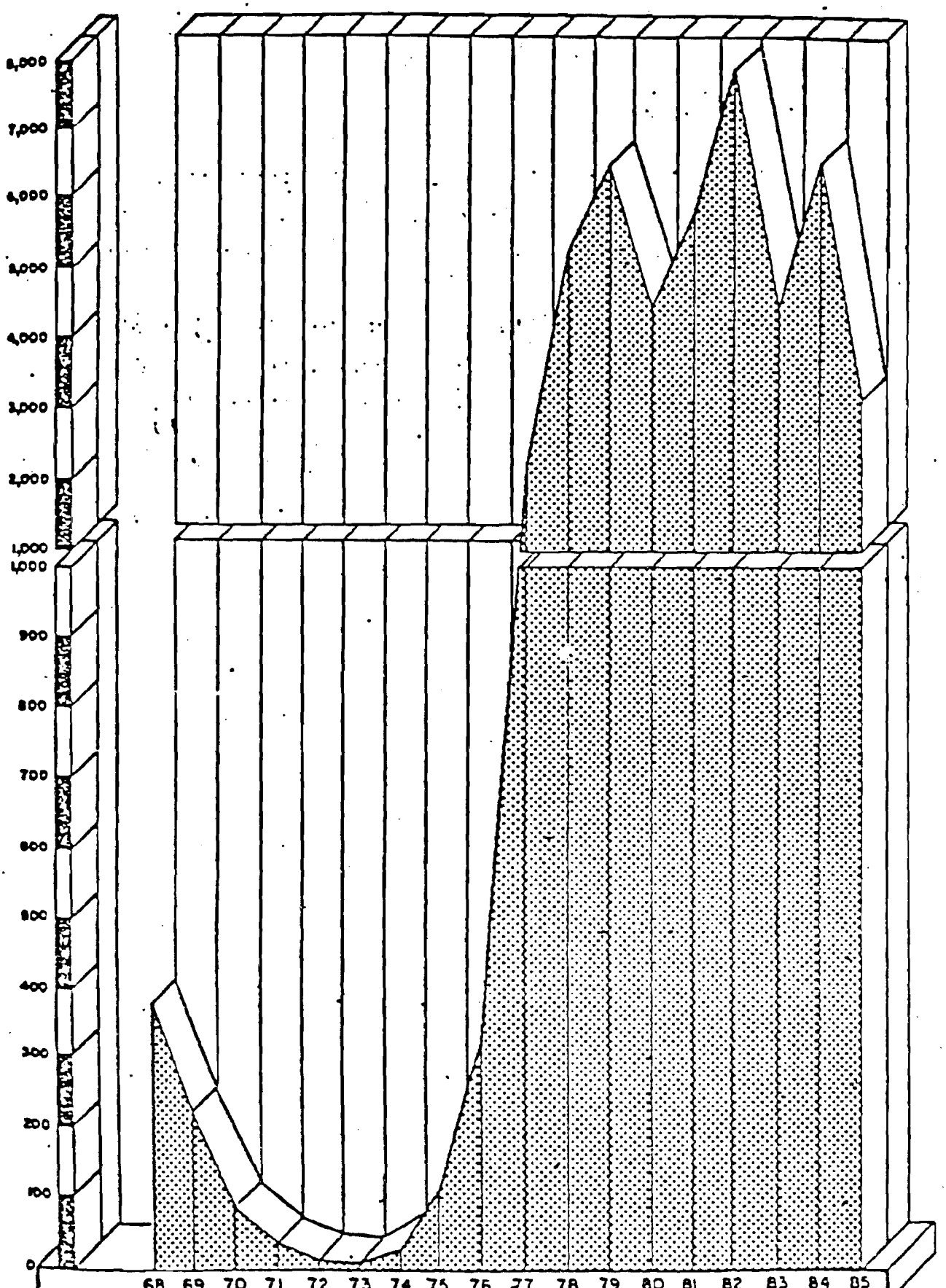
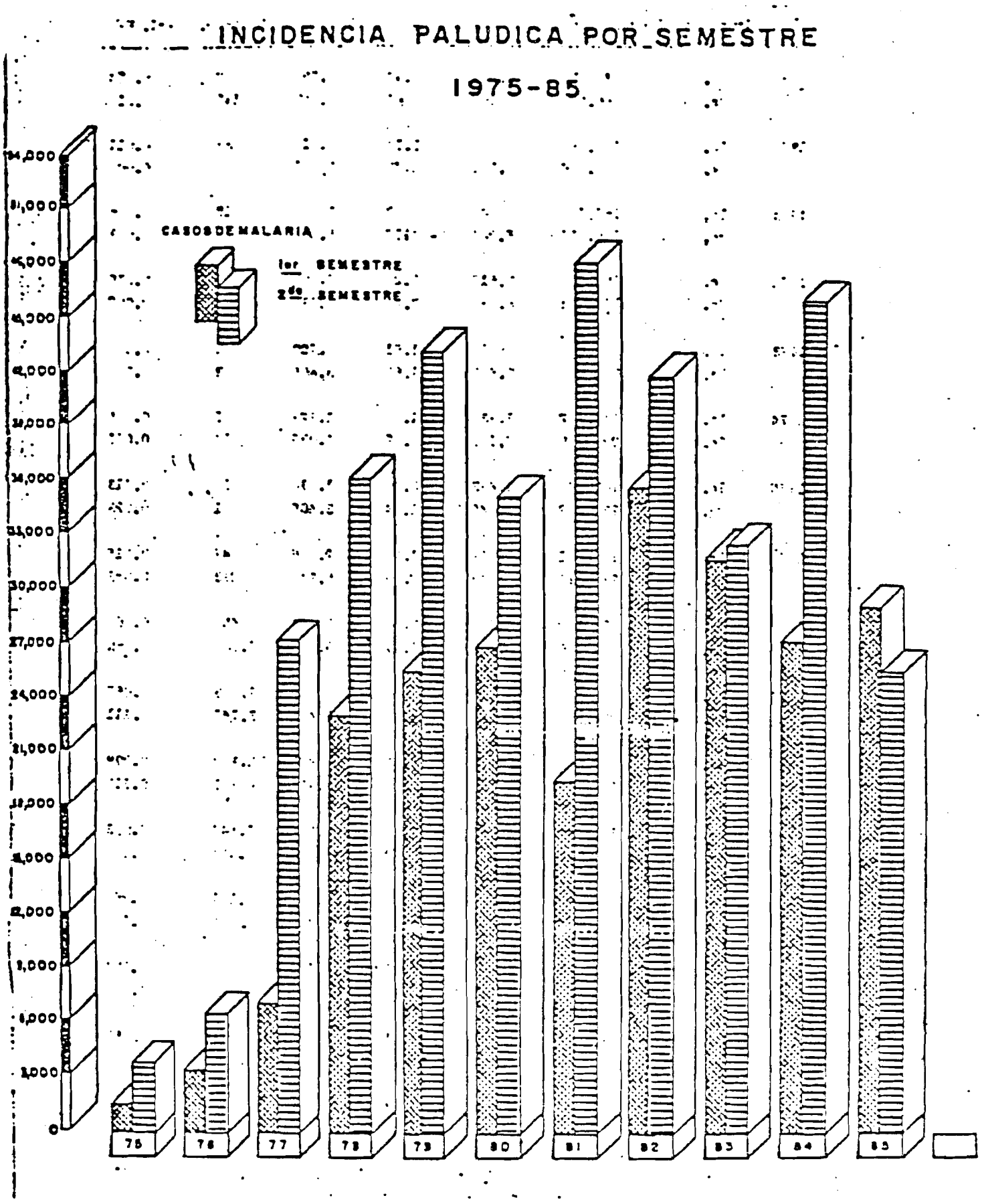


Figure 8.5.5


INCIDENCIA PALUDICA POR SEMESTRE
1975-85
CASOS DE MALARIA
1er SEMESTRE
2do SEMESTRE
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
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16,000
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18,000
19,000
20,000
75
76
77
78
79
80
81
82
83
84
85

Although mortality directly attributed to malaria has not been reported in recent years, the impact in relation to malnutrition and other conditions such as diarrhea cannot be overlooked as a major contributing factor to mortality, especially in the younger age groups. No studies have been carried out to determine the role malaria plays during pregnancy either as a factor in abortion or maternal health.

SNEM points out that about 60% (or 40,000) of the 67,100 verified malaria cases/year occur in persons of working age, active in the agricultural and livestock industries. Loss of work is estimated at 15 days for each case of malaria, at an annual loss of 600,000 person-days/year, or 2300 person-years. If the case-detection system is only 25% accurate, the work loss would be proportionally (i.e., four times) greater (i.e., over 9000 person-years).

8.5.3 Surveillance and Treatment

Surveillance (and treatment) is based on passive case detection, using a network of 6,222 voluntary collaborators (1985). These volunteers are local residents who receive no remuneration and are selected by their neighbors. They are trained for two days (on the average) and receive recording forms, chloroquine tablets, and materials (slides, alcohol and lancets) for making bloodsmears.

People who suspect (based on chills and fever attacks) that they might have malaria, visit the collaborator, and, after having a blood slide made, receive two tablets (150 mg) of chloroquine (a presumptive treatment). The slides are sent to SNEM, where they are read by trained microscopists. Persons whose slides are positive are given radical (i.e. curative) treatment, consisting of chloroquine and primaquine.

Most malariologists recommend that radical treatment begin by 7 (or at most 14) days after the blood film is made. In a sample of positive cases, the delay between the time the slide was taken and the date it was determined to be positive ranged from 0-93 days (average = 23 days); in 56% the delay was more than 15 days. Figures may vary by region (e.g., informal reports indicate delays in the south range about 15 days).

Radical treatment was given to only 62% (34,124 patients) of those individuals whose blood slides were diagnosed as positive.[1/] Both of these examples (delay and lack of follow-up) indicate

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1/ Division of Malaria, Memoria Anual 1985.

that the system could be improved, and SNEM is attempting to improve the efficiency of the volunteer collaborator system. In conjunction with CDC and the Universidad del Valle, several studies are now under way.

However, not many other sources of blood-slide exist. the SNEM volunteer collaborators collect 75% of all slides collected in the country. The remaining 25% are collected in hospitals and health posts, and by doctors. The 75% of the cases confirmed as positive are from the slides collected by the collaborators.

In addition to providing radical treatment for positive cases, the surveillance system operates to indicate areas of active transmission where spraying can be directed as needed. Delays and low coverage of radical treatment indicate that emergency spraying is not being carried out promptly. At present (1986) this delay is compounded by the lack of insecticides, which keeps even routine spraying at a minimum.

The MOH Division of Malaria is conducting a study on "Knowledge, Attitudes and Treatment-Seeking Behavior for Malaria in Guatemala," ($68,100), and a second study entitled "Study of Drug Distribution and Sentinel Volunteer Collaborator Posts for Malaria Treatment and Surveillance in Guatemala," ($151,355 USD) both funded by the WHO Special Programme on Tropical Diseases (TDR).

Also, a trial is under way in the South Zone, where volunteers in an area are giving 3 days of treatment (chloroquine (150 mg) plus primaquine 15 & 5 mg according to age) instead of blood sampling to see if the use of the service improves. These trials will be subsequently evaluated by active case detection.

As noted above, some 60% of the people in the evaluation study preferred purchasing their medication from local pharmacies and stores. As this figure is much greater than the 24% going to the volunteer collaborators, a study involving on the private sector's role in both surveillance and treatment would seem appropriate.

8.5.4 Vector Control

a) Insecticides Although donations of insecticides have not been forthcoming, the Guatemalan government has consistently provided funds for their purchase, which amounted to an average annual expenditure of Q1.3 million, or 36% of the annual budget of the Malaria Division, but which has dropped notably in 1985 to Q 0.5 million. Five percent of insecticides thus purchased are used to cover the *Aedes aegypti* control program.

These financial limitations have had a drastic effect on spray coverage, which has dropped dramatically since 1980. The total number of reported cases of malaria (Figure 8.5.7) and the proportion of positive slides, however, have not increased yet, although there was a regional increase in the number of positive cases recorded in the Northern Zone (Table 8.5.2).

Approximately 1,500 localities were sprayed in 1984 and 2,000 in 1985, representing 87% and 83% reductions, respectively, from the 1980 level, due primarily to the lack of insecticides, vehicles and spraying equipment (both purchase of new items and spare parts for the old have been impossible due to lack of funds).

Susceptibility trials conducted in 1985 showed that acceptable mortality (i.e., control) of the principal vector, Anopheles albimanus, is still feasable in some parts of the country (using most insecticides currently available), except, perhaps, for the southern coastal zone, given current fiscal resources. (Table 8.5.3) The pattern of insecticide usage from 1977-1985 is shown in Figure 8.5.8.

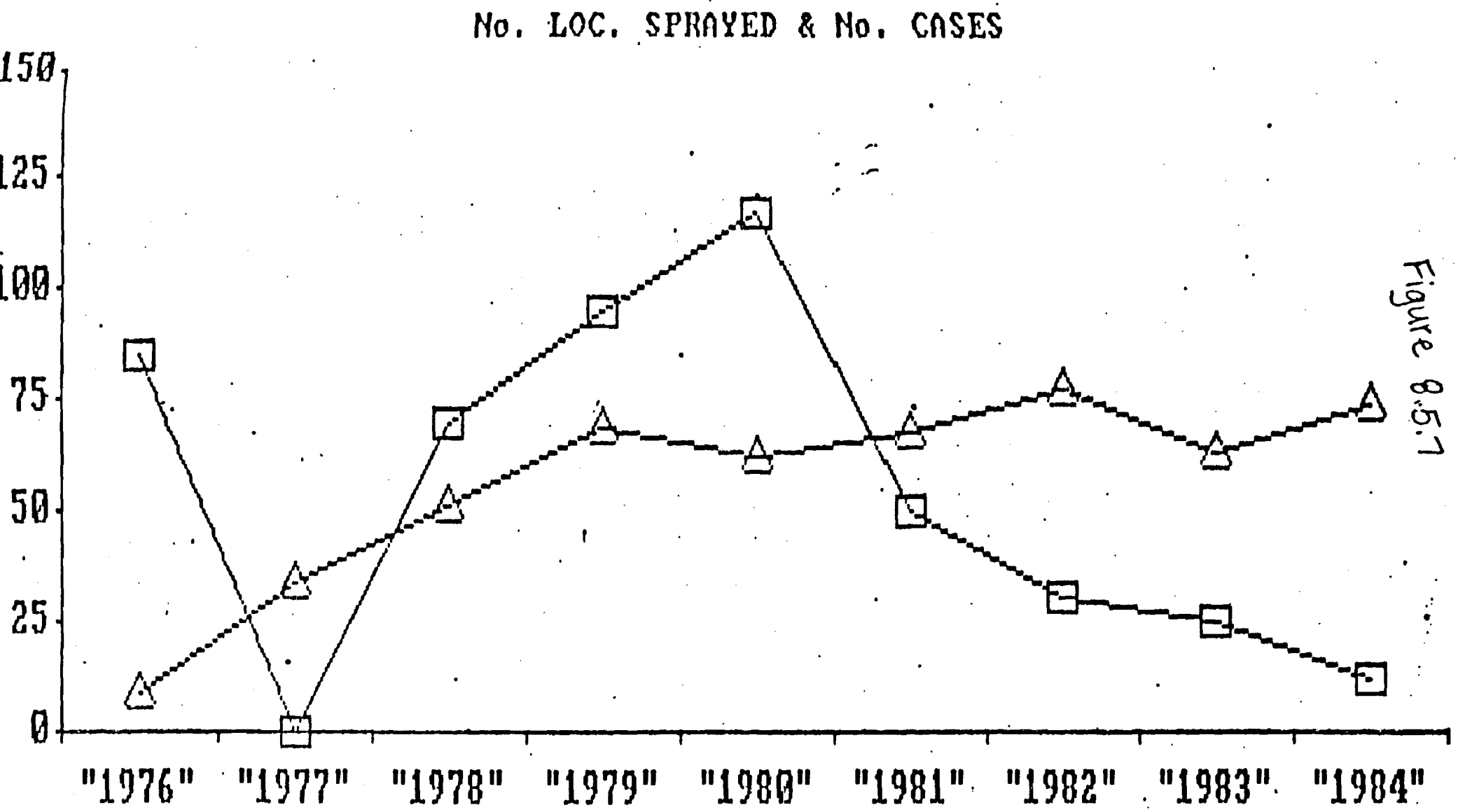
No. LOC. SPRAYED & No. CASES
150
125
100
75
50
25
0
"1976"
"1977"
"1978"
"1979"
"1980"
"1981"
"1982"
"1983"
"1984"

Figure 8.5.7

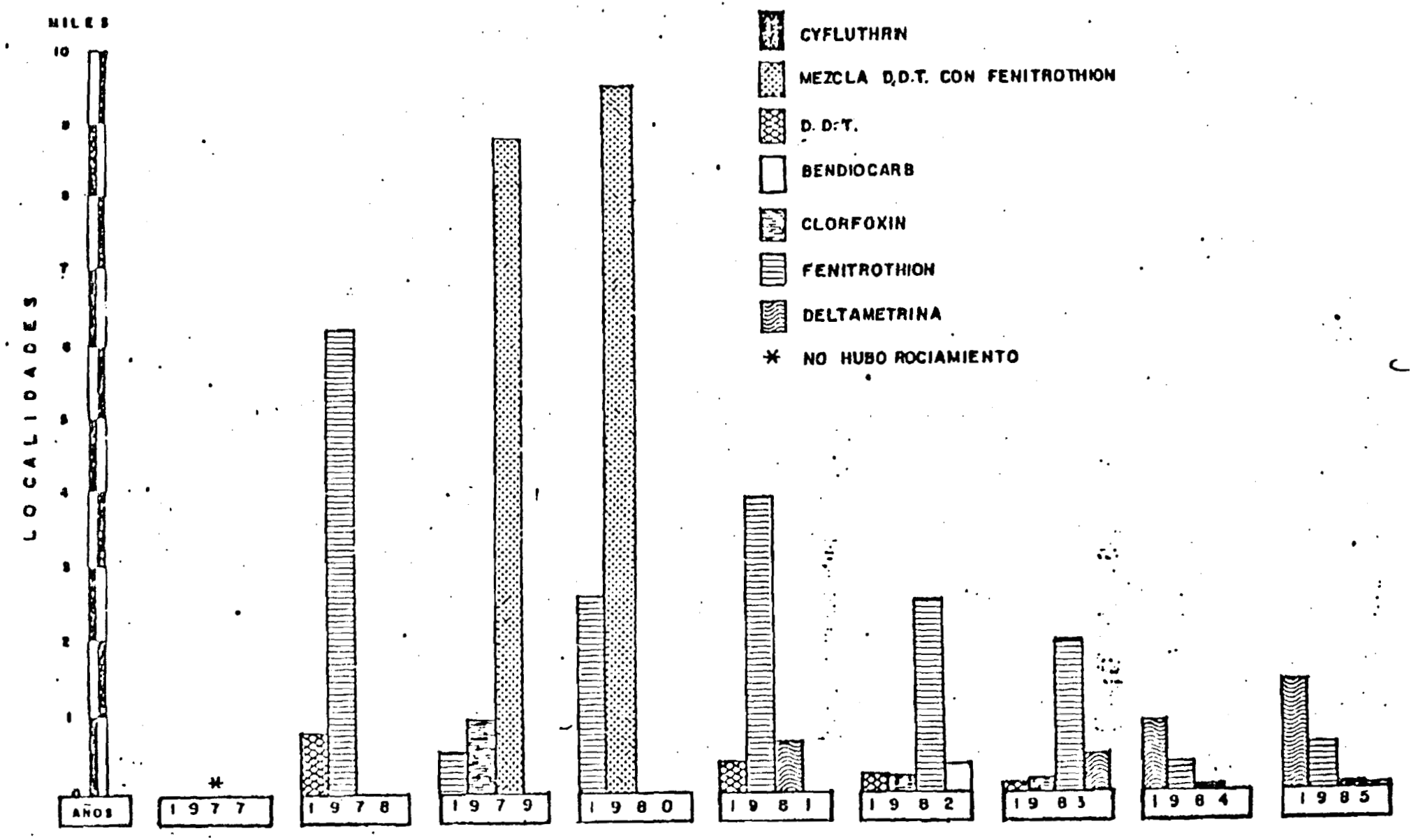

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Table 8.5.3

Mortalities (susceptibility obtained in trials with An. albimanus (1985)

	North	East-Central	South
Deltamethrin	100%	100%	90%
Cyfluthrin	NT*	NT*	96%
Bendiocarb	100%	99%	89%
Propoxur	NT*	99%	93%
Fenitrothion	100%	100%	94%

*NT=Not tested

Source: Memoria Anual, 1985, Division de Malaria, MOH.

b) Source Reduction There has been little systematic use of source reduction, because it was generally held to be expensive or ineffective in extensive breeding sites. However, source resolution should be tested in certain localities. For example, modest efforts could be effective in identifying small water management problems which may be producing vector mosquitos within flight range of rural communities. These breeding sites could be eliminated by filling or drainage work provided by local labor as a form of community participation, under appropriate incentives, education and leadership. Plantation owners should also be encouraged to participate in such efforts. Larger scale source reduction may be used in certain situations where engineering skills are required - for example on the esteros (lagoons) of the Pacific coast, which are well-known anopheline breeding sites. Consideration should also be given to clearing clogged and overgrown irrigation and drainage ditches on the coast.

Source reduction can also reduce the dependence on pesticides, which must be purchased abroad with foreign currency, a major constraint to the malaria program in Guatemala at this time.

c) Other Means of Vector Control Biological control by means of predatory fish has a long history of use in Central America and may still be useful in certain, especially manmade, habitats.

Larvicides in general have not been fully tested. In addition to chemical larvicides, the use of the microbials (*Bacillus thuringiensis* H-14 and *B. sphaericus*) has had great success in certain areas. Their use is warranted where possible environmental contamination by chemicals may cause concern. New growth-regulating compounds have proved successful in other areas where larvicidal control is practical.

Other means currently being considered in Central America include use of permethrin (a synthetic pyrethroid insecticide), impregnated bed nets, and DEET repellent as means of personal protection.

1. Operations Research: In general, operations research has not been adequately employed for testing and improving methods of vector control, or for the surveillance system and coverage with therapeutic drugs, except as mentioned above. Despite restricted resources an emphasis on adequate operational research would provide not only new

avenues for control but would also stimulate interest and morale. Efforts should be made to include the national universities (both faculty and staff) in such research.

2. Stratification: At present the SNEM divides the country into three ecological zones (North, East-Central and South): data are collated by Departments as well and can therefore be superimposed on any analysis by region. The extensive networks collecting malaria information could also provide information on other factors influencing malaria transmission (e.g., socio-economic conditions, rainfall, temperature, and in selected areas, mosquito breeding and densities). Such data would allow for more specific stratification identifying areas of high risk, and would be consistent with recommendations made by PAHO (Program of Priority Health Needs in Central America and Panama (CAP), the PAHO-AID Agreement, Grant No. 1.597-0136, Malaria Component.)

3. Vector Ecology: There is a lack of information on the vetorial capcity of An-pseudopunctipennis and An-darling in Guatemala. In general, studies on vector ecology should lead to improvement in control and to determining the significance of relapses in case reporting.

8.5.5 Resources of the Malaria Division

The Division has received an average of approximately Q3.5 million/year from national funds for the last ten years. No outside funds have been received for pesticides, vehicles, or spraying equipment. A considerable number of grants for training abroad have been provided since 1977 by PAHO, and more recently (1986-to date) through PAHO/USAID assistance.

The PAHO/USAID Agreement (Malaria Component), Grant No. 1-597-0136 for 1986-1990 provides funding for research (although the national components of this research are poorly defined), training, coordination of epidemiology strategy, periodic meetings, etc. Funds for control operations are not available through this program..

The equipment of the Malaria Division (vehicles, boats and motors, and spraying equipment) are old and in need of replacement. Spare parts have been very difficult to obtain.

An emergency request for funds (supplies and equipment) has recently been made to AID/Guatemala . Another request, in conjunction with other Central American countries (El Salvador, México, and Honduras), to the Interamerican Development Bank is pending. The application from Guatemala to IDB is for a 4 year, US$ 15 million loan, for control of malaria and "other tropical diseases". The IDB is considering it at present for possible implementation in 1987 or 1988. If approved, it will be the first time IDB has funded a malaria project.

Funding would cover vehicles, supplies and physical installations, and, in addition will consider special programs, such as source reduction through drainage, damming, and others.

The evolution of the malaria problem(s) and the cost of traditional attack measures are forcing serious consideration of the redeployment of resources.

The primary case against continued dependence on household spraying is the recurrent cost of insecticides, equipment, and labor. The development of insecticide resistance requires the substitution of newer and generally more expensive insecticides. Ultimately the cost of total coverage is not sustainable. On the other hand, spraying on a focal basis to control local outbreaks can be effective and cost-effective if a proper surveillance system is in place, and such a technical unit should be retained. It can also have other benefits, such as control of Aedes Aegypti and onchocerciasis.

8.5.6 Vertical Malaria Control Programs versus Control Through Primary Health Care

Throughout the world there is conflict between the so-called "vertical" malaria control programs and the current emphasis on establishing primary health care systems which can incorporate some of the activities of malaria control. There has been a certain degree of resistance to the adoption of malaria control into PHC.

At present, the approach most generally proposed is to integrate surveillance and distribution of antimalarial drugs into the PNC system when it is capable of carrying out this function, and retaining the technical spraying capability as a coordinated vertical unit responsive to local needs, and results of vector surveillance. It is not assumed that spraying activities can be safely carried out by PHC workers, as a central administrative unit is necessary for logistic support. The technical personnel in the malaria control unit could then expand operations on source reduction and other preventive measures, and concentrate on improving this effectiveness through operational research projects.

The development of such integration depends heavily on the capability of the PHC system to assume the functions mentioned above, on the collaboration of the malaria control authorities, and on thier willingness to move away from the complete dependence on intra-domiciliary spraying with residual insecticides. Inherent also is the need to stratify malaria control within the country and develop improved methods of surveillance.

8.5.7 Summary

The Guatemalan malaria control program is efficiently run, operating in a traditional manner largely dependent on household spraying, with surveillance and anti-malarial drug therapy centered on a system of volunteer collaborators. It has received consistent, if inadequate, funding from national resources, which are now seriously threatened by the reduced buying power of the national currency. Insecticide supplies for future broad-scale spraying are inadequate, vehicles and equipment are old and need replacement.

Malaria has averaged 67,100 cases/year (7.9% *P. falciparum*) for 5 years (1981-1985); there was a 26% reduction in the confirmed number of cases in 1985, and this observed reduction continues in the first 6 months of 1986. Spraying has been reduced continually since 1980, because of diminishing resources. The reason for the reduction in the number of cases, especially on the Pacific coast, is not known, but a similar reduction is being observed in El Salvador in similar ecological settings.

The reduction in the spraying operations over the past five years has not resulted in an increase in malaria throughout the country. This may indicate that a large number of the reported cases may be due to relapses, which are unaffected by spraying. Studies on the man-mosquito contact notes could clarify this. If true, malaria control may be achieved through improved distribution, which may involve shifting certain aspects of surveillance and drug distribution to alternate services, such as the PHC system(s). In either case, improved knowledge of the dynamics of transmission and stratified surveillance are essential.

8.5.8 Recommendations

The malaria control program has reached what is viewed as a static operation. The limited financial resources available do not provide for replacement of old equipment or for purchase of insecticides to maintain coverage at past levels. However, the cost of insecticides, especially those needed to overcome the resistance which has developed to cheaper compounds, is prohibitive as the sole long-term solution to the malaria problem. In view of the ecological complexity of the malaria situation in Guatemala, the development of an integrated control program is both sensible and imperative. Therefore, assistance provided to the malaria control program should be accompanied by corresponding changes in the control options employed by the Division of Malaria.

Therefore, it is recommended that:

8.5.8.1 USAID support the Guatemalan malaria control programs, emphasizing the need to reduce dependency of household spraying with chemical insecticides. Support should focus on improvement of the surveillance network, increased knowledge on the ecology of the major vectors, operational research on alternate means of vector control, and improvement in the system of anti-malarial drug distribution.

8.5.8.2 USAID support multi-institutional (including universities) operational research on the various vectors involved in malaria transmission in order to develop new or more effective means of malaria control. Data on vector population densities, behavior, and relation to human activities should be considered and the results and data used in a stratification process.

8.5.8.3 USAID reinforce the system of malaria surveillance and treatment through volunteer collaborators. Especially important is the need to: a.) reduce the time between when slides are taken and follow-up (radical) treatment is administered; b.) increase the number and percent of persons receiving radical treatment; and, c.) identify and treat relapse cases, in the absence of vector control.

8.5.8.4 USAID promote better collaboration of the malaria control program with the general health services and primary health care systems in the country, as well as PVOs and elements of the private sector (such as plantation owners, agricultural cooperatives, etc.

8.5.8.5 USAID, in its technical assistance role, should place greater emphasis on stratification of malaria distribution, especially when the number of cases is reduced, so that more direct and focal action can be taken. This should include recording cases/unit of local population, vector distribution and density, breeding sites for source reduction, and socioeconomic measurements.

8.5.8.6 USAID support computerization of the malaria surveillance, treatment, and vector control data in Guatemala. The establishment of such a system will require training and a trial period of supervised operation.

8.5.8.7 USAID support educational efforts aimed at community acceptance and participation in malaria programs and increased awareness concerning malaria and other vector-borne diseases.

8.5.8.8 USAID support, in view of the ecological complexity of the malaria situation in Guatemala, the development of an integrated control program. Such a program should be flexible enough to reduce general morbidity and respond to epidemic situations, while reducing recurrent costs.

8.6 Onchocerciasis - 1986 Status

8.6.1 Background and Issues

Due to recent advances in chemotherapy, accompanied by experience obtained in Guatemala and other countries, there exists a good opportunity for successful control and perhaps eradication of this disease in Guatemala.

In the 1977 Guatemala Health Sector Assessment, limited statistics indicated that 100,000 people were infected. At that time no drug therapy was considered safe for mass treatment in field situations, and control of the black-fly vectors (*Simulium* spp.) had not been attempted in Guatemala. Subsequently, the situation has been more clearly defined by a Japanese technical assistance program (completed in 1983). Suzuki and his co-workers in 1983 defined four zones of endemicity (Figure 8.6.1):

1) Northwestern Zone, Department of Huehuetenango in two foci, Cuilco y la Providencia, with 729 Km2 and 60,000 inhabitants;

2) Central Zone I, including 10 municipalities of the Departments of Suchitepequez, Solola, and Chimaltenango with a combined area of 1921 Km2 and 155,000 inhabitants;

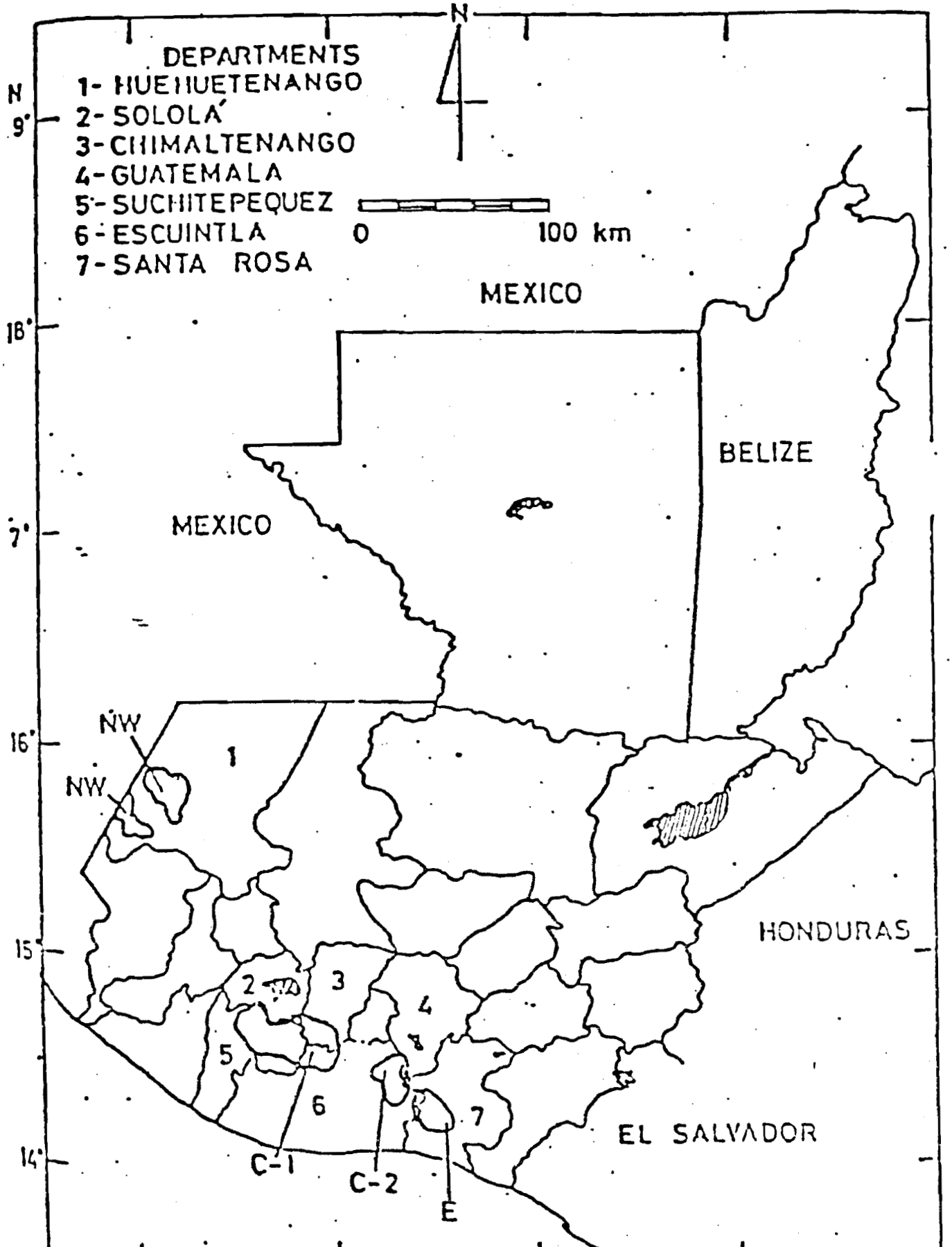
3) Central Zone II, including 6 municipalities in the Departments of Guatemala and Escuintla with 1468 Km2 and 165,000 inhabitants;

4) Eastern Zone. Department of Santa Rosa, 3 affected municipalities with 590 Km2 and 62,000 inhabitants.

The total endemic area totals 4,708 Km^2, with over 443,000 inhabitants (1983 figures), some 30-40,000 are estimated to be infected, based on parasitological examination of skin samples ("snips"). This examination has been found by several authors to underestimate the true prevalence by 40% to 60%, especially in mesoendemic and hypoendemic areas. Thus, potentially 60-80,000 people may be infected in Guatemala. Detailed ophthalmological studies have not been done, but depending on the criteria employed, blindness was estimated to range from 1% to 3% of those infected.[1/] The endemic areas are situated between 500-1500 meters of altitude, and generally coincide with the areas of coffee cultivation, where both resident and seasonal workers are exposed and infected. The cultivation of coffee in areas of steep, shaded slopes with swiftly small streams provides an ideal habitat for the major black-fly vector, *Simulium ochraceum*.

1/ Zea Flores, G., personal communication, 1986.

GRAFICA ONCOCERCOSIS No. 1



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Beginning in 1935, the Ministry of Health has conducted a systematic program of nodulectomy. From 1935-1980 over 1.5 million persons were examined, and nodules removed from 181,664 individuals (11.5%). An average of 1.4 nodules per person were removed from positive individuals. Zea Flores (1983) reports that the reduction of the nodular index has been as follows:

24.0% in 1935-39
13.1% in 1940-59
10.5% in 1960-69
8.7% in 1970-79

Due to the attention focused since 1975 on onchocerciasis in West Africa[2/] where the disease is highly prevalent and a major inhibiting factor to socioeconomic development due to the resulting blindness, considerable advances have been made that are applicable to Guatemala, where research on their use has already begun. Among these, two aspects are noteworthy:

A. Chemotherapy - The drug Ivermectin (tradename of Merck & Co.) has been demonstrated to be an efficient microfilaricide, reducing the number of microfilaria in infected individuals, reducing the disease symptoms and pathology, and potentially diminishing the potential for further transmission. In a preliminary unpublished study by Zea Flores, the density of microfilaria were reduced to 5% of their original level and remained at that low level for over 9 months after only one oral dose of Ivermectin. (Figure 8.6.2 shows the results after the first 3 months of observation). These results are similar to those obtained in West Africa. Further field trials are required before Ivermectin can be used on a broad scale. These will include:

Analysis of the length of time that one dose of Ivermectin will control the level of microfilaria at low levels that will not produce further pathology and/or support further transmission. The effects of onchoceriasis is a dependent on the accumulated "worm load" due to repeated human infections over a long period of time by multiple bites by infected black-flies which must themselves receive the infection from infected persons. Reduction of the parasitemia in infected persons should, therefore, reduce or completely interrupt the chain of transmission. This is especially true in Guatemala, where the

2/ The Onchocerciasis Control Programme (OCP) is jointly sponsored by UNDP, World Bank, FAO, WHO and country donors including the United States (USAID). It now operates in 11 countries in West Africa, expanded from the original 7 countries: The OCP is scheduled for 20 years (until 1995) and has enjoyed considerable success.

IVERMECTINA EN ONCOCERCOSIS

FASE III, ESTUDIO DOBLE CIEGO EN GUATEMALA

DENSIDAD DE MICROFILARIAS EN PIEL (mf/mg)

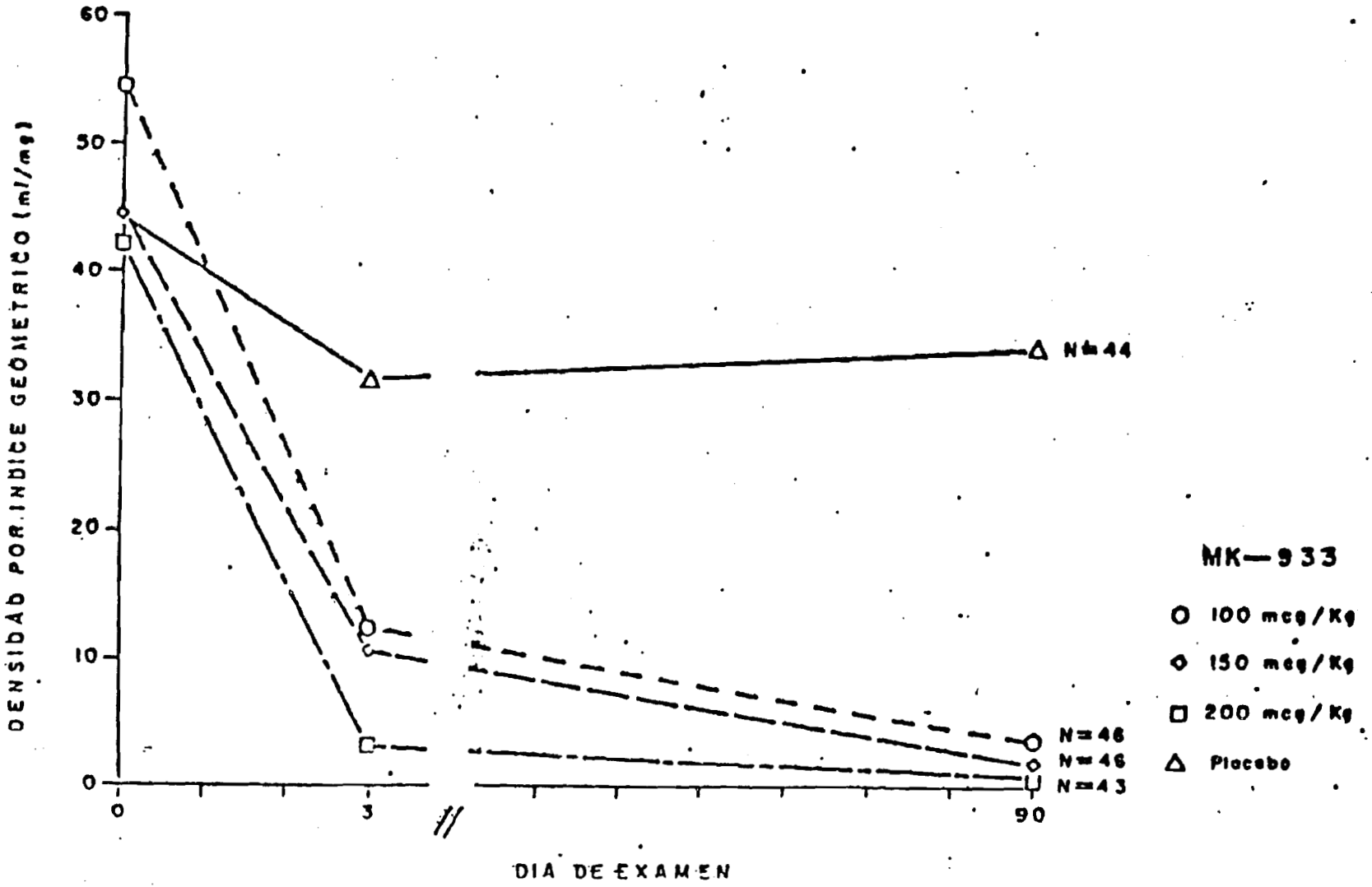

FIGURE IVERMECTINA EN ONCOCERCOSIS

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principal vector Similium ochraceum is relatively "inefficient". Very few black flies biting infected persons become infective (the microfilaria must undergo further development within the black-fly before becoming infectious to man) and are able to pass the infection to further individuals. In contrast, the principal African vector, Simulium damnosum, is highly "efficient", and between 35-50% of the flies biting man become infective.

2) Although Ivermectin has not demonstrated any important side effects that would limit its use in mass treatment, further trials are required, especially in children and pregnant women.

B. Vector control: The black-fly vectors of onchocerciasis can be controlled by larviciding in the streams in which they breed. Insecticides are of little value (in Guatemala) for control of mature, biting flies. In the past, effective use of larvicides was of limited value due to the small size and the large number of such streams located in mountains covered by forests which Simulium ochraceum favors for breeding. Therefore, the aerial spraying of larvicides, as used in W. Africa is impossible.

At present, however, there are well developed techniques for control, utilizing both chemical and microbiological larvicides applied by hand in slow-release formulations that would be effective over a period of time. Both the organophosphate Abate (temephos) and the microbial Bacillus thuringiensis israeliensis (SH-14) have been demonstrated to be highly effective for black-fly control in both temperate and tropical countries when employed in this manner.

In 1979 a pilot project for vector control in the region of San Vicente Pacaya to test several techniques of application and different doses of the larvicide Temephos. Delivery was delivered by hand application to all black-fly breeding sites. After five years, in 1983, it was possible to decrease the vector annual biting rate to the provisional safe level planned from the beginning of the project (less than 8,000 total bites). At present, the controlled area has increased from 3 Km^2 to 108 Km^2 (see Figure 8.6.3) using only 1500 Kg of larvicide per year.[3/] However, Guatemala currently does not have the budget for larvicides to continue this project.[4/]

As the purpose of larvicide is to reduce, not eliminate, black-fly populations, their use in conjunction with chemotherapy for infected persons should complement each other, especially in cases of poor treatment compliance. These actions can reduce both populations of the microfilarial parasites and the vectors to a point where the chain of transmission can be completely broken.[5/]

8.6.2 Comments

The MOH Onchoceriasis Department has developed a plan of operations for further work on onchocerciasis in Guatemala, and some resources have been obtained from WHO for certain research elements of the program; others are pending.

Ivermectin has been provided at no cost by Merck and Company for the preliminary trials.

This program could be very successful, eliminating over a comparatively short period of time, the need for the nodulectomy program that the government has operated for 50 years,[6/] as well as recurrent costs. At present, national policies of the Ministry of Health policies contemplate the continuation of the onchocerciasis control activities, including research on treatment and nodulectomies. Resources currently used for onchocerciasis control could be channeled to other tropical vector-borne diseases that currently receive little funding --such as Chagas' disease or leishmaniasis. As most of the affected people are workers on coffee plantations, there is an opportunity to include the private sector in the program, as well as to promote community participation through education and presumptive diagnosis. Both of these components have been included in the operational plan.

8.6.3 Summary

A total of 433,000 inhabitants live in onchocerciasis endemic areas of Guatemala, where 60-80,000 infected cases are estimated. Severe cases of blindness are estimated to be 1 to 3% of those infected.

Recently, advances have been made in vector control techniques and treatment of the disease both in Guatemala and in West Africa. At present, there exists a good opportunity for conducting a successful control program, and perhaps an eradication program in Guatemala. As the purpose of vector control operations is to reduce, not eliminate, black -fly populations, their use in conjuction with chemotherapy for infected persons should be complementary and can break the chain of transmission completely.

3/ Op.Cit.[1/]
4/ Ibid.
5/ (Dietz, K. 1982. The population dynamics of onchocerciasis. pp. 209-241. In: Population Dynamics of Infectious Diseases - Theory and Applications. Edited by R.M. Anderson. Chapman and Hall, London.)
6/ Op. Cit.[1/]

8.6.4 Recommendations

It is recommended that:

8.6.4.1 USAID support: a.) study on the length of the microfilaricide action of one dose of Ivermectin as a means of reducing the potential for transmission of onchocerciasis, and; b.) further evaluation of Ivermectin for potential side effects.

8.6.4.2 USAID support vector-control studies to determine the best methods of pesticide application, perhaps using slow-release larvicides, to control the numbers of black flies by continuing the project of San Vicente Pacaya.

8.6.4.3 USAID support a national campaign to eradicate onchocerciasis in Guatemala. This should be based upon the provision of Ivermectin for treatment of the disease and a decrease in transmission potential, as well as focal control of the vectors in well defined areas of transmission.

8.6.4.4 USAID support operational research on black-fly control and conduct further community trials testing the impact of chemotherapy on transmission of onchocerciasis.

Plan of Operations
Onchocerciasis Department, Division of Malaria
(Courtesy of Dr. Guillermo Zea Flores)

Present Status	Investigation	Resources	Goals
1. Epidemiology Incidence Prevalence Ophthalmological rates	Census a) Population b) Rates c) Resources: - Community - Private - Official	Dept. of Onchocerciasis, Division of Malaria Dept. of Ophthalmology, Roosevelt Hospital	Study of risk factors Case finding Intersectorial cooperation
2. Diagnosis Skin biopsies Nodule detection Immunodiagnosis	Immunology of negative persons resident in endemic onchocerciasis areas Improve Immunodiagnosis: a) adult worm culture b) specific antigens of Onchocercosis	National Institutes of Health Bethesda, Maryland, U.S.A. Dept. of Onchocerciasis, Division of Malaria a) National Institute for Medical Research, London, England: Dept. of Onchocercosis b) Del Valle University, Guatemala Dept. of Oncocercosis	Vaccine? Rapid and accurate Serological diagnosis

(continued)

Plan of Operations (Cont')
Onchocerciasis Department, Division of Malaria
(Courtesy of Dr. Guillermo Zea Flores)

Present Status	Investigation	Resources	Goals
3. Therapy Nodulectomy Chemotherapy	Effects of Nodulectomy DEC-Lotion (Effects) Ivermectin (Effects	Dept. of Ophthalmology Hospital Roosevelt Dept. of Onchocercosis Hospital Rodolfo Robles Dept. Onchocercosis.	National Nodulectomy Campain and Evaluation of Anti-parasitic Treatment
4. Entomology Vector Control	Effects of DEC-Lotion on transmission Effects of Ivermectin on transmission Biological control Susceptability tests of insecticides	Dept. Onchocercosis (WHO Funds) Cornell University, New York, USA. Dept. Onchocercosis Div. of Malaria Dept. Onchocercosis Div. of Malaria	Vector Control (its necessity)

Source: Zea Flores, G., Personal Communication, 1986.

8.7 Dengue/Aedes aegypti

8.7.1 Background and Issues

a) Yellow Fever: At least 9 major epidemics of yellow fever occurred in Guatemala between 1860 and 1920, but no cases have been reported since 1921. It is not considered as a major threat to health at present, and the appropriate vector control operations are the same as for dengue fever (below), as both diseases share the same vector.[1/]

b) Dengue Fever: The last epidemic outbreak of dengue in Guatemala occurred in 1978 in the Department of Escuintla, following an epidemic of some 100,000 cases in San Pedro Sula (Honduras) which was considered the focus for outbreaks in other Central American countries. In 1981, a broad outbreak in the Caribbean included cases with a haemorrhagic syndrome (Dengue Haemorrhagic Fever or DHF), registering over 350,000 cases in Cuba with more than 150 deaths, primarily in children.[2/]

Although visitors to Guatemala very probably have carried the virus to the country, there have been no recently reported cases possibly due to the intensive control of the urban vector, Aedes aegypti throughout its range in Guatemala.[3/]

Aedes aegypti has been found in 401 localities in Guatemala: of these, 359 localities had been positive for the two years preceeding 1985, and the other 42 localities were recent infestations noted for the first time in 1985. Localities positve for Ae. aegypti (1972-1985) are shown on Figure 8.7.1, 8.7.2.

Control is based on surveillance of the vector's larval breeding sites in urban areas. These (tin cans, flowerpots, bottles, tires, or other such receptacles are then destroyed or treated with a larvicide (temephos=abate). Through community participation the local population is encouraged to practice sanitary measures by eliminating potential breeding sites on a routine basis. In some cases, adult mosquito control, employing Ultra low volume (ULV) treatment with either malathion and/or K-Othrine (a pyrethroid) is required.[4/]

In the Guatemalan System treatment for mosquito control has been either: a) Suppressive - consisting of immediate treatment where larvae suspected to be Ae. aegypti have been found; or b) Integral - where larval populations of Ae aegypti have been verified. Quantities of pesticides used (1985) exceed 5 metric tons of larvicide (Temephos) and 2 metric tons of adulticides (Malathion, K-Othrine).[5/]

1/ Godoy, Hector. Division of Malaria personal communication, 1986
2/ Ibid.
3/ (Memoria Anual, Division of Malaria, 1985).
4/ Op. Cit.[1/]
5/ Ibid.

8.7.2 Summary and Conclusions

The threat of dengue (and DHF) is very real in all of Central America; Guatemala is no exception. Surveillance for, and control of, urban *Aedes* sp. is clearly the most effective means of prevention and is to be encouraged in all countries at risk. This year (1986) CDC has reported circulation of several dengue serotypes in the Caribbean and South America (personal communication - to AAA) so that a DHF threat exists. A serious outbreak of dengue would not only produce a major national health problem, with the risk of epidemic childhood mortality, but could have serious economic effects on the tourist industry.

Chart 8.7.1

MINISTERIO DE SALUD PUBLICA Y A.S.
D.G.S.S.
DIVISION DE MALARIA
GUATEMALA, C.A. 1986.

LOCALIDADES CON HISTORIAL POSITIVO A A. AEGYPTI

1972–1985

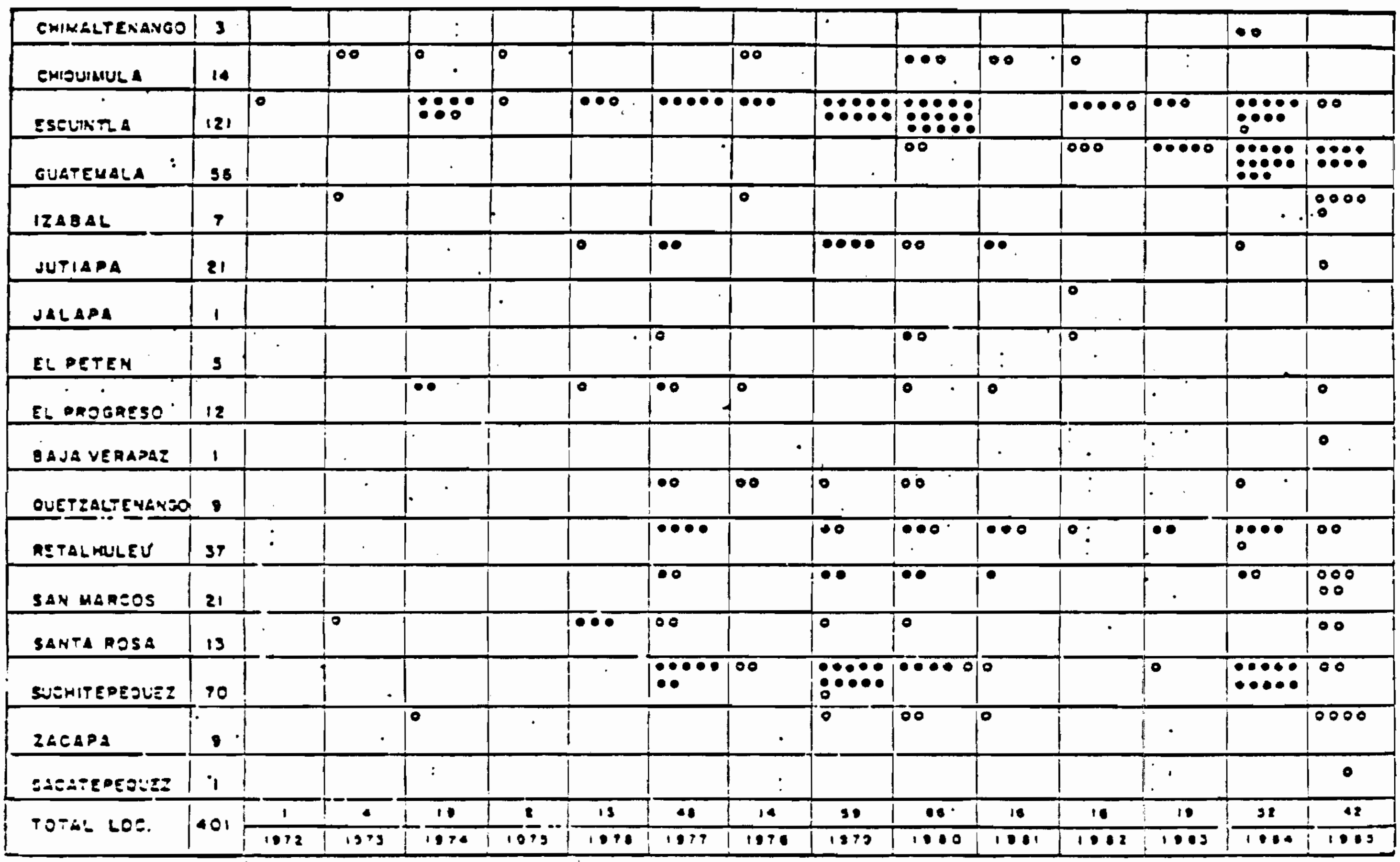

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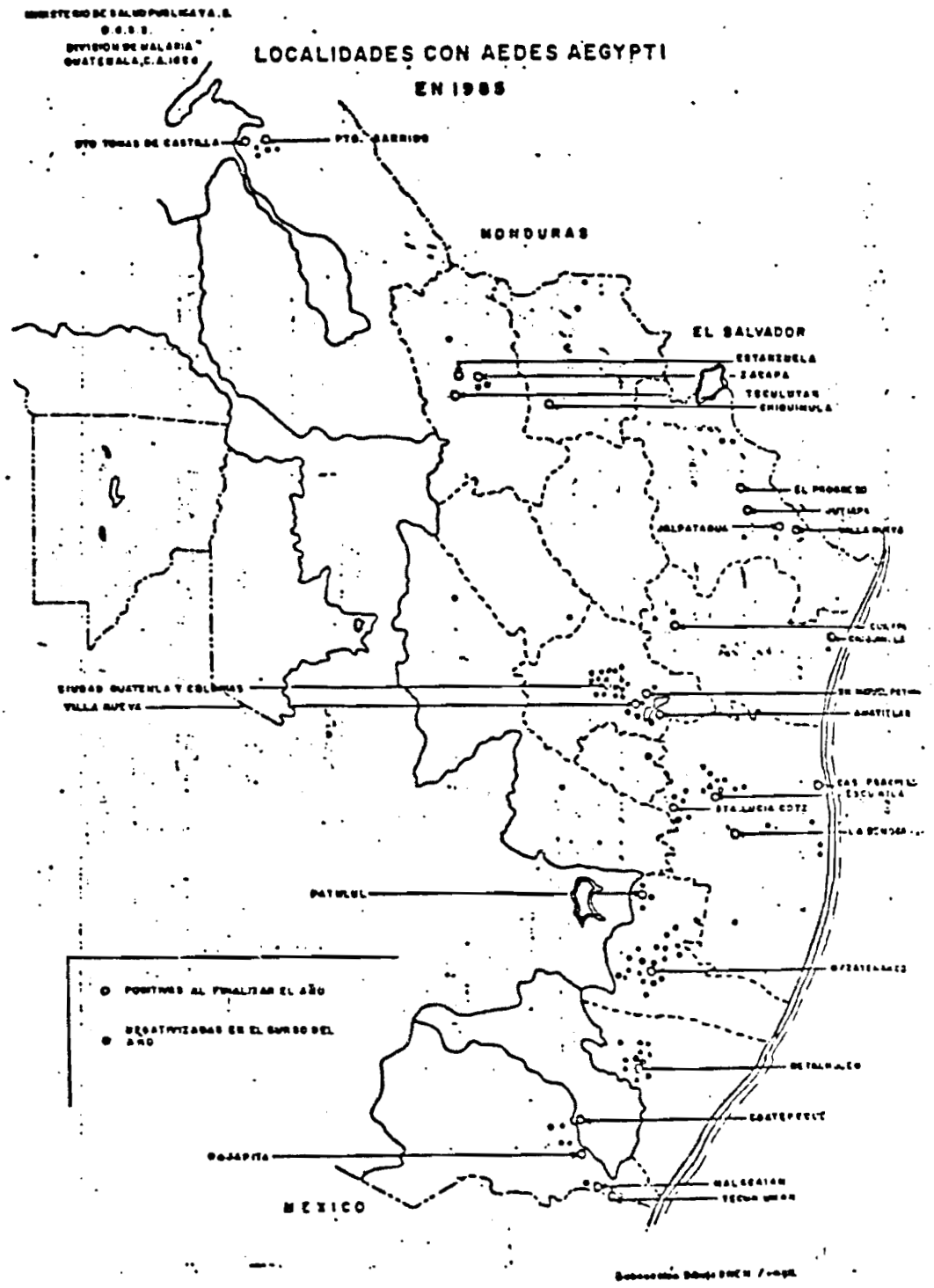
CHART 8.7 (2) LOCALIDADES



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8.7.3 Recommendation

It is recommended that:

8.7.3.1 USAID support the Guatemalan Aedes control program because of the threat of dengue and Dengue Hemmorragic Fever throughout Central America. Control emphasis should remain on urban sanitation with insecticidal treatment reserved for epidemic situations.

8.8 Chagas' Disease

8.8.1 Background

Chagas' disease, or American Trypanosomiasis, was first studied in Guatemala in 1933 by Reichenov. His findings can be summarized as follows:

1. *Triatoma dimidiata* was frequently found in the south of Guatemala, and from 29% to 35% of this vector species was found infected with the parasite *Trypanosoma cruzi*;
2. *Trypanosoma cruzi* infection was found in 3 children and in 3 dogs.

Later, E. Blanco-Salgado found high-density infestations of the triatomine *Rhodnius prolixus* in households of the eastern departments of Guatemala. He also found high percentages of infection in insects sampled (100% in Sanarate).

Other studies in Guatemala have shown the presence of other potential vectors, human infection, and disease.[1/] However, the importance of Chagas' disease as a public health problem in Guatemala is unclear due to a lack of epidemiological information.

Mortality from Chagas' disease is due to severe myocarditis or meningoencephalitis. These deaths and cases of disease usually occur in rural areas where the disease is endemic, and rarely are serological or parasitological studies performed to make the diagnosis.[2/] Mild cases of Chagas' disease are difficult to identify clinically. Thus, reliable morbidity data are not available, not only in Guatemala but in most Latin American countries where the disease is known to be endemic.[3/]

8.8.2 Activities Carried Out by the MOH

The department of Parasitic Diseases of the MOH Applied Programmes Unit has carried out some epidemiological studies of this disease, including entomological studies, active case-finding, and research on diagnosis and treatment.[4/] In 1953 studies were initiated on the geographical distribution of potential vectors and human infection (by vector studies, *in vitro* culture, serological tests, xenodiagnosis, and assessment of *T. cruzi* infection indices in

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1/ PAHO Document 1985.
2/ *Ibid*.
3/ *Ibid*.
4/ *Ibid*.

all potential vectors.[5/] Results of these activities can be summarized as follows.[6/]

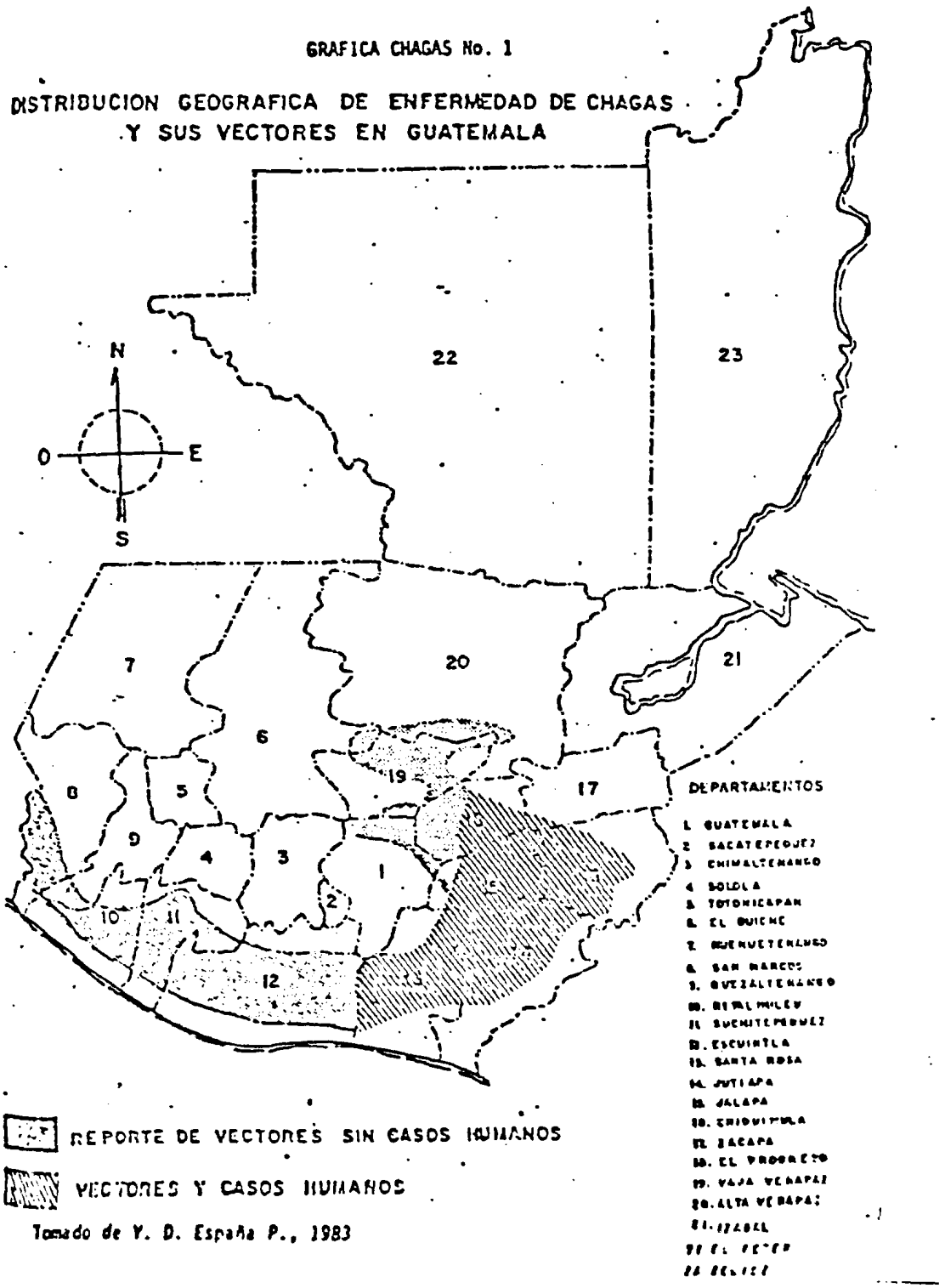
Of a total of 35,993 households surveyed from 1979 to 1982, about 50% were found infested with potential vectors, 24% of which were infected with unspecified trypanosomes.

Active case-finding from 1977 to 1980 showed only 17 cases for 1978 (0.2 per 100,000), and 5 cases for 1980 (0.1 per 100,000) through xenodiagnosis of 246 inhabitants of endemic areas.[7/] However, V.D. Espana, using the direct hemoagglutination serological test, reported from 1979 to 1982 a prevalence rate of 27.6 % in a sample of 596 inhabitants of endemic areas in Guatemala.[8/]

The population endemic areas of Guatemala, as reported by V.D. Espana (Figure 8.8.1) is about 1.5 million. By applying his results (27.6% prevalence), an estimated 14,000 people could be infected.[9/] However, about half of this population lives in urban or sub-urban areas, where it is very unlikely that housing facilities are favorable for the breeding of triatomines.

5/ Ibid.
6/ Espana, V.M.: Enfermedades Parasitarias en Guatemala, 1983
7/ PAHO/WHO: Scientific Publication Number 427, 1982.
8/ Espana, V.M.: Enfermedades Parasitarias en Guatemala, 1983
9/ Ibid.

Grafica CHAGAS No. 1



Tomado de Y. D. España P., 1983

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Through passive surveillance, 2519 cases were identified between 1979 to 1982,[10/] in 18 of the 22 departments of the country (Figure 8.8.2 and Table 8.8.1).

It has been speculated that the incidence of Chagas' disease may have decreased in Guatemala[11/] due to several factors, including:

- Insecticide use by the malaria program in areas where Chagas' disease is also endemic;
- housing improvements involving changing thatched roofs for sheet metal roofs;
- frequent use of insecticides by the inhabitants of rural areas;
- the use of electric lighting.

However, there are no epidemiological data to document this hypothesis.

Cuadro Chagas No. 2

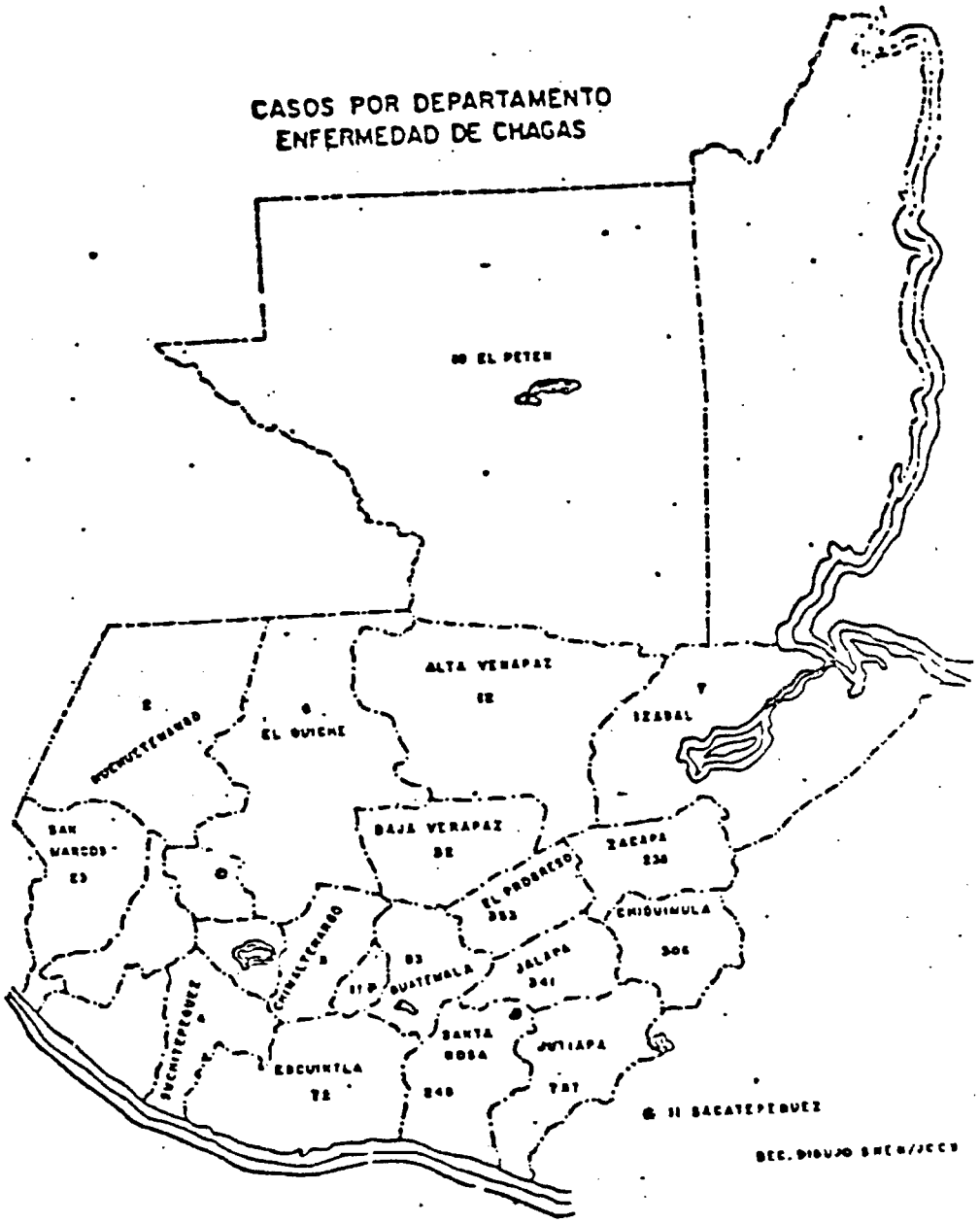

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Table 8.8.1

Cases of Chagas' Disease by Department
Guatemala, 1979 - 1982

Department	Cases	Annual rate per 100,000
Petén	18	2.2
Alta Verapaz	12	1.2
Izabal	7	0.8
Baja Verapaz	32	6.6
Zacapa	238	47.3
Chiquimula	306	41.2
Progreso	353	96.6
Jalapa	341	60.4
Jutiapa	787	70.4
Santa Rosa	246	26.9
Guatemala	53	0.7
Sacatepequez	11	2.1
Escuintla	72	4.9
Chimaltenango	8	0.6
Suchitepequez	4	0.4
San Marcos	23	2.7
Hue		

Presently, the activities of the Department of Parasitic Diseases related to Chagas' disease are very limited. These include:

1. Entomological surveys in households, when requested by any health or civil authority.

2. Parasitological and serological diagnostic aid, when requested by hospitals or Health Centers.

3. A drug study with "Lampit" (nitrophurane) which was suspended after studying ten cases, due to lack of funds.

4. Epidemiological surveillance in school children in endemic areas, which has stopped due to the lack of funds.

8.8.3 Comments and Recommendations

Morbidity and mortality data due to Chagas' disease in Guatemala are not complete or reliable due to problems in the coverage of the medical care of MOH, and difficulties in diagnosing mild cases of the disease without laboratory facilities.

The reported index of households infested (50%) by potential vectors is high, as so is the trypanosome infection rate of 24% among triatomines. However, there are no data vector density per household, nor on the trypanosome species found in these vectors. These complementary data are important in order to assess the risk of transmission (e.g., distinguish T. cruzi from T. rangeli, which does not produce disease in humans).

Xenodiagnosis is of little value as it is difficult to carry out properly when used in large surveys. The use of serological diagnosis such as direct hematoagglutination, which is a more appropriate and sensitive test, shows concordant results with the entomological findings. If the strain of T. cruzi is as pathogenic as in other countries (such as Venezuela), over 20% of the seropositive cases would be expected to show myocardial damage when electrocardiography is used in the diagnosis. There is no evidence that Chagas' disease in Guatemala produces pathology other than myocardial damage such as megacolon that is found in some parts of South America.

Special training on the basic epidemiology of the disease for medical and paramedical personnel to identify high risk groups is needed. Residence or traveling in endemic areas, housing conditions, and presence of vectors in the households will facilitate the identification of suspected cases. Potential cases should be screened using acepted serological tests.

10/ Ibid.
11/ Op. Cit.8/

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No effective treatment has been found for Chagas' disease. The most effective preventive measures in the endemic areas are improvement of housing facilities and health education to improve hygiene.

8.8.4 Recommendations

It is recommended that:

8.8.4.1 USAID support entomological and serological surveys, as needed, to assess the epidemiological situation of Chagas' disease in Guatemala and collaborate with the Department of Parasitic Diseases of the MOH in the study of pathology and clinical picture of the disease in Guatemala.

8.9 Leishmaniasis

8.9.1 Background

Leishmaniasis is a parasitic disease endemic in rural areas. In Guatemala it occurs in tropical areas where the vectors (*Phlebotomus sp.*) and other sand flies transmit the protozoan parasites *Leishmania mexicana* and *Leishmania donovani*. The first produces cutaneous or mucocutaneous leishmaniasis, and the latter visceral leishmaniasis.

Leishmania mexicana is primarily a parasite of wild rodents, producing characteristic lesions in these animals. Leishmaniasis typically has a sylvabic cycle through the interaction of the vector, parasite and wild rodents: man is infected only when he is in the bush or in isolated rural settlements in the tropical areas. Person-to-person transmission is very unlikely to occur since only a very small number of parasites are found in the skin lesions, the only sources from which the vector is infected.

In Guatemala only 6 cases of visceral leishmaniasis have been reported in the last 23 years: one in the Department of Santa Rosa. and the other 5 in the Department of El Progreso.[1/] All of them were children who died as a result of the disease. Cutaneous leishmaniasis is more frequently encountered, as this disease only produces lesions in the skin and mucous membranes. From 1979 to 1982, 785 cases were reported from six Departments (Figure 8.9.1). An average of 75 cases are reported every year.[2/] However, the incidence may increase due to migration and new settlements in the department of Peten, where the disease is most common.[3/]

8.9.2 Activities Carried Out by the MOH

The department of Parasitic Diseases of the Unit of Applied Programmes of the MOH carries out very limited activities. It encourages notification by offering clinical and laboratory diagnostic aid, as well as treatment. However, there is no active case finding program or any ongoing epidemiological reasearch.[4/],[5/]

1/ Espana, V.D.: Enfermedades Parasitarias en Guatemalam 1983.
2/ *Ibid*.
3/ *Ibid*.
4/ Espana, V.D.: Enfermedades Parasitarias en Guatemala, 1983.
5/ PAHO Document, 1985.

8.9.3 Comments and Recommendations

Very little is known about leishmaniasis not only in Guatemala, but in most Central American countries and Mexico. Further studies on the epidemiology of the disease are needed to learn more about the difference in transmission of the infection in different ecological situations. Domestic and peridomestic potential reservoirs are not well known in Guatemala. At present, the reduced number of reported cases indicates that leishmaniasis may not be a major public health problem in Guatemala. However, the number of cases may increase due to recent internal migration, and new settlements in those areas where cases have been reported. Close surveillance in such settlements is recommended.

Health education for medical and paramedical personnel, especially in endemic areas, is essential.

8.10 Rabies

8.10.1 Background

Rabies is a zoonosis of public health and economic importance, as it is fatal in man and animals, and produces important losses in the livestock industry.1/ Children under 5 years of age are the most frequently exposed group to be at risk of being bitten by dogs or other infected animals.2/

The main source of infection to man are infected dogs: the estimated canine population in Guatemala (1985) was over one million (one dog for every 7 inhabitants), and only 13.7% of the dogs in the country are vaccinated.3/

At present, the goals of the Department of Zoonoses of the Direccion General de Salud are focused on the prevention of human and animal cases. 4/

During 1985, 8,194 persons were bitten by domestic animals probably infected with rabies, and 1,391 persons were bitten by confirmed rabid domestic animals.5/ The number of people bitten by rabid animals and cases of human rabies increased in the last year, probably due to the lack of funds to carry out the annual canine vaccination campaign for 1984 in Guatemala City (Table 8.10.1), where 74% of all cases of canine rabies were reported from 1979 to 1983, and where 20% of cases in humans from 1979 to 1985 were identified. 6/,7/

1/ PAHO Document, Volume III, 1985
2/ Ibid.
3/ Unidad de Planificacion y Programacion. M.S.P.: Plan Operativo Nacional, 1985.
4/ Ibid.
5/ Unidad de Planificacion y Programacion. M.S.P.: Memoria de Labores a o 1985.
6/ Ibid.
7/ PAHO Document, Volume III, 1985.

Table 8.10.1

Cases of Canine and Human Rabies in Guatemala
1979-1985

Year	Canine Rabies	Persons Bitten	Human Rabies
1979	218	ND	8
1980	183	ND	4
1981	255	935	3
1982	263	1174	10
1983	159	896	4
1984	NA	898	4
1985	NA	1391	7
		TOTAL	40

NA: Data not available

Source: PAHO Document, Volume III.85
Memoria de Labores. M.S.P. 1981- 1985

Outside Guatemala City, the departments of Quetzaltenango, Chimaltenango, Suchitepequez, Sacatepequez, Escuintla, Solol , and Totonicap n show higher incidences of canine rabies than the other departments of the country. Cases of human rabies were also more frequently found in these departments between 1979 and 1983 (Table 8.10.2). However, the department of San Marcos reported 6 cases of human rabies and only 8 canine cases. 8/,9/

8/ Op. Cit. 5/
9/ Department of Zoonosis, DGSS, unpublished data, 1986.

Table 8.10.2

Cases of Human and Canine Rabies
Selected by Departments
Guatemala 1979-1983

Department	Canine Rabies Cases	%	Human Rabies Cases	%
Guatemala	1078	74	8	28
Quetzaltenango	75	5	2	7
Sacatepéquez	39	3	2	7
Suchitepéquez	32	2	1	3
Chimaltenango	31	2	0	0
Solol	27	2	0	0
Totonicapin	23	2	0	0
Escuintla	19	1	1	3
All others *	379	9	15	52

* The Department of San Marcos reported 6 cases of human rabies and only 8 cases of canine.

Source: PAHO Document, Volume III. 1985
Department of Zoonoss, M.S.P.
Unpublished data. 1986.

Diagnostic facilities and vaccine for dogs are only found in Guatemala City. Human vaccine is not always available in hospitals or health centers except for those located in major cities such as Guatemala City and Quetzaltenango, although the biological laboratory of the MOH produces both human and canine vaccines, and this laboratory has been recently designated as the Central American Regional Center for production of rabies vaccine.[10/]

CHAPTER 9

WATER AND ENVIRONMENTAL SANITATION

9.1 Water and Basic Sanitation

Nine (9) official national organizations are involved in this area, coordinated by a National Council (SEGEPLAN). These are:

1. EMPAGUA (Empresa Municipal de Agua de la Cioudad de Guatemala)
2. INFOM (Insituto de Fomento Municipal)
3. UNEPAR (Unidad Ejection del Programa de Acceeducts Rurales)
4. DSM/MSP (Division de Saneamiento del Medio)
5. ERIS (Escuela Regional de Ingenicna Sanitaria)
6. MSPAS (Ministerio de Salud Publica y Asistencia Social)
7. MFP (Ministerio de Finanzas Publicas)
8. INSVUMEH (INstituto de Sismologia, Vulcanologia, Meterologia e Hidrologia
9. Corporacion Municipal y Comites Rurales de Agua Potable

A summary of the services available and projected for urban and rural populations, shown as a percent of population served, is as follows:

	Drinking Water Supply			Sewerage and Excreta Disposal		
Year	Total	Urban	Rural	Total	Urban	Rural
1980	45%	89%	18%	29%	35%	20%
1983	57%	89%	38%	50%	49%	37%
1985	58%	89%	39%	54%	50%	42%
1990*	73%	93%	60%	73%	57%	60%

* Planned Goal

In all categories of services, Guatemala ranks close to the median for the 26 countries in Latin America and the Caribbean listed by PAHO (Tables 7.3.3 and 7.3.4).

Goals for the drinking water and sanitation decade in Guatemala focus on 6 basic categories of population concentration, and the corresponding coverage targets for 1990:

	Drinking Water				Waste Disposal			
	Home Conn.		Public Tap		Home Conn.		Latrine	
Urban	1985	1990	1985	1990	1985	1990	1985	1990
>50,000	64.7	77.5	22.7	19.5	59.3	64.2	17.6	32.8
10,000-50,000	63.0	77.0	33.8	20.0	45.6	55.0	33.8	42.0
2,000-10,000	47.1	64.0	24.2	16.0	33.0	43.0	29.2	37.0
< 2,000	62.9	77.0	28.9	15.0	33.9	44.0	28.9	48.0
Rural								
Concentrated	37.7	48.0	9.4	12.0	-	3.0	31.5	57.0
Disperse	-	-	30.8	60.0	-	-	51.2	60.0

Additional details on coverage, projections, projects, and costs are available in EMPAGUA, INFOM, UNEPAR, DSM/MSP, and PAHO reports on the Water and Sanitation Decade.

Achieving the projected goals for 1990 will cost an estimated US$158 million for potable water ($115 million for urban and $43 million for the rural areas), and $87 million for sanitation ($63 million for urban and $24 million for the rural areas). Seventeen (17) major projects have been designed to meet the projected 1990 needs at an estimated cost of US$196 million, of which $49 million (25%) is to be provided through national funding.

Although all projects providing water and sanitation should be beneficial, evidence for the impact of water quality on health is weak. Three of the 17 projects planned are of particular interest, as 65% of the funding will come through the MOH for these three projects. A small project, for surveillance of potable water quality is currently funded by USAID, and should be expanded to other areas of the country, including the periurban zones.

The most serious constraints identified by Guatemalan authorities have been imbalance between costs and recovery, lack of community participation, and lack of educational activities concerning sanitation.

The lack of coordination between the nine governmental and three non-governmental organizations involved with provision of potable water and sanitation services is also a problem, as the National Committee for Planning "does not have the authority to establish programs and to assign resources". (PAHO 1986 Survey) 1/

1/ Salud Ambiental en Recopilacion y Ordenamiento de Informacion para Diagnostico de la Situacion de Salud y su Relacion con el Desarrollo Economico, PAHO, 1985.

9.1.1 Summary and Conclusions

For this report, data on the status and proposals for development of both water and sanitation facilities have been assembled from several sources. It has not been possible to evaluate the physical condition of these facilities, nor to evaluate if the stated coverage of the populations served is correct. A particular case concerns the expanding periurban populations, i.e., the urban slums and the urban poor. It is certain that large sections of the periurban populations do not have the same facilities as may be found in the cities proper, and, the numbers of such unserved persons are not accurately known. It is questionable which national organization is responsible for planning and development of such facilities in areas that may lie outside of municipal boundaries, yet be populated by people who essentially belong to the urban community.

The second observation concerns the apparent lack of coordination between the various national organizations in the planning process. This was evident in the interviews the team conducted, in the PAHO report quoted above, and in documents on water and sanitation prepared by national authorities.

The third observation is that the only geographic area in which the quality of drinking water is tested is the capital (EMPAGUA and Division de Saneamiento del Medio). Extension of these services throughout the country would be highly desirable. Because provision of water is important for prevention of illness (especially diarrhea), major expenditures on provision of water supplies without facilities for determining quality are not cost-effective. Similarly, projects associated with disposal of excreta should be evaluated, particularly in relation to the health of children in the populations served.

The statistics for current and proposal services for potable water, sewerage and disposal of excreta are simplistic, essentially defining populations as urban or rural. In view of the influx of people into the urban areas, and the growth of periurban populations, planning for future services should be enhanced. Due to the often disproportionate growth of urban slums it is possible that a far greater percentage of the "urban" population lacks water and sanitation than is shown in governmental statistics. Unless there is a better understanding of the urbanization phenomenon there will not be proper planning for such essential services.

Although community participation is often considered essential in developing water and sanitation projects, it cannot be expected without a basic level of understanding. Emphasis should be placed on the education of children through the schools, and on the women. This is an area where the PVO network can be particularly effective, given the resources.

9.1.2 Recommendations

It is recommended that:

9.1.2.1 USAID use its influence as a major donor to help achieve better planning and coordination between the various national organizations engaged in water and sanitation projects. Case studies of the quality of delivery systems and their relation to health would be appropriate.

9.1.2.2 USAID, in the design and implementation of future water and sanitation projects, place more emphasis on the provision of water in periurban areas of the capital city and smaller cities of the country.

9.1.2.3 USAID suggest studies in Guatemala City and one or more smaller cities to define what consitutes an urban population.

9.1.2.4 USAID support efforts to provide education concerning sanitation at the household level, focusing on education of children in the school system and women .

9.2 Public Health Aspects of Pesticide Usage

Pesticides are used both in agriculture and public health. The small amounts of pesticides used in public health (for control of malaria and urban mosquitoes, e.g., *Aedes aegypti*, the vector of dengue and yellow fevers) are applied by trained personnel of the Division of Malaria and are not considered a threat to human health.

9.2.1 Pesticides in Agriculture

The use of pesticides in agriculture, however, poses a considerable problem that has only recently been recognized. This problem is difficult to cope with, as it involves production, importation, formulation, transportation, storage, and application as well as determination of food residues, etc. In addition, there may be environmental contamination of water and food supplies due to

accidents in transport and storage of pesticides. Recognizing this, Guatemala recently (1985) established a "Comision Interministerial de Plaguicidas," which includes representatives of the Ministry of Health, IGSS, and the Ministry of Agriculture, among others. The purpose of the commission is to regulate importation and formulation, provide for registration and proper labeling of products, and surveillance (by IGSS) of cases of intoxication and death caused by pesticides.

A number of factors make these tasks difficult:

a) Very few health workers, including physicians, are trained in diagnosing and treating cases of chemical intoxication, especially in rural areas where the majority of cases occur, nor do they always have appropriate antidotes.

b) Most agricultural workers are poorly educated and untrained concerning the hazards associated with pesticides, or chemicals in general. Labeling of pesticides is often not clear to laborers, if the containers they handle are labeled at all. Often, pesticides are repackaged several times with no labels attached to the smaller quantities. Many pesticide products are sold under a variety of names and the quantity of active ingredient (i.e., the toxic component) in the formulation can differ greatly from product to product, increasing the hazard in handling.

   Another risk factor is the frequent re-use of containers in which pesticides are packaged. Often, the drums, tins, and even strong plastic bags have some value in rural communities where they may be used for storage--especially of water. There is generally a lack of information and training concerning the hazards involved, or the proper means to dispose of the used, contaminated containers.

c) The greatest risk to pesticide intoxication occurs in the cultivation of the so-called "industrial crops," especially cotton, which requires a great deal of protection against pests during various phases of the growing cycle. This extensive use of pesticides on cotton has also resulted in the development of insecticide resistance by the mosquito vectors of malaria on the Pacific coast from southern Mexico to Nicaragua. In principle, the opportunity for training workers in proper handling of insecticides should be greatest in the plantation system (cotton, coffee, sugar cane, bananas, etc.) through involvement of the private sector and plantation management.

The IGSS has provided the following data on diagnosed cases of pesticide intoxications:

TABLE 9.2.1

PESTICIDE INTOXICATION BY YEAR
IGGS: GUATEMALA
1981-1985

Year	# of Cases
1981	787
1982	613
1983	768
1984	636
1985	797

N.B.: These figures are only of those cases seen by IGSS.
Source: IGSS 1985 Annual Report

Most cases occur during the May-July period associated with agricultural activities. About half (49.5%) of the cases are associated with organophosphate compounds (e.g., malathion, fenitrotion, and many others); Carbamates (15.5%), and organochlorines (12%), and others account for the remainder. The organochlorines (e.g. DDT, Dieldrin, etc.), once the most commonly used compounds, are not as widely used because the target agricultural pests have become resistant.

An analysis of the 768 reported cases seen in 1983 was carried out by IGSS: the case incidence rate using the national rural population (c. 4 million) would be 20.25 per 100,000 people, but using the 800,000 people covered by IGSS as the denominator, the rate would be 96 per 100,000 persons. As mentioned above, few cases of pesticide intoxication are treated medically, so the true incidence could be considerably higher.

The most effective means of reducing cases of pesticide intoxication is through education, especially in the farming communities. Additional training of health personnel is required for proper prevention, diagnosis and treatment, especially with the commonly used organophosphate compounds, which produce acute cholinesterase depression. Proper antidotes at rural health centers should be stocked, along with manuals for diagnosis and treatment that are available in Spanish through PAHO's Center for Human Ecology and Health in Mexico.

Just as important is the enforcement of legislation concerning registration, labeling, storage, transportation and handling of pesticide products, the obligatory cleansing or disposal of pesticide containers, and the proper use of protective clothing for those at high risk in formulation and transport activities.

9.2.2 Residual Pesticides in Food Products

Pesticide residues in food products in Guatemala have been measured for a number of years by the Laboratorio Unificado de Control de Alimentos y Medicamentos (LUCAM) located at INCAP. Regular monthly samples of common foods are taken (tortillas, vegetables, meats, milk, fish, fruits, etc.) in the markets of Guatemala City and environs and tested for residues. Earlier in the 1960 and 70's attention was paid to the organochlorine DDT and its metabolites (DDa and DDb, dieldrin and HCH), which are easily accumulated in fatty substances (meat and milk, for example). At present (1986) such compounds are generally found in low quantities (1 ppm to traces), as these compounds are not used as frequently in agriculture as before. Most results fall within acceptable tolerance limits, except for endrin. Residues of the less persistent, biodegradable compounds in common use (malathion, carbamates, etc.) are being found more frequently. Such residues occur when crops are harvested too soon after spraying. It is generally recommended that crops remain in the field for a certain period after spraying (variable with the compound used) and before harvesting for market.

In one study on contamination of human breast milk with DDT, it was shown that residues had diminished in samples taken between 1971 and 1982, due to lowered use of DDT over this period. Seven localities were tested and the principal crops recorded: milk residues were highest in areas where cotton was grown.

9.2.3 Recommendations:

It is recommended that:

9.2.3.1 USAID support public instruction in the safe use of pesticides through the development of teaching aids for the general public, as well as training through schools and health clinics. More rigid training should be enforced in the industrial sectors dealing with insecticides, herbicides and mercurous seed dressings.

9.2.3.2 USAID subsidize efforts to improve the training of health personnel at all levels (physicians, nurses, auxiliaries, etc.) in the recognition and treatment of pesticide poisoning. Proper supplies of pesticide antidotes should be made readily available.

9.2.3.3 USAID encourage and assist appropriate Guatemalan authorities to enforce training on the safe use of pesticides in all of its agricultural projects.

CHAPTER 10

ECONOMIC AND FINANCIAL ANALYSIS OF THE GUATEMALAN HEALTH SECTOR

10.1 Overview

Much of this report deals with the benefits of improved health for individuals and families. Clearly a focus on human welfare is the ultimate purpose of any such exercise. At the same time, economic analysis opens the door to another point of view which addresses formation of human capital and permits conceptualization of spending on health as a potentially productive investment.

Human capital theory suggests that present use of resources on health yields future possibilities for increased productivity, output, and income. In this way, of course, investment in human capital is conceptually analogous to investment in more traditional forms of capital, in which sacrifices of current consumption lead to returns in the future that are greater than the original expenditures.

As usual, a group of implicit assumptions lies behind such a model. The most important and the most frequently overlooked assumption is the following: the expenditures on health, made as investments, will be appropriately planned and efficiently managed in order to produce the desired returns. Again, the analogy with other types of investments is exact. No investment, human or physical, will pay off if it is accompanied by inappropriate project design or wasteful management.

It should be noted explicitly that expenditures for health are not the only form taken by investment in human capital. Spending on selected types of formal and informal education is another common avenue for human capital formation. In addition, both in theory and in practice, different categories of spending on health are associated with different rates of return. For example, when the injured worker is promptly treated and goes back to work, his economic productivity recovers swiftly. By contrast, it is more difficult to justify large expenditures that retard the rate of decline of old people with chronic conditions, however attractive that spending may be in more basic human terms.

Quantitative calculations of precise rates of return to different health expenditures require time and data far beyond the amounts allocated for this study. Nevertheless, the conceptual justification for health spending underlies the analysis contained in the following sections.

10.2 Recent Trends in the Guatemalan Economy

10.2.1 Recent Economic Decline

An economy that prospers will permit more spending on health; an economy in decline will extend its austerity to most, if not all, of its constituent parts. Thus the problems of the Guatemalan economy since about 1980 are inevitably reflected in the country's capacity for and composition of health spending.

The world recession of the early 1980s has hung on grimly in Guatemala. The country has not participated in the economic recovery enjoyed elsewhere. Internationally, Guatemala has faced decreases in the terms of trade, increasing protectionism with respect to potential industrial exports, capital flight, the retreat of foreign investment, and the familiar problem of servicing the foreign debt.

Locally, a crisis in confidence by private investors was associated with politically inspired violence in the early 1980s, as well as with an absence of concensus at the highest levels about the desirable directions that the economy and society more generally should take. The violence in the countryside, appalling in its magnitude and ferocity, combined with the presence in the capital of no fewer than three military juntas during the four years preceding the election of the Cerezo government in late 1985. It is hardly surprising that political disunity on that scale was accompanied by economic decline.

The statistics are revealing. Average annual growth rates in overall GDP of 6.0 percent in 1965-73 fell to 3.1 percent in 1973-84. The per capita rates are similarly configured: 3.2 percent per year in 1965-73 and 0.3 percent in 1973-84. While GDP in nominal terms did increase from year to year during the early 1980s, in real (inflation-adjusted) terms it has fallen from 1980 until the present. Although the data are not completely reliable, they show the economy has experienced a decline since 1980 of 8 percent in real terms. Later sections describe the results for health-related expenditures of the current economic malaise.

10.2.2 Inflation

Inflation can impair the delivery of health services. In addition, inflation in Guatemala has had special characteristics that also affect health. While many other countries have a long history of price and wage increases, the inflationary experience in Guatemala has a much more recent origin.

Until November 1984, the Guatemalan quetzal traded in international exchange markets at a par with the dollar. This reflected the historic influence of the U.S. economy and of U.S.-led central banking practices. Since for the most part Guatemala avoided serious disequilibria in its balance of payments, domestic inflation followed much the same pattern as did inflation in the U.S. In particular, in the decade before the first oil shock (1965-73), consumer prices rose at less than two percent per year, and even afterward, in the period from 1973-84, the inflation rate was held to less than ten percent per year.

The country's well documented economic distress of the early 1980's changed all that. The year-to-year differences shown in Table 10.1 reveal inflation's acceleration after 1984. As the exchange rate deteriorated, a complex multiple exchange rate regime was substituted for the previous unitary rate, and in the free market, the quetzal depreciated as low as four to the U.S. dollar at one time during 1985. Economic measures have subsequently been adopted so that as of September 1986, the quetzal partially recovered and is now valued at about two-and-one-half to the dollar. Nevertheless, the longer term deterioration (from par to two-and-one-half) reflects a change in the Guatemalan economy whose importance for health care delivery can hardly be overstated.

Table 10.1

Guatemala: Price Indices, 1979-1985

(1980=100)

	Year	Consumer Price Index	Wholesale Price Index
Annual Averages:	1980	100.0	100.0
	1981	111.7	111.4
	1982	105.3	111.8
	1983	106.2	116.8
	1984	112.2	120.8
	1985	138.3	143.4
	(Dec. 1985)	163.2	166.2

Source: International Monetary Fund, International Financial Statistics

10.3 Inflation's Effects on Health

10.3.1 Wage Costs of Health Care Providers

As consumer prices rise, workers seek to defend their purchasing power by demanding higher wages. For the public sector as a whole, real wages had fallen by 1985 to 64 percent of their 1980 level. Before September 1985, when an increase of 50 quetzales per month was awarded to all civil servants, even their average nominal wage was below the level it had reached in 1980 (See Table 10.2). If the workers are successful in pressing their wage demands, and if their pay hikes are not offset by productivity increases, both total and average costs of public sector health care rise.

The tendency is always to try to maintain the number of ministerial employees for political reasons. Thus, when budgets are under pressure, this encourages the use of the lowest wage levels possible, with corresponding pressures to shift the composition of employment toward workers with low pay, low skills, and low productivity.

The rigidity of the ministerial budget and of its hiring practices also creates incentives to bypass the civil service wage scale. In practice, this can be done if new workers (or even existing personnel) are placed on off-scale "professional services contracts." But quite apart from the effects on immediate cash flow caused by the higher costs of the contracts, the invidious distinctions between employees on the regular payroll and those on professional services contracts are likely to result in a deterioration of morale and an increase in apathy, with corresponding downward pressures on workers' productivity.

Table 10.2

Guatemala: Public Sector Wages, 1980-1985

Year	Average Monthly Wages a)	Index of Nominal Wages (1980=100)	Index of Real Wages (1980=100) b)
1980	179.4	100	100
1981	170.2	95	85
1982	170.5	95	90
1983	167.8	94	88
1984	160.3	89	80
1985	160.2 c)	91	64

Notes:
a) Average monthly wages in quetzales declared by employers to IGSS
b) Calculated using the index of nominal wages deflated (adjusted) by the consumer price index. To the extent that the consumer price index understates actual price increases, this real wage index is correspondingly overstated.
c) Excludes the 50 quetzal monthly bonus paid to public employees after September 1985.

Source: Derived from IGSS and IMF unpublished estimates

10.3.2 Employee Performance

The tendency of all workers to defend any standard of living already achieved involves other costs as well. Unexpected deterioration in real purchasing power associated with inflation distracts employees from their regular duties. Formulating new strategies to defend themselves occupies their working time and emotional energy in ways that are counterproductive to their assigned tasks. The labor relations problems of the MOH during 1986 exemplify these losses -- losses in productivity and output which, it should be underscored, supplement and reinforce the increases in financial costs already mentioned. The latter can be readily measured, but the former, while considerably less amenable to easy quantification, may in fact be more corrosive on the overall provision of health care.

10.3.3 Locally Purchased Materials

When price inflation leads the prices of locally purchased materials to rise in ways not anticipated in the budget, expenditures must rise if the originally contemplated items are bought. Alternatively, acquisition of the necessary supplies must be postponed or even deleted.

10.3.4 Imported Materials

The deleterious effects of rapid depreciation in the exchange rate are evident. In a system of multiple exchange rates, MOH imports rise in step with the less favorable rates of exchange. Thus prices of imported medicines, supplies, and equipment have at least tripled since 1984 for the Ministry and indeed for all other providers of health care.

10.3.5 Demand for Health Services

Unexpected inflation, by lowering real incomes, lowers the effective demand by the population for health care services. In particular, when families with low income no longer can afford even the modest fees of the most accessible providers of primary health care (for example, pharmacists, midwives), the state of their health inevitably declines.

Operationally, of course, project officers in USAID and in the MOH are likely to feel that they cannot affect the macroeconomic policies surrounding the new inflation. At the same time, their accomplishments will be strongly influenced by the degree of success that the GOG, acting with its local and international advisers, has in weakening the price spiral.

10.4 Receipts and Expenditures for the Health Sector as a Whole

Previous sections of this report have described organizational details of the most important agencies providing health care in Guatemala. Estimates of spending by the Ministry of Public Health and Social Assistance (MOH), the Guatemalan Social Security Institute (IGSS), and the private sector are aggregated and compared with national output as a whole in Table 10.3. Corresponding percentage distributions appear in Table 10.3a.

These tables provide eloquent evidence about the composition of health sector spending. The progressive starvation of the MOH and the maintenance, at least in terms of relative position, of the Social

Security Institute were offset by growth in private sector spending. The Ministry, increasingly unable to comply with its official responsibilities for the provision of health care, found its place partially taken by expenditures for private care.

Table 10.3 also shows the results of the public sector's austerity program that was officially started in 1982. While public sector provision of health care shrunk, that shrinkage was only partially offset by the increase in private sector expenditures. This is hardly surprising, since economic distress among the majority of the population prevented them from replacing out of their own pockets the full declines in public sector spending.

It is useful to review the decline in expenditures for health, relative to the size of output as a whole, measured as a percentage of GDP. In 1981, 3.1 percent of output was devoted to health. In 1984 the proportion had fallen to 2.5 percent. While these changes may appear modest, it should be remembered that a fall from 3.1 to 2.5 percent is a decline of 19 percent in the proportion of output and income going to health. It is therefore not surprising that the country's admirable progress in the main indicators of health, was arrested or even reversed during this period.

In order to understand more fully the nature and potential shortcomings of the statistical data presented in Table 10.3, two methodological comments are warranted:

1) The data do not include government spending by other ministries that have important effects on health. In particular, formal education has a demonstrable link with promotion of good health and prevention of disease. It is clearly difficult, however, to separate public expenditures on health education from those in other categories, given that even unfocused training in literacy is likely to lead to better health.

   Similarly, spending on public works, primarly on water supply and sewerage, and secondarily on better roads, community markets, etc. also improves health conditions as well as making life more generally a little easier. Once again, however, these expenditures have not been quantified or included in the figures presented above.

Table 10.1

Guatemala: Health Expenditures and Gross Domestic Product, 1979 - 1985, In millions of quetzales

	1979	1980	1981	1982	1983	1984	1985
Health spending:							
1. Ministry of Health (a)	78.9	114.7	120.8	91.0	85.1	92.1	82.2 (b)
2. Social Security Institute (c)	43.2	53.2	61.8	68.0	56.9	58.3	62.0
3. Other public sector health	9.2 (b)	12.6 (b)	13.7 (b)	13.9	10.7	9.5	9.0
4 Private sector	49.3	59.0	67.5	65.6	68.0	73.9	93.6
Total	180.6	239.5	263.8	238.5	220.7	233.8	246.8
Gross domestic product (GDP)	6903	7879	8608	8728	9035	9397	11023
Health as % of GDP	2.6%	3.0%	3.1%	2.7%	2.4%	2.5%	2.3%

(a) Current and capital expenditures actually made. Not to be confused with budgeted amounts, which are greater in each year.
(b) Estimates
(c) Health expenditures only. Excludes pensions and disability pay

Source: Ministry of Health, "An Iista Institucional," 1985; IGSS, Informes Anuales; Min. of Health, unpublished study of private expenditures on health in 1981; IMF, International Financial Statistics.

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Table 10.3a

Guatemala: Percentage Composition of Total Health Sector Spending, 1979 - 1985

Year	MOH	Social Security	Other Public	Private	Total
1979	44%	24%	5%	27%	100%
1980	48	22	5	25	100
1981	46	23	5	26	100
1982	38	29	6	27	100
1983	38	26	5	31	100
1984	39	25	4	32	100
1985	33	25	4	38	100

Source: Table 10.3

2) The figures on total spending that appear in Table 10.3 can only be compared using the greatest caution to those of other nations. The most customary ratio calculates spending by a ministry of health as a proportion of GDP. The calculation shown in Table 10.3, however, includes considerably more than the Ministry alone. The percentage figures are thus not readily comparable to those of other countries.

10.5 Ministry of Health

The principal institution active in Guatemalan health is the Ministry of Public Health. The financial dimensions of its activities, even in the fragmented form in which they are available, present a fascinating picture surprisingly consistent with more general observations already cited.

As a recipient of central government funding, the Ministry during the early 1980s cannot be described as a favored child. The government's austerity program of 1982 not only cut the Ministry's spending on current account by one-third in nominal terms, but also reduced its proportion of total public spending from 7.6 percent to 6.1 percent (Table 10.4). That is, while public spending as a whole was shrinking, expenditures for health were falling even faster.

The decline of health spending in absolute, relative, and real terms, provides evidence about national political priorities during this period. While most people declare human life to be beyond price, the budgetary process and ultimately spending itself became distorted in ways that were clearly injurious to the Ministry. Meanwhile, no other public

Table 10.4

Guatemala: Comparison of Total Government Spending with MOH spending, 1981 - 1987, in millions of quetzales

Year	Central Government Spending(-a)	Ministry of Health Spending(-a)	MOH as % of Total
1981	1380.5	104.6	7.6%
1982	1141.5	69.3	6.1
1983	1034.0	65.1	6.3
1984	1041.6	67.3	6.5
1985	1076.1	66.1	6.1
Year	**Central Government Spending -b)**	**Ministry of Health Spending -b)**	**MOH as % of Total**
1985	1061	96.7	9.1%
1986	1441	131.8	9.2%
1987	2043	217.4	10.6

(a)- Actual spending on current account only

(b)- Budgeted spending on current and capital account

Source: Ministry of Public Finance, Presupuesto de la Nacion, annual.

sector institution was pumped up to offset these declines. The financial statistics thus support the conclusion that the political constituency for publicly provided health was not sufficiently muscular to avoid being elbowed out in the struggle for government spending.

The nature of available data makes recent events more difficult to interpret, but one must conclude that the Ministry's fortunes have not been reversed. The 1987 budget shows spending on current and capital items for the Ministry of Health set at proportions not significantly higher than budgeted levels of previous years. These figures are subject to further scrutiny and must therefore be followed closely, but they do not appear to indicate a marked improvement in the political disposition toward the delivery of health care services.

10.5.1 Adjusting for Inflation

Meaningful analysis requires that expenditure data be adjusted for inflation. No official index has been calculated for price increases in the specific basket of goods and services purchased by the Ministry of Health. However, two general price indices are composed periodically by the National Statistical Institute (INE): a consumer price index and a producer price index. The former is based on expenditure studies of a basket of goods bought predominantly by families of low incomes. It may understate the severity of inflationary tendencies since 40 percent of the index is composed of goods whose prices are, in fact, officially designated "necessities" and as such are subject to price controls.

When the Ministry's expenditures are adjusted for inflation, using either of the two indices, the extent of its asphyxiation during the first half of the 1980s becomes unmistakably clear. As Table 10.5 shows, no matter which of the two price indices is used, the real level of expenditures fell almost by half between 1982 and 1985. Furthermore, even the optimistic figures suggested by the 1986 and 1987 spending proposals do not resuscitate the Ministry's real purchasing power to the level it enjoyed as recently as 1982.

10.5.2 Absorptive Capacity

The prospective absorptive capacity of a governmental entity is a continually recurring theme in development finance. Every organization's capability to absorb budget increases and to spend them in an appropriate and timely fashion is limited. So too, presumably, for the Guatemalan Ministry of Health.

Table 10.5

Guatemala: MOH Budgets, Nominal and Real (Inflation Adjusted) 1982 - 1987, in millions of quetzales

YEAR	Budgeted Expenditures (Nominal)	Inflation-adjusted budgeted expenditures in terms of 1980 prices	
		Adjusted by CPI	Adjusted by WPI
1982	139.4	132.4	124.7
1983	101.0	95.1	86.5
1984	99.1	88.3	82.0
1985	96.7	69.9	67.4
1986	131.8	73.2 a)	71.2 a)
1987	217.4	96.6 a)	94.5 a)

a) Calculated using estimates of the respective price indexes

Notes: CPI = Consumer Price Index
WPI = Wholesale Price Index

Budgeted expenditures include both current and capital budget items.

Sources: MOH annual reports; IMF, International Financial Statistics.

One imperfect but widely used measure of absorptive capacity is the amount of an organization's budget that it is actually able to spend during the year. Actual spending will in most cases be less than the budgeted amounts.

The data on absorptive capacity (table 10.6), while revealing, show no observable trends. Nearly all amounts budgeted for the current account were actually spent. At the same time, something less than half, on average, of amounts planned for the capital account were spent in the year in which they were budgeted.

Table 10.6

Guatemala: Ministry of Health, Absorptive Capacity
1979-1983
(millions of quetzales)

	1979	1980	1981	1982	1983
Current account					
Approved budgets	71.4	93.4	109.2	81.9	82.0
Actual expenditures	68.5	90.2	104.0	76.4	77.3
Actual as % of approved	96%	97%	95%	93%	94%
Capital account					
Approved budget	19.7	39.0	40.7	38.8	17.3
Actual expenditures	10.4	24.5	16.8	14.6	7.8
Actual as % of approved	53%	63%	41%	38%	45%
Totals					
Approved budget	91.1	132.4	149.9	120.7	99.3
Actual expenditures	78.9	11.47	120.8	91.0	85.1
Actual as % of approved	87%	87%	81%	75%	86%

Source: MOH, "Analisis Institucional", Nov. 1985 and unpublished estimates by the MOH

It is not instantly clear where the responsibility for this shortfall lies. Officials in the Ministry of Health mention procedural and bureaucratic difficulties they encounter in the Ministry of Public Finance in the execution of their projects. In addition, slow execution is sometimes used as a strategy of deficit reduction. It does seem clear, however, that the system as a whole is not articulated in ways that permit actual spending on capital account of amounts even roughly approximating those budgeted.

10.5.3 Program Budgets

Under most circumstances, an examination of an organization's program budget (Table 10.7) reveals its internal priorities. The Ministry of Health calculates its spending using what it calls a classificacion sectorial programatica. As can be seen, however, the Ministry's programs are not separated into these accounts; neither programs on a vertical basis (for example, immunization, ORT, health promotion) or on a horizontal basis (for example, rural health, peri-urban health, urban health). On the one hand, programs such as environmental health and epidemiology are separated out. At the same time, a set of expenditures that comprise one-quarter or more of the total are lumped together under employees' fringe benefits (politica laboral y de prevision social). Because these are not allocated to any given program, program costs cannot readily be calculated. Similarly, administrative expenses, technical services, and especially capital investment could (and indeed should) be allocated to specific programs.

The only trend clearly apparent in the period covered by the data is the relative increase in spending for medical care. Since these figures are in nominal rather than real terms, the amount of the increase is overstated, but even in this period of fiscal austerity, medical care was able to maintain itself. Since presumably this category includes the operation of the Ministry's large hospitals, their life-saving needs apparently took precedence in a period when other activities suffered withdrawal of funds.

10.5.4 Preventive vs. Curative Care

The documents of the Ministry reveal its adherence to a philosophy that emphasizes primary and preventive care over curative activities. In so saying, the Ministry has declared itself at one with the prevailing doctrines of community health. Thus it is revealing to examine, even fragmentarily, the division of the Ministry's funds between these two activities.

Its publications dissaggregate its medical care budget and show that about five-sixths of that budget goes for hospital care rather than primary care (Table 10.8). Of course, hospital care is expensive, and primary care need not be. Nevertheless, both the size of the proportion dedicated to curative functions, as well as the absence of any trend during the short period of time for which data were available (1979-83), appear to contradict the policy declarations made by the Ministry.

Table 10.7

Guatemala: Ministry of Health,
Current Expenditures, by Program, and Capital Expenditures,
1979-1984

(In millions of quetzales)

	1979		1980		1981		1982		1983		1984	
	Quet.	%	Quet.	%	Quet.	%	Quet.	%	Quet.	%	Quet.	%
Administration	6.6	8.4	17.2	15.0	23.7	19.6	7.6	8.4	8.1	9.5	8.1	8.8
Technical Serv.	1.3	1.7	1.9	1.6	2.1	1.8	1.8	2.0	1.6	1.9	1.6	1.7
Environ. Health	0.8	1.1	1.0	0.9	1.0	0.8	0.9	1.0	0.7	0.8	0.7	0.8
Epidemiology	3.6	4.6	4.4	3.8	4.7	3.9	4.3	4.7	3.9	4.6	4.4	4.8
Fringe Benefits for employees	24.4	30.9	30.5	26.6	31.2	26.4	22.1	24.2	22.2	26.0	23.3	25.2
Medical Care	29.1	36.8	32.9	28.6	37.9	31.4	37.9	40.8	38.7	45.5	41.2	44.8
Health Education	1.8	2.3	1.5	1.3	1.7	1.4	1.7	1.8	1.4	1.6	1.3	1.4
Other Current expenditures	0.8	1.0	0.9	0.8	1.0	0.8	0.9	1.0	0.8	0.7	0.8	0.9
Total Current Expenditures	68.5	86.8	90.2	78.6	104.0	86.1	76.4	85.9	77.3	91.8	81.4	88.4
Capital Investment	10.4	13.2	24.5	21.4	16.8	13.9	14.6	16.1	7.8	9.2	10.7	11.6
Total MOH Expenditures	78.9	100	114.7	100	120.8	100	91.0	100	85.1	100	92.1	100

Source: MOH, "Análisis Institucional," Nov. 1985.

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Table 10.8

Guatemala: Medical Care Budgets, Ministry of Health by Type of Expenditures, 1979-85

(Percentages)

Type of Expenditure	1979	1980	1981	1982	1983
Hospital Care	83.6%	82.8%	83.6%	83.3%	84.4%
Primary Care	16.4	17.2	16.4	16.7	15.6
Total Medical Care	100.0	100.0	100.0	100.0	100.0

Source: MOH, "Analisis Institucional", Nov. 1985 and unpublished figures from the MOH.

10.6 Guatemalan Social Security Institue (IGSS)

As a public and quasi-autonomous agency, the Social Security Institute combines health and accident services with a state-sponsored pension and disability plan. In the analysis that follows, the health and accident activities of the Institute have been separated from pension and disability spending.

The Social Security Institute has as its special focus the country's employed workers, private and public, who are employed by firms with more than five employees. Given the agrarian base of the economy and the predominance of small employers, the system covers about one-third of the labor force, and from 10 - 15 percent of the whole population. Coverage appears to have fallen through the early 1980s and risen slightly thereafter.

Geographic coverage is not yet universal. The pension, disability, and accident programs are nationwide, but programs covering maternity and disease are present only in nine of the country's 22 departments.

The programs are financed through obligatory contributions by employers and employees, and by transfer payments from the Guatemalan government. The government's payments are in arrears, owing to the current climate of fiscal stringency. Estimates of the size of the intra-agency debt vary, with some observers placing it at 300 million quetzales. In any case, its presence means that the private sector contributions are subsidizing the operation of the system as a whole. The size of the subsidy depends, of course, on the size of the central government's arrears to the Institute.

At present, the payments by the three parties are established by law, as a proportion of workers' salaries, as follows:

	Employers	Employees	State
Accidents, disease, and maternity	7%	3%	3%
Old age pensions and disability	3%	1.5%	25%

The expenditures on behalf of health supported by these contributions can be compared with those of the Ministry which acts as the other major governmental agency active in health. Note that estimates of health spending by the Social Security Institute are original ones made for this report and do not appear elsewhere. They include the Institute's prestaciones en servicio together with an appropriately pro-rated amount of the agency's administrative expenses.

As the Ministry's budgets have come under increasing pressure, the Social Security Institute's spending has risen in relative importance. In 1979, for example, the Ministry's spending was 44 percent of the nation's total spending on health, while the Institute's was 24 percent. By 1984, the Ministry had fallen dramatically to only 33 percent of total health spending, while the Institute's expenditures had risen slightly as a proportion of the total to 25 percent.

10.6.1 Adjustments for Inflation

As with the Ministry of Health (see Table 10.5), in order to grasp the true nature of the trends of spending through time, the inflationary milieu in which the Institute has operated must be considered (Table 10.9). While spending in nominal terms increased from 43 million quetzales in 1979 to 62 million in 1985, the adjustment for inflation reveals that expenditures in real terms actually fell between the late 1970s and the mid-1980s.

Table 10.9

Expenditures on health by the Guatemalan Social Security Institute, Nominal and Real (inflation-adjusted) 1979 - 1985
(In millions of quetzales)

Year	Expenditures for Health (nominal)	Inflation-Adjusted Expenditures in Terms of 1980 prices	
		Adj. by CPI	Adj. by WPI
1979	43.2	50.1	47.9
1980	53.2	53.2	53.2
1981	61.8	55.3	55.5
1982	68.0	64.6	60.8
1983	56.9	53.6	48.7
1984	58.3	52.0	48.3
1985	62.0	44.8	43.2

Note: CPI: Consumer Price Index
WPI: Wholesale Price Index

Source: IGSS, Informes Anuales; IMF, International Financial Statistics.

The declines are consistent with previous observations about the nature of the economy itself. The size of revenues and thus of expenditures by the Social Security Institute depend on employment and wage income within the society. In the economic distress of the early 1980s, private employment appears to have contracted, although no reliable figures exist on the magnitude of the decline. In the public sector, salaries (on which the contributions are, at least in principle, based) were not adjusted upward until September 1985.

Thus the Social Security Institute found itself starved for funds. The precise financial mechanism of revenue collection differs considerably from that of the Ministry. The Institute's income, as already noted, depends on employment and salaries, while the Ministry receives a share of overall tax collections from the state treasury. Nevertheless, taking a broader view, it is readily apparent that the economic environment in which these phenomena occurred were the same for both and affected both adversely. In turn, the difficulty encountered by the nation in improving the health of its people is directly associated with these national economic problems.

10.6.2 Sources and Uses of Funds

The payments to the Social Security Institute by its three main contributors, along with a small amount of other income, are noted in Table 10.10. Private employers have shouldered the principal burden, rising from 54 percent of total revenues in 1979 to 66 percent in 1985.

The health expenditures of the Institute include only its benefits in kind ("prestaciones en servicios") and a pro-rated portion of the administrative expenses. This spending consumed about three-quarters of the Institute's total expenditures between 1979 and 1985 (Table 10.10a). Despite the changes in the external economic environment, no significant trends in the overall composition of the Institute's spending can be ascertained.

10.7 Private Sector

As in other countries, private spending for medical services in Guatemala is even less adequately documented than the public sector's. A single study of consumer expenditures on health was carried out in 1981 by the Ministry of Health. This study calculated consumer spending in a wide variety of private health care categories, by category and by size of family income.

Private spending has been as large as the expenditures of the Social Security Institute, and preliminary estimates show it surpassing spending by the Ministry of Health in 1985. It should be noted that these estimates are based on the 1981 figures, together with changes in population and prices in the economy. They therefore should be regarded with more than usual caution.

Table 10.10

Sources and Uses of Funds
Guatemalan Institute of Social Security (IGSS)
1979-1985
(In millions of quetzales)

	1979	1980	1981	1982	1983	1984	1985
Sources of Income:							
1. Obligatory contributions							
a) Private employers	38.6	42.9	44.9	47.1	45.6	49.2	54.9
b) Employees	21.3	23.4	24.7	27.3	26.2	27.6	30.0
c) State as employer	7.8	10.3	8.6	7.0	3.9	4.3	2.5
2. State subsidy	2.5	-.-	-.-	-.-	-.-	-.-	-.-
3. Other income	1.7	2.0	2.4	1.1	1.1	1.5	2.0
Total Income	71.9	78.6	80.6	82.5	76.8	82.6	83.4
Expenditures:							
1. Direct payments to beneficiaries							
a) Temporary disability	10.0	11.9	13.0	13.6	12.2	11.9	12.5
b) Survivors' pensions	3.7	3.5	3.6	3.7	6.9	6.9	6.7
c) Permanent disability	0.8	0.7	0.7	0.8	0.9	0.6	0.6
d) Other payments	0.2	0.1	0.2	0.2	0.2	0.2	0.2
2. Expenditures for health services							
a) Personal services	21.0	26.5	27.5	32.4	27.5	27.2	28.4
b) Materials and supplies	10.5	11.9	18.7	20.2	15.0	15.1	16.5
c) Transfer payments	3.3	4.8	4.7	5.2	4.3	4.3	4.5
d) Other operating expenses	3.0	3.6	4.2	5.0	4.6	5.0	5.4
3. Administrative costs	7.3	8.6	8.8	6.7	7.5	9.3	9.9
Total expenditures	59.8	71.6	81.4	87.8	79.1	80.5	84.8

Source: IGSS, Informes Anuales

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Table 10.10a

Changes in Composition of Spending by the Guatemalan Social Security Institute (IGSS), 1979-1985

Year	Health Spending-a)	Total Spending-b)	Health as % of Total
1979	43.2	59.8	72%
1980	53.2	71.6	74
1981	61.8	81.4	76
1982	68.0	87.8	77
1983	56.9	79.1	72
1984	58.3	80.5	72
1985	62.0	84.8	73

a) "Prestaciones en servicios" plus a pro-rated amount of administrative expenses, in millions of quetzales.

b) In millions of quetzales

Source: Table 10.10

In any event, the absolute size of private expenditures, rivaling as it does the spending by officially designated health providers in the public sector, merits attention. These estimates of private spending, while they are based on the Ministry's 1981 study, exceed by a factor of about five the private expenditures mentioned in some of the Ministry's own publications. Estimates by the team economist, with all their possible shortcomings, reflect more accurately the amount of private spending than do the data published in the Ministry's reports.

10.7.1 Composition of Private Spending

Not surprisingly, the 1981 study showed 84 percent of private spending was directed toward physicians' fees and medicines. Table 10.11 shows the detailed breakdown of the composition of private spending.

Table 10.11

Guatemala: Private Medical Expenditures, 1981

	Expenditures (millions of quetzales)	Percent of Total
Medical Consultations	17.9	26.5%
Surgery	4.0	5.9
Dentistry	4.4	6.5
Other physicians' fees	0.2	0.3
Accident and health insurance	0.2	0.4
Hospital services	6.4	9.5
Laboratory Analyses and X rays	1.7	2.5
Other medical services	1.0	1.4
Medicines	30.2	44.8
Orthopedic appliances	1.5	2.2
Total	67.5	100.0%
Sub-Total: Fees to Medical personnel	26.5	39.2%

Source: MOH, unpublished study of private medical expenditures, 1983.

Because the study on private spending has not been repeated, no data exist concerning possible trends in its composition. Impressions suggest that private spending for health insurance and for pre-paid medical plans has grown rapidly in recent years.

10.7.2 Private Spending by Low-Income Families

Most development efforts appropriately seek to improve the situations of the poorest members of society. The differences between the composition of their spending on health care and that of the rich is therefore instructive. Table 10.12 focuses on these differences.

The poorest families, here defined as those with annual incomes of less than 1200 quetzales in 1981, allocated the largest part of their spending on health (69 percent) toward medicines. The high proportion reflects at least two related circumstances.

Table 10.12

Guatemala: Composition of Private Spending on Health Care by Families in the Richest and Poorest Income Classes, 1982

	Percentage of Total Family Spending on Health Care	
	Poorest	Richest
Medical consultations	20%	26%
Surgery	1	31
Dentistry	1	13
Other physicians' fees	1	-
Accident and health insurance	-	-
Hospital services	3	3
Laboratory analyses and X-rays	-	1
Other medical services	4	8
Medicines	69	3
Orthopedic appliances	1	15
Total	100%	100%
Sub-total: Fees to medical personnel	23%	70%

Notes: "Poorest" = Families with annual incomes of 0-1200 quetzales in 1981.
"Richest" = Families with annual incomes greater than 60,000 quetzales.

Source: MOH: unpublished study of private medical expenditures, 1983.

First, poor people are more likely than rich families to seek free medical services in the facilities of the Ministry or the Social Security Institute. They must pay, however, for the medicines prescribed by these doctors. It is not unusal for a patient to emerge from a simple office visit with three or four prescriptions. Indeed, some physicians told us that patients felt under-served if they did not receive multiple prescriptions following a consultation.

Second, poor people are more likely than the rich to engage in self-diagnosis and treatment of their ailments, further cutting the proportion of spending devoted to physicians' services.

The composition of spending by the richest families, also shown in Table 10.12, is similarly instructive. Seventy percent goes for physicians' fees, including elevated proportions for surgical care and dentistry -- items that the poor would regard in most cases as luxuries rather than necessities. While the rich spend "only" 3 percent of their total health budgets on medicines, the absolute amounts of such expenditures exceed those of the poor, owing precisely to differences in the absolute incomes of the two groups.

10.8 Fiscal Capacity and Projections of Public Spending on Health

Fiscal capacity of the government can be dealt with simply. As AID economic analyses clearly show, taxes paid by Guatemalans amount only to about five percent of GDP. This is the lowest proportion in Latin America. Because other countries, including those with incomes considerably lower than in Guatemala, are currently able to extract a higher proportion of taxes from their citizens, and thus are capable in principle of spending relatively more for health, it is tempting to say that the Guatemalans should be able to do so as well.

It falls well outside the scope of this report to analyze the extensive reasons behind the abnormally low proportion of taxes in national income. Suffice it to say that the historic distribution of income, the corresponding concentration of political power, and widespread disillusion with the effectiveness of public spending are among the explanations offered. While it is tempting to say that the government elected in 1985 may be able to alter these patterns, the outside observer notes that political instability has characterized Guatemala in recent decades. One cannot therefore assert with any certainty that overall fiscal constraints facing public spending are likely to be quickly overcome.

10.9 Recommendations

It is recommended that:

10.9.1 AID assist the MOH in reaching aggregate public health expenditure levels in real per capita terms no less than the levels achieved in the early 1980's.

10.9.2 AID and other international donor agencies (PAHO, UNICEF, IDB, etc.) active in Guatemala organize an ongoing forum for sharing ideas and experiences in the country to facilitate collaboration.

SECTION 11

HEALTH CARE FINANCING

11.1 Overview

The previous chapter explored the dimensions of the health sector in economic and financial terms. This chapter deals with issues at once more general and more institutional. Thus attention is given to recurrent costs, the fragmentation of the health system as it is now organized, insurance plans and HMOs, and the constraints associated with budget ceilings and limits of efficiency.

11.2 Issues

A number of issues surrounding health care finance deserve special attention here. While general in nature, Guatemala's special circumstances make them even more compelling.

11.1 The Recurrent Cost Issue

A basic principle of health finance observes that large new construction projects require correspondingly large increases in operating expenditures upon completion. It is far from hypothetical to suggest that when the capacity of a health management organization has been exceeded by the volume of new construction, the new facilities may remain idle or be hobbled by maintenance difficulties for years.

Unfortunately more than one concrete example of these problems exists in Guatemala. A new regional hospital at Quetzaltenango has not been opened although it was completed three years ago. Four new equipment repair and maintenance stations, vital to the effective operation of the health care delivery system, have been turned over to the Ministry of Health, but have not yet been staffed and opened.

Of course, when physical facilities stand completed but unopened, great preasures to put them in operation are exerted. To the extent that the authorities accede to the pressure, they must either obtain increased operating funds for the new facilities or take funds away from present operations. The environment of fiscal stringency in Guatemala at present makes the former difficult at best, while to re-allocate funds from present operations robs Peter to pay Paul.

The research and interviews indicated that the international organization most prominently mentioned in this connection is the Inter-American Development Bank (IDB). Officials of the Bank as well as outsiders have been quick to recognize that the Bank's orientation to development lending has focused on bricks and mortar -- the approach most likely to lead precisely to recurrent cost difficulties.

At the same time, the IDB's emphasis is in fact changing. It has been active in Guatemala in hospital construction and in a wide variety of water projects. It regards the former as "health" and the latter as "engineering," although water projects are clearly related to improved health conditions.

In any event, the IDB's single "health" project during the past decade originally agreed to build three hospitals, two new ones in Guatemala City of 400 beds each and one renovated one in Antigua of 200 beds. The project was subsequently reformulated and now contains no new hospital construction. Instead, four smaller regional hospitals are targeted for re-construction. The project includes as well the renovation and re-equipping of 70 health posts and the construction of 30 new ones. Finally, the project also includes three peri-urban clinics in Guatemala City.

The project reformulation has clear effects on the burden of new recurrent costs (See Table 11.1). Table 11.1 shows that the first project was associated with an increase in recurrent costs of more than $5 million annually, while the reformulated and only slightly smaller project had cut that increase to slightly more than $2-1/2 million.

The reasons behind the decline in recurrent costs are clear: renovated and re-equipped premises don't require new staff. New facilities -- and some new facilities do remain in the reformulated project -- require new people to be hired. And worse, when the new facilities are curative hospitals, the proportion of highly skilled and thus relatively well paid employees will be greater than if more basic primary care facilities are built.

In short, in so far as the reformulated project can be taken as a reliable indicator of the IDB's new policy orientation, one can conclude that at least some of the criticism of the old policy can be muted. The project document observes that the new required spending is only a small percentage of the Ministry's total budget, and therefore that it should be easily absorbed. To be sure, in 1984 (the date of the reformulation), $2-1/2 million was only about 4 percent of the Ministry's expenditures on current account in that year. Nevertheless, the absolute amount and even the proportion were hardly trivial, owing to the fiscal constraints which continue to affect the Ministry's spending.

Table 11.1

Guatemala: Two Examples of the Relation Between Capital Investment and Associated Recurrent Costs

		Capital Investment (in millions)	Annual Recurrent Costs (in millions)	Recurrent Costs as % of Capital Investment
Example A	(1980)	$68.0	$5.23	7.7%
Example B	(1984)	$57.3	$2.53	4.4%

Notes: Example A was a project to build two new hospitals and reconstruct an older one.

Example B is a project to reconstruct four older hospitals, to reconstruct and re-equip 70 health posts and build 30 new ones, and to build three new peri-urban health posts.

Source: Inter-American Development Bank, "Reformulaci n del Proyecto de Mejoramiento y Ampliaci n de los Servicios de Salud," 1984.

11.2.2 Organizational Fragmentation and Financial Coordination

Existing factors and agencies active in Guatemala health care delivery are largely independent and thus financially and managerially uncoordinated. In the case of the 250 plus health-related PVOs working in the nation, the absence of coordination may be more irksome than substantive. But for the largest public sector institutions, the problem bites harder.

The political process is oriented toward political survival. Thus the separate ministries are likely to think of their own interests rather than the national interest. When health-related activities are split among at least three ministries (Health, Education, and Public Works) and one para-statal firm (the Social Security Institute), no one is likely to be able to coordinate them effectively. These are, after all, impressively large organizations, each with its own bureaucracy and sets of vested interests. The ministries indirectly but intimately associated with hygiene, disease prevention, and health promotion (Education and Public Works) are not centrally concerned with health as such. The agencies focused on health, by contrast, are pushed by financial stringency into fighting merely to maintain their life-saving curative functions. As long as the administrative and financial separation continues, effective coordination will be impossible.

11.3 Private Health Insurance

Private employers seeking to supplement the IGSS benefits workers are entitled to receive, have a variety of alternatives. They may, for example, maintain a small outpatient clinic at the workplace, staffed two or three days a week by a part-time physician who makes "visual diagnoses," that is, diagnoses without benefit of laboratory tests or x-rays. In bigger firms, these outpatient facilities sometimes extend to workers' dependents. Employers may also, as noted above, buy group coverage in either of the HMOs.

Another alternative is health insurance. At present, health insurance is necessarily group health insurance, because it is sold only to groups larger than ten persons. The sales of health insurance have risen rapidly. Again, the rise in private initiative is a mirror of unresolved problems encountered by the public sector providers, even in periods when the Guatemalan private economy was not growing rapidly.

Five major companies, all with American connections, sell health policies through independent agents. At present, the policies cover 17,000 workers and their families. The majority of those covered are white-collar employees.

Current premiums are about two percent of salaries. Recall from the previous chapter that the premiums for the health services of the Social Security Institute, where available, are 13 percent of salaries. The two are not strictly comparable, since the Institute's coverage, at least on paper, is considerably broader. Private premiums for a family with three children are now about 420-600 quetzales per year.

Besides urban customers, fincas have also begun to buy group health insurance policies. Coverage on these large farms is restricted to the permanent staff. Typical customers have included six large sugar plantations in the South. That these insured forms are not those affiliated with the pre-paid rural health plan, Agrosalud.

Where private health insurance covers large groups, all members of the group are included, even those with pre-existing conditions. Note the contrast with Salud Total where each group member has to qualify individually. Also in contrast, the health insurance companies have not, to this point, sold policies to individuals, owing to the selection bias ("moral hazard") involved. Individual Guatemalans, according to one informant, are not familiar with or oriented to health insurance and therefore wouldn't buy it to achieve peace of mind, but only if they were sick.

11.4 Public and Private Sector Coordination

All the representatives of HMOs and insurance companies that we interviewed agreed about the desirability of coordination between the private sector and the public sector in health. They all advocated the initiation of contracts between employers and the Social Security Institute -- contracts that would permit employers who bought private plans to pay less to the Institute for its public plan.

At present, employers who buy private health insurance or who enter their workers into HMOs are convinced that they are paying twice for their service -- that is, once to the private carrier or plan and once to the public Social Security Institute. In a formal sense, of course, they are correct, since "membership" in the Social Security Institute is not elective. The biggest barrier to further expansion of the private systems is the requirement for double payment.

At the same time, nothing leads to optimism about the political possibilities of such a move. If discounts were offered on IGGS-related payroll taxes, the Institute's revenues would inevitably shrink. The amount of the shrinkage would, of course, be related to the size of the discount, but since no such operation is currently in force, it is impossible to estimate in advance the magnitude of the transfers from public Institute to private plan. Because the Institute's income would fall by an unknown amount, none of its employees are willing even to consider formally, much less endorse, such a change.

11.5 Constraints

The operation of the health care system currently faces two basic constraints: the size of its budget and the efficiency of its operations. If either is held constant while the other improves, the service delivery capability of the sector as a whole would rise.

Nearly all of the practical approaches to health improvement are directed toward improving efficiency. Improving efficiency, (that is, getting more out of existing resources), is likely to be related not simply to "everyone working harder", but rather to organizational changes whose details are presented elsewhere in this report. Those changes are therefore attractive for at least two reasons. First, they suggest alternatives that are attractive from medical and social points of view -- for example decentralizing operations, switching to community based care, focusing on children with the expectation that adults would automatically become more involved with the system, and so on. Second, however, they are also attractive from an economic and financial viewpoint. Any alternative that raises the efficiency of system delivery effectively augments existing scarce resources.

11.6 Summary, Conclusions and Recommendations

In addition to the recommendations presented elsewhere in this report, these sections on economic and financial problems suggest a series of recommendations. They are based upon the following observations:

> The private sector is important in Guatemalan health care delivery, but not much is known about its size or components. Studies of this sector are needed, with the objective of quantifying in greater detail the role of the private sector, and thus to revealing ways in which it might be more effectively coordinated with public-sector health care delivery.

At present, the Ministry of Health and the local Security Institute each has its own accounting system, covers different segments of the population, and uses different wage scales and procurement methods. Accordingly, each has its own set of vested interests, despite the similarity in goals. Uncoordinated competition between the two for expanded national coverage is not clearly in the economic interest of the nation. An effort is needed to quqntify the effects of greater coordination between the two major public-sector health providers.

There is a need to stretch the Ministry's scar5ce resources by permitting more useful analysis of current program budget categories. To cite only a single example, the Ministry's employee fringe benefits, which make up more than 30 percent of the expenditures in some years, are shown as a separate item in the current "program" budget, rather than being appropriately allocated to the programs with which the employees are associated.

There is a further need to use the unique characteristics of the international agencies more effectively, particulary through use of technical assistance. Merely "moving funds" without providing technical assistance can as easily be done by commercial lenders. The comparative advantage of international agencies lies in their agility to uncover and engage the most appropriate technology (obviously, not necessarily the most advanced technology) and to transfer it successfully to a Guatemalan setting.

It is recommended that AID:

11.6.1 Support innovative and detailed studies of private sector health activities; in particular, gathering data on the size and economic implications of the following activities: a. Private hospitals; b. Outpatient clinics; c. Private physicians' offices; d. Time studies of physicians' activities, since many of them hold multiple jobs; and e. Private pharmacies.

11.6.2. Support detailed financial and actuarial studies of the problems and benefits associated with greater coordination the two largest public-sector health care providers: the Ministry of Health and the Social Security Institute.

11.6.3. Assist the Ministry of Health and other public health care providers explore the benefits of a more highly focused set of program budget categories.

11.6.4 And other internationally funded programs should contain reasonably large components of technical assistance.

CHAPTER 12

HEALTH SECTOR ADMINISTRATION AND PLANNING

12.1 Introduction

The Guatemalan health sector, taken as a whole, consists of all the agencies and activities that work toward goals included in the sector's Development Plan: health promotion, disease prevention, recovery from illness, and rehabilitation.

Health care is furnished in Guatemala by a variety of institutions, which can be classified into two main subsectors: public and private. The public subsector consists of the central government's institutions, including its autonomous and semi-autonomous agencies. Clearly the Ministry of Public Health and Social Welfare (MOH) and the Guatemalan Social Security Institute (IGSS) and their dependencies are the principal constituents of the public sector.

The private subsector consists of both for-profit and non-profit organizations. In all, there are more than 120 types of organizations in the health sector considered broadly. An idea of their variety can be gained from the organizational forms they take: associations, clubs, committees, foundations, health care homes, institutes, missions, social welfare groups and aid societies, not to mention the numerous hospitals, clinics, sanatoria, and private practices.

These highly diverse organizations all work, each in its own way, toward human betterment through health improvement. In principle, it would be desirable to coordinate their operations in order to use more effectively the country's limited resources. Coordination could achieve consistency among the dispersed activities, as well as avoiding duplication and gaps.

12.2 The National Health Council:

Thus the Guatemalan Congress passed a decree (Number 31-69) in 1969 that created a National Health Council (NHC) on which all the most important actors in the field would be represented. The Council would meet periodically, cooperate with the principal public sector agencies, coordinate the others, and publish an annual evaluation of health policies. The existence of such a national coordinating body was so attractive that it was officially "ratified" again in August 1984 (Government Decree 741-84).

In fact, the National Health Council has never functioned. The results are readily predictable. Coordination among health organizations

occurs only unofficially and sporadically. The most powerful agencies have never seen it in their own interest to coordinate their activities with others, however desirable such coordination might be from a global standpoint. Given the amount of time that has passed since the Council was officially constituted (seventeen years, at this writing), it seems clear that the principal health institutions will only coordinate their activities if strong incentives are provided for them to do so. Continuing good wishes alone are unlikely to make it happen.

12.3 Administration in the Ministry of Health

Since 1969, legislation has specified an administrative hierarchy of the Ministry of Health. Three levels were officially established:

1. Central offices, to define policy and carry out functions of top management. Responsible for primary decision making and the overall conduct of the Ministry's affairs.

2. A General Directorate of Health Services (DGSS), to interpret policies established at the top and to translate general objectives into specific programs. Surpervises and evaluates the national system of health services. Sets technical standards which in turn influence these activities' budgets.

3. Geographically decentralized health "regions", at first five in number, then seven -- and now health "areas", of which there are 24. Note parenthetically that a return to the more inclusive, less decentralized regional concept is now in progress, with six regions proposed to regulate not only health, but indeed all the activities of the public sector including agriculture, public works, education, and so forth.

It is usually agreed that the upper levels of the administrative pyramid should concentrate on overall policy definition and direction. Yet at present they contain operational units that distract attention from basic technical and regulatory functions. As examples, consider the Unidad de Acueductos Rurales and the Drogueria Nacional.

The absence of explicit coordination among public sector entities is most apparent when we examine the budget processes of the Ministry and the Social Security Institute (IGSS). Neither takes into consideration the proposed activities of the other, nor are other agencies involved. The most evident problems of duplication and gaps arise in water and sanitation (where twelve distinct organizations are active), health centers provided by both the Ministry and IGSS, procurement of medicines, and the training of volunteers.

Coordination between the budgetary process and overall planning is further fragmented. The annual operational plan of the Ministry emerges from the submission of sub-sector budgets, not all of which are approved. This bottom-up planning, while attractive is some ways, reflects the interests of existing operating units rather than a coordinated approach to centrally established priorities.

On the other hand, the National Development Plan has never been associated with a budget. There is thus no necessary relation between the ministerial operating plans and the National Development Plan.

Within the Ministry, further disparities between plan and budget arise from different submission schedules (i.e., fiscal vs. calendar year).

Another gap, painful from the standpoint of public administration, is the absence of built-in evaluative mechanisms. At present, health sector spending is not evaluated to determine the extent or the effectiveness with which it meets its own goals. Ideally, plan and budget should consider in a systematic fashion which projects and activities worked and which didn't. Again, the goal would be to maximize the effectiveness with which the sector's resource were spent.

Relations between the Ministry of Health and other government bureaus have not always proceeded along operationally effective lines. The Ministry feels constrained in its independence when, for example, the Civil Service Department dictates manpower levels and handles personnel for it. Similarly when the central government's Budget Division independently makes decisions that affect health, the Ministry understandably feels that its scope of operations has been impaired.

Analogous problems exist within the Ministry itself. When the Ministry's Personnel Department transfers employees arbitrarily or specifies hours of work ill suited to field conditions, the effectiveness of activities will fall. Similarly, financial departments should avoid unauthorized inter-departmental transfers of funds; purchasing departments should interact closely with the departments on whose behalf they work; and internal auditors should avoid suspending the whole Ministry's cash payments when problems in a single department are uncovered.

The absence of coordinating bodies for the health sector has led to the continuing independence of the Ministry and the Social Security Institute. Each institution has come to reflect a powerful set of well established interests. Growth in each now comes through addition to already existing activities.

In each, the administrative structure is universally characterized as rigid, bureaucratic, and centralized. Accordingly, neither provides much opportunity for upward mobility for its technical and professional personnel. On the contrary, employees for high level posts are frequently recruited from outside the organization, leading to discouragement among those already at work. Lower productivity follows from the disgruntlement. While officials at both institutions are aware of these problems, their capability of dealing directly with them has been limited in the past.

12.4 Coordination of Private Organizations in Health

Continuing frustration with the lack of coordination among health care providers has led to the recent establishment of an official Coordinating Group of Non-Government Institutions (Unidad de Coordinacion de Instituciones no Gubernamentales) under the General Directorate of Health Services (Direccion General de Servicios de Salud), and charged with the responsibility for coordinating the Ministry's activities with the non-governmental organizations.

To complete this survey, we note that since 1958, another council, the Council on Social Welfare (Consejo de Bienestar Social), has acted on behalf of organizations involved in social improvement. It includes about 250 entities, some health-related and some others (for example, home economics education, first aid, Red Cross, volunteer groups, and fund raisers). Because of its ability to attract fiscal support, it has managed to hold together a diverse group of organizations and interests. Nevertheless, it cannot be said that this Council performs an excessive degree of centralization or coordination of these activities.

12.5 Guatemalan Health Planning

Guatemala has engaged in systematic health planning since the early 1970s. The first health plans were drafted as background to the National Development Plans of 1971-75 and 1975-79. They were, however, never implemented.

The early planning exercises did have some benefits. They required a series of health standards to be formulated, compiled, analyzed, and up-dated.

At the same time, we also recognize that existing information gaps would be even greater if the first plans had not created an obligatory focus on quantifiable standards. For example, functions and activities of personnel in health posts were established in 1975. Similarly, in

1979, standards and procedures for health care (again, at posts and centers) were published, as were the parameters surrounding medical care in hospitals.

12.5.1 Decentralized Planning

Supplementing these nationwide standards, programming at the local level has quantified geographically decentralized norms since 1975. The best planning combines energy and information flowing both from the bottom up and from the top down. In Guatemala, local initiative is guided by "divisiones técnico-normativas", that is, by the centralized divisions assigned responsibility for maternal and child health, hospital care, epidemiology, malaria, oral health, and environmental sanitation, among others.

In particular, each of the 24 "health areas" is asked for an assessment that compared its local health needs with locally available cpacity for delivery of health services. The resulting plan seeks, simply, to assess the size of the gaps between needs and availabilities and to seek the best ways to fill these gaps.

The process of establishing norms and standards for health planning has not proceeded without problems. In particular, when more than one organizational level is involved in establishing standards, the results have not been entirely consistent between levels. One set of units might seek to define child health as affecting infants less than one year old, while other might feel a five-year-old age cut off more appropriate. Similarly, demographic variables as basic as population size (by geographic health area) or the ages of potentially fertile women have not been the object of consensus among the various levels participating in the planning process.

12.5.2 Efficiency and Rising Expectations

Requiring participation of local health authorities has been a key element in the gap-filling strategy. It seeks a more efficient use of existing resources be made, and generates political pressures to increase available resources, once the gaps between needs and service capacity are well documented.

In a world of continuing scarcity we cannot overemphasize the importance of using existing resources more efficiently. At the same time, we recognize that rising expectations will accompany any social improvements. In effect, the health authorities find themselves in a race that they may not be able to win -- a race between their increasing ability to deliver health services and the public's expectations (esperanzas, in both senses of the word) that they are entitled to even more.

12.5.3 The Double-Entry Matrix

Another useful development was the refinement of a double entry matrix approach to assist the planning process. The columns consist of the services to be rendered at posts, centers, and hospitals in the 24 areas. The rows contain names of norms. For example, one row might be the average number of consultations per inhabitant per year. Another might be the number of hospital stays, again, on average per inhabitant per year.

The novel "double entry" nature of the matrix is associated with the division of each of the cells established by single row and a single column into two parts: the desired goal (for example, three visits per year) and the existing capacity (for example, half a visit per person per year). The matrix reveals gaps, by geographic area and by service delivery standard.

12.5.4 Criticisms of Health Planning

The matrix approach to health planning, in its exclusive focus on physical indicators such as visits per year, is incomplete in one major aspect. It doesn't include reference to budgetary considerations. Because the costs of providing services as listed in the matrix's rows are not stated, rational comparisons between alternative service improvements cannot be made.

The use of this planning process has led the Ministry of Health's Unidad de Programacion to suggest other criticisms of it as well. With respect to standards, they note that some programs have too many standards, while other programs lack them. Standards are not routinely updated nor are they well known among potential users. Some norms may have been unrealistically established. Clearly a continuing evolution and refinement of the health standards used by the planneris desirable.

Programs themselves sometimes lack goals and objectives. There is no programmatic monitoring. While an overwhelming requirement exists for information, as noted previously, the process by which it is collected, compiled, and published is deficient.

For human resources there is no coherent training policy or training requirements. Accordingly, human resources present an important bottle neck within the system.

Finally, as noted above, there is a lack of interaction between planning and budgeting -- a gap which compromises seriously the effectiveness of the planning process.

12.6 Recommendations

The foregoing deficiencies in Guatemalan health planning are well known to planning authorities in the Ministry of Health. Thus a series of recommendations follow directly from the observations already made.

It is recommended that AID :

12.6.1 Improve the information system, principally by standardizing the criteria by which primary records are kept, and seeking a series of health indicators that are both simple and effective.

12.6.2 Reconcile activities, norms, and procedures with the real capacity of the system for service delivery, in part by incorporating budgetary considerations--and limitations--in the Ministry's national health plans.

12.6.3 Identify a series of health indicators that are both simple and effective.

12.6.4 Assure that plans can be readily understood by field personnel as well as by other institutions involved with health, and avoiding planning an expansion of activities that will exceed administrative capacity.

12.6.5 Plan activities compatible with administrative capacity.

12.6.6 Incorporate budgetary considerations into plans.

CHAPTER 13

HUMAN RESOURCES IN GUATEMALA

13.1 Overview

Fundamental to any health sector assessment is some understanding of human resources. Typically used to reference health manpower or health personnel, this term is inclusive of all health workers, paid or voluntary, in a given country.

Human resources in health are the building blocks on which the whole system rests. If the individuals concerned are not adequately trained, there will be a lack of quality; if insufficient in number or improperly distributed, there will be a lack of accessibility; if inadequately compensated and supported, there will be a lack of focus and enthusiasm for work. It is the health workers who consume virtually all of the budget of the health care system and it is the health workers who conceptualize and represent that system to the public. 1/

The issue of human resources and health is complex. It involves many governmental and nongovernmental agencies, together with a large independent private sector. Any health sector assessment must take account of each of these parts of the health care delivery system.

Traditional analyses of health manpower resources stress personnel needs over a period of time, utilizing accepted denominator population ratios. Further, they engage in some discussion of training programs as they exist and as they should be modified. Finally, they suggest the allocation of health personnel by profession, by specialty within profession and geographically in order to meet the health needs of the country.

In this section we will focus on health personnel who can and do fill primary care roles, as opposed to more specialized individuals. The distribution of these personnel in primary care and other roles will be reviewed, as will training programs for health workers who are most likely to serve in medically needy areas. While consideration of medical specialists is important, it cannot be a major emphasis of this report.

Two reasons for emphasizing human resources in health are provided through a preliminary announcement at a meeting on primary care held by PAHO in Santiago, Chile in late 1985. In a statement that is generally

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1/ Preliminary Report: Meeting on the Strategy of Primary Care in the Transformation of the Health Services System: PAHO, Santiago, Chile, October 20-26, 1985.

true in Guatemala, as elsewhere, the attendees noted that human resources absorb between 80% and 90% of the designated health budgets in most countries. They further noted that it is health workers who define policies, establish principles, render assistance and make medical attention possible.

A companion document, which is directed specifically to Guatemala, notes that there is a scarcity of human resources in Guatemala, in keeping with the limited resources of the country. 2/ This document goes on to point out that present activities in Guatemala are oriented to promote coordination in the planning, development and training of the human resource base, with the objective of solving priority health problems in the country.

A useful breakdown of health personnel in Guatemala by profession and affiliation is included as Table 13.1.

As may be seen from this table, approximately 60% of all physicians are associated with the private sub-sector, another 22% are with the Ministry of Health, and some 18% with Social Security. Table 13.1 also demonstrates that by far the largest number of health personnel employed in the public sector in Guatemala are nurse auxiliaries, who are three times as numerous as physicians in this category of employment.

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(2) Primary Care, a document prepared for the "Meeting on the Strategy of Primary Care in the Transformation of the Health Services System," Ministry of Health, Guatemala, 1985.

TABLE 13.1

HUMAN RESOURCES IN THE HEALTH SECTOR CLASSIFIED BY CATEGORY
GUATEMALA 1984

HUMAN RESOURCES	PUBLIC SUBSECTOR Ministry of Health	Social Security	Private Subsector	Total
Physicians	1,315	912[3]	3,243	5,413
Dentists	118	57		175
Supervised Professional Service	419			419
Nurses	842	384		1,226
Nursing Auxiliaries	4,807	1,567		6,376
Sanitation Inspectors	292			292
Social Workers	113			113
Lab Technicians	395	141		536
Nutritionists	24			24
Pharmacists	10			10
Pharmacist Auxiliaries	120			120
Others*	4,952	4,059		9,011
TOTAL	13,407	7,065	3,243	23,715

* No categories specified

Source: Necesidades Prioritarias de Salud en Centro América y Panamá, Marco General de Referencia, Ministry of Health, Guatemala, August 1985.

Yet another interesting set of figures is that pertaining to voluntary health personnel in the country. While some of these may be

3/ Informe de Labores, IGSS, 1984, pp. 93.

paid privately in a modest way for their services, they are not salaried by any government sector, nor do they have a fixed and formal practice of charges. Available estimates regarding their numbers in 1985 are shown in Table 13.2.

TABLE 13.2

VOLUNTARY HEALTH WORKERS IN GUATEMALA
1985

Classification of Personnel	Numbers in the Field
Active Midwives	6,695
Active Health Promoters	4,959
Malaria Volunteers	7,000
Health Volunteers	4,000

Source: Primary Attention: Meeting of the Strategy of Primary Care in the Transformation of the Health Services System: PAHO, Santiago, Chile, October 20-26, 1985.

Guatemala, like many other countries, depends heavily on volunteer (or near-volunteer) health workers in order to serve the needs of its people. Much of the emphasis of the Ministry of Health, often in conjunction with private voluntary organizations, has been in the training of these voluntary health workers so that they may be more efficient in what they do.

Where health workers choose to practice is as important as who they are and how they are paid. A useful way of approaching the issue of health manpower distribution is to review the distribution of health personnel within Ministry of Health institutions around the country. As is shown in Table 13.3, over 70% of physicians work in hospitals, with the rest in health centers. It is interesting to note that nearly the same percentage of graduate and auxiliary nurses work in hospitals as do physicians. Health centers appear to be essentially in the hands of Rural Health Technicians.

Among the issues to be considered in the remainder of this section are health manpower training programs and critical distributional issues.

TABLE 13.3

NUMBER AND PERCENT OF HUMAN RESOURCES IN RELATION TO LEVELS OF ATTENTION BY DISCIPLINE

CATEGORIES	HOSPITALS		HEALTH CENTERS		HEALTH POSTS		HEALTH POSTS TOTALS	
	No.	%	No.	%	No.	%	No.	%
Physicians	763	70.39	321	29.60	0	0	1084	100.00
C.P.S	204	50.12	163	40.05	40	3.83	407	100.00
Graduated Nurse	428	65.85	222	34.15	0	0	658	100.00
Auxiliary Nurse	3442	69.21	879	17.68	652	13.11	4973	100.00
Social Workers	44	44.44	55	55.56	0	0	99	100.00
Rural Health Technicians	0	0.00	257	73.77	90	25.93	347	100.00
Environmental Inspectors	23	8.33	251	90.94	2	0.73	376	100.00
Technicians	340	63.07	192	35.62	7	1.29	539	100.00
Dentists	57	56.44	44	43.56	0	0	101	100.00
Other Professionals	416	81.72	100	19.38	0	0	516	100.00
Administration	616	65.12	330	34.88	0	0	946	100.00
General Services	2916	83.82	563	16.18	0	0	3479	100.00

SOURCE: Unidad Sectorial de Planificación de la Salud, taken from: Recursos Humanos, Análisis Institucional, by Dr. Danilo Barillas and Dr. Oscar Rafael Rodríguez.

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13.2 Ministry of Health

13.2.1 Division of Human Resources

As noted previously in this report, the Division of Human Resources falls within the Ministry of Health under the Director General for Health. In Guatemala, as in many other countries, the Division of Human Resources is concerned with the training of nurses and other non-physician personnel, the provision of continuing education to health professionals and the establishment of norms for all health professionals in-country coming within its jurisdiction.

The normative role of the Human Resources Division involves review and approval of proposed continuing education courses offered by the MOH and other entities. The educational role of the Division takes it into the basic training of certain health professionals, including professional nurses, clinical laboratory technicians, physio-therapists, environmental health inspectors, nurse auxiliaries, diagnostic radiology technicians, and Rural Health Technicians. (Training in the latter category has been suspended until 1987.)

Another function of the Human Resources Division is to anticipate personnel needs and to plan training programs around these needs. This involves keeping an inventory of all active practitioners in each field at all times. The Division also has the responsibility of assuring that its educational program is consistent with the objectives of the National Health Plan.

The Division operates nine separate training centers, including the National School of Nursing and the Institute for Training Health Personnel (I.N.D.A.P.S.) located in Los Amates, Izabal. Specific schools, with their location and professional product are included in Tables 13.4 and 13.5.

The largest number of health professionals in Guatemala are the auxiliary nurses, with nurses constituting a distant second, followed by Rural Health Technicians, which has been noted - the Ministry of Health has determined to suspend training until early 1987.

TABLE 13.4

EDUCATIONAL ESTABLISHMENTS THAT DEPEND UPON THE HUMAN RESOURCES AND HEALTH EDUCATION DIVISION OF THE MINISTRY OF HEALTH

	Institution	Location
1	National Nursing Schools	Guatemala City
2		Quetzaltenango
3		Coban Alta Verapaz
4		Mazatenango
5		Jutiapa
6	Laboratory Technicians School	Guatemala City
7	Physiotherapy School	Guatemala City
8	National School of Radiology for Technicians	Quetzaltenango
9	Institute for Human Resources-Development in Health (INDAPS)	Quirirgua, Los Amates Izabal

Source: General Report of the Division of Human Resources and Health Education of the Ministry of Health. Provided by Dr. Roderico Monzon Arroyo, September 5, 1986.

TABLE 13.5

DEVELOPMENT OF HUMAN RESOURCES

	INSTITUTIONS	HUMAN RESOURCE DEVELOPED
1	National Nursing School in Guatemala City	- Professional Nurses - Auxiliary Nurses
2	National Nursing School in Quetzaltenango	- Professional Nursers - Auxiliary Nurses
3	National Nursing School in Coban Alta Verapaz	- Professional Nurses - Auxiliary Nurses
4	National Nursing School in Mazatenango	- Auxiliary Nurses
5	National Nursing School in Jutiapa	- Auxiliary Nurses
6	Laboratory Technicians School	- Laboratory Technicians
7	Physiotherapy School	- Physiotherapists
8	National School for X-Ray Technicians	- X-Ray Technicians
9	Institute for Human Resources-Development in Health (INDAPS)	- Rural Health Technicians * - Environmental Sanitation Inspectors - Nursing Assistants - Public Health Trainees

* Temporarily suspended.

Source: General Report of the Division of Human Resources and Health Education of the Ministry of Health. Provided by Dr. Roderico Monzon Arroyo, September 5, 1986.

Close behind the Rural Health Technicians in terms of total numbers, come the sanitary inspectors and, next in order, clinical laboratory technicians. Finally, there are the physio-therapists and, least in number of all the identified categories, diagnostic radiology technicians.

Of the voluntary personnel collaborating with the health sector, there are a large number of diffuse "voluntary personnel" listed by the Ministry. Traditional midwives outnumber rural health promoters by approximately two to one. (Table 13.6) It is the responsibility of local health units to see that the midwives are identified and listed, as well as trained, whenever possible. Many more traditional midwives and rural health promoters have been trained than are currently active.

TABLE 13.6

NUMBER OF PERSONNEL BY CATEGORY, TRAINED AND COORDINATED BY THE HUMAN RESOURCES UNIT

CATEGORIES	TOTAL*
Rural Health Promotors	7,048
Traditional Midwifes	13,900
Volunteer personnel	35,383
GRAND TOTAL	56,331

Source: General Report of the Division of Human Resources and Health Education of the Ministry of Health. Provided by Dr. Roderico Monzon Arroyo, September 5, 1986.

13.2.2 Distribution of Health Personnel

The issue of health personnel distribution in Guatemala by institution (Table 13.1) and facilities (Table 13.3) have been considered. This has further been put into context by their distribution by facility. (Table 13.3) What remains to be done is to document the distribution of health personnel within the Ministry of Health itself, by level of the MOH system. (Table 13.7)

TABLE 13.7

GUATEMALAN HEALTH SECTOR ASSESSMENT
TOTAL HUMAN RESOURCES, MINISTRY OF HEALTH 1984

CATEGORIES OF PERSONNEL	HEALTH AREAS	TOTAL AT THE HIGHER LEVEL	TOTAL
Physician	1,085	59	1,144
Medical student	401	-	401
Dentist	101	8	109
Nurse	650	56	706
Auxiliary nurse	4,973	17	4,990
Technician	584	156	740
Administrator	946	915	1,861
General services	3,455	388	3,843
Environmental Sanitation	276	40	316
Social worker	99	7	106
Rural Health Technician	347	-	347
Others	569	-	569
T O T A L	13,486	1,646	15,132
Percentage	89%	11%	100%

Source: Health Sector Assessment. Preliminary Report. World Bank, 1985. (Based on data obtained from the Ministry of Health.)

In reviewing this table, it is of interest that there are two categories which fail to provide any apparent possibility of advancement to the "higher level" of salary and responsibility. These are medical students and Rural Health Technicians (plus unspecified others). On the other hand, nearly as many administrators are classified "at the higher level" as are regular employees in this group. This compares with an overall 11% "higher level" classification throughout the Ministry.

Perhaps of greater interest is the distribution of health personnel within the Ministry of Health in relation to presumed needs in Guatemala. This is a controversial area and any calculations are subject to considerable criticism. Suffice it to say that norms established by PAHO were used in 1983 to calculate population to provider ratios for different health professions as of that date. (Table 13.8) There were then only one quarter of needed physicians working in the Ministry and less than 3% of needed dentists. Indeed, the range ran from just over 1% of required nutritionists to a surplus (167%) of X-ray technicians.

Using these data, the greatest needs within the Ministry may be seen in the following order of priority:

1. nutritionists;
2. dentists;
3. graduate nurses;
4. physicians;
5. Rural Health Technicians;
6. anaesthesiology technicians;
7. social workers; and,
8. laboratory technicians.

Sanitary inspectors and X-ray technicians are, as noted, actually in oversupply.

TABLE 13.8

AVAILABILITY AND DEFICIENCY OR EXCESS OF HUMAN RESOURCES IN THE MINISTRY OF HEALTH, BY CATEGORY, ACCORDING TO NORMS, 1983

CATEGORIES	Norm or Parameter	Necessary No. According to Norm	Availability		Deficiency or Excess	
			No.	%	No.	%
Physicians and E.P.S.	8X10,000 Inhab.	5,979	1,491	24.93	-4,488	-75.06
Dentists	5x10,000 Inhab.	3,735	101	2.70	-3,634	-97.30
Graduate Nurses	6x10,000 Inhab.	4,483	650	14.49	-3,833	-85.51
Auxiliary Nurses	12x10,000 Inhab.	8,965	4,973	55.47	-3,992	-44.53
Nutritionists	1x10,000 Inhab.	744	8	1.08	-736	-98.92
Social Workers	1x C/S Type "A" 2x Hosp./Dep. 1x Area Chief	119	99	80.67	-20	-19.33
Environmental Inspectors	2x C/S Integrated 1x C/S Type "B" 1x Area Chief	260	276	106.15	+16	+6.15
Laboratory Technicians	2x C/S Type "A"	406	355	87.44	-51	-12.56
X Rays Technicians	2x Hosp/Dept.	74	124	167.60	+50	+67.50
Anesthesia Technicians	2x Hosp/Dept.	105	52	49.52	-53	-50.42
Rural Health Technicians	1x5,000 Inhab.	800	347	40.06	-453	-59.94
Other Professionals	N/A -	516	-	-	-	
Administrative	N/A -	946	-	-	-	
General Services	N/A -	3,479	-	-	-	

* N/A - none available.

Source: Recursos Humanos. Dr. Daniel Rodriguez and Dr. Rafael Rodriguez, Division of Human Resources, Ministry of Health.

Once again, the "softness" of data structured in this way must be emphasized. Nonetheless, it provides some parameter of need within Guatemala, giving an index of relative requirements by profession based upon presumed ideal distribution patterns.

As has been previously noted, geographic distribution of personnel in proportion to disttribution of the population is as important or more important than the adherence only to national provider to population ratios. If virtually all physicians are located in the urban areas or centered in hospitals, merely producing more physicians might do little to effect health service availability in Guatemala. By the same token, if it is known that virtually all Rural Health Technicians work in health centers or health posts, it may be more appropriate to focus on the training of these individuals--even if the shortage of physicians appears to be greater. The same may be said of auxiliary nurses, who have a realtively high penetration at the community level. (Table 13.3)

It may be noted that the Ministry of Health has the largest concentration of health personnel of any institution in Guatemala, exceeded only by the private sector in the case of physicians. Any significant alteration in the health care of Guatemalans must depend upon a commitment by the Ministry of Health of its personnel pool. This serves as a guiding principle for much of the present report, including its emphasis on the Ministry of Health as opposed to other institutions in the Guatemalan health care delivery system.

13.3 Instituto Guatemalteco de Seguridad Social

As has been noted previously, the second largest institutional health system in Guatemala is the Instituto Guatemalteco de Seguridad Social (IGSS). The distribution of personnel according to IGSS, in 1985 was as follows:

TABLE 13.9

NUMBER OF PERSONNEL BY CATEGORY

	Total	Regular	Floating Staff
Total	7,355	7,010	345
Medical	1,014	979	35
Paramedical	2,515	2,447	68
Administrative	2,223	2,121	102
Miscellaneous	1,603	1,463	140

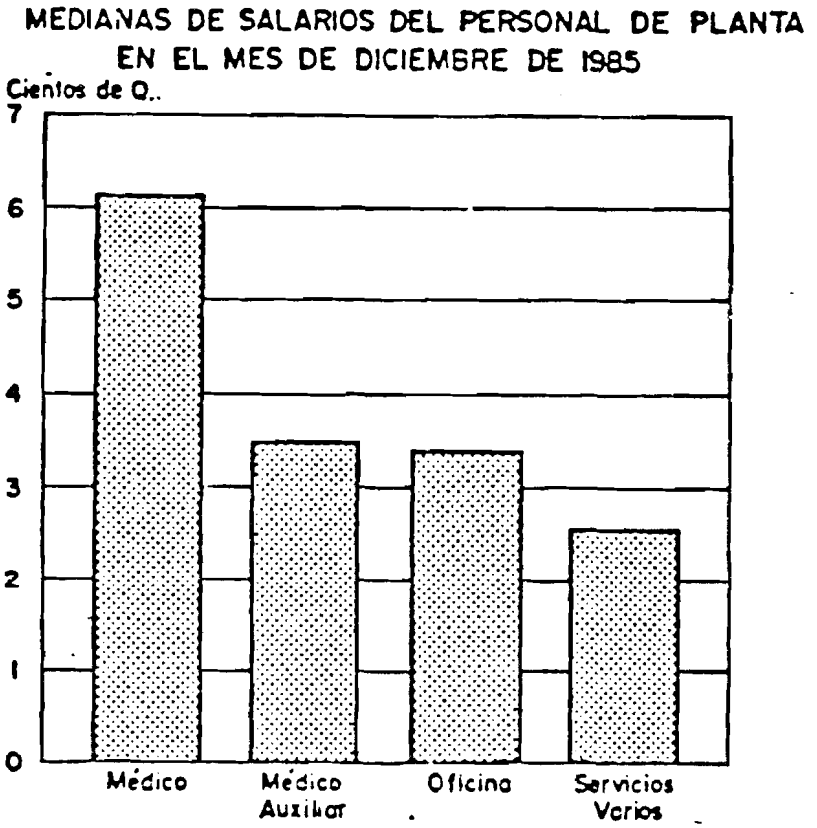
Source: Informe de Labores, IGSS, 1985, p. 89.

As might be anticipated from the difference in mission between the Ministry of Health and IGSS (which is not limited to health care), the relative proportion of "paramedics" to physicians is much lower in IGSS than in the Ministry, as is also the case for the relatively large number of administrative personnel (more than twice as many administrators as physicians) in the Guatemalan Social Security Institute.

Relative salaries of physicians and other health personnel compare as shown in Figure 13.1.

FIGURE 13.1

SALARIES OF PHYSICIANS AND OTHER HEALTH PERSONNEL



Source: Informe de Labores, IGSS, 1985, p. 90.

Realizing that the exchange rate for the quetzal has been running between 2 and 3 quetzales per dollar, a salary of 600 quetzales in December, 1985 would translate to between $200 and $300 per month for physicians. Just over half of this amount is paid to medical auxiliaries and office personnel.

The social security system divides the country into five basic zones for administrative purposes. These are shown in Table 11.11. Based on a ratio of number of professionals per 1,000 population, it may be seen that physicians and nurses are much more abundant in the central zone (including Guatemala City) than any other area. Only in the case of auxiliary nurses is there a relatively more favorable distribution, on a per population basis, to other regions.

TABLE 13.10

RATIO OF HEALTH MANPOWER TO POPULATION
SUBJECT TO SOCIAL SECURITY BY GEOGRAPHIC AREA

		PROFESSIONALS/POPULATION RATIO					
		Medical		Nurses		Aux. Nurses	
Region	Population	No.	%	No.	%	No.	%
Central	529,146	659	1.24	269	5.08	1,117	21.1
Southern	199,017	61	0.30	26	1.30	180	9.04
Northern	53,803	11	0.2	2	0.37	22	4.08
Eastern	22,951	32	0.2	6	0.48	71	5.77
Western	73,565	46	0.6	14	1.90	106	14.40

Source: An lisis Institucional del Sector Salud en Guatemala, IGSS, Guatemala, March, 1984.

In more general terms, IGSS is known to pay its physicians more and to provide generally better working conditions than do the Ministry of Health and other state-supported programs. As in other Latin American countries, this becomes a contentious issue when the subject of amalgamating social security and public health resources is considered.

All data concerning the social security system must be interpreted in the light of where social security resources are centered. As was noted in Chapter 4, the social security system concentrates most resources in those nine departments of the country in which it offers a full array of services. It would be reasonable to assume that a much higher personnel to population ratio would exist in these nine departments, as compared to departments where service obligations are less.

IGSS devotes considerable attention to training of health personnel. It operates residency training programs and accepts graduate students for their social service year (E.S.P.). As in the case of the Ministry of Health, the social security system has its own school for training of nurses and other health personnel.

13.4 Physician Training

13.4.1 University of San Carlos

Traditionally all physician training has been at the University of San Carlos. Long a major training center for Central America, the university receives a generous allocation (5% of the national budget by Constitutional requirement) from the State. As a result, it makes education virtually free (approximately Q60 per year) for its students. About 85% of total university support comes from the government.

During the late 1970s and early 1980s, the University of San Carlos experienced much of the same difficulties better publicized in relation to the University of El Salvador. While it has not been immune from the peril of both kidnapping and murder, which have affected faculty and students alike, the University of San Carlos has been relatively calm in the last few years.

Medical education at the University of San Carlos is in four phases, the first three of which are under-graduate and the last of which is post-graduate. Behavioral sciences represent a constant 20% of the curricular time throughout the six years of undergraduate training, whereas clinical sciences increase from approximately 10% to 70% and basic sciences decrease from approximately 70% to 10% in the six years. In the beginning, the design called for a focus on healthy individuals in the first phase, sick individuals in the second phase, and recovering individuals in the third phase. Now these emphasis areas are being integrated within each phase. Each phase has its own director.

The medical school is currently graduating approximately 250-300 students per year.[5/] As may be seen from

Table 13.11 represents the lowest figure in the period described.

5/ Interview with Dr. Humberto Saackmann, Dean of the Medical Faculty, University of San Carlos, August 26, 1986.

TABLE 13.11

ANNUAL GRADUATION OF PHYSICIANS
UNIVERSITY OF SAN CARLOS SCHOOL OF MEDICINE

	1980	1981	1982	1983
Number of Graduates	315	433	515	292

Source: Guatemala Health Sector Assessment, World Bank (Draft Report).

While the University of San Carlos follows a standard six year medical curriculum (post-secondary school), it has decidedly pyramidal system. At any given time there are over 4,000 students in the medical school.

The San Carlos University Medical School maintains a strong interest and relationship to the "hospital without walls" concept being developed at Roosevelt Hospital. The training opportunities offered by hospital-affiliated community clinics are viewed by faculty as good educational experiences for medical students.

In practice, in addition to their required year of social service, third-year students are assigned a family and fourth-year students work in family clinics, where they focus on pregnant women and children.

13.4.2 Francisco Marroquin Medical School

The only private medical school in the history of Guatemala opened in 1968, in association with the Herrera Llerandi Hospital, one of the foremost private hospitals in Guatemala City. The Medical school was established to offer a quality medical education to students primarily from Guatemala, although students from elsewhere in Latin America are admitted.

This medical school, unlike the University of San Carlos, has a seven-year curriculum which includes a social service year, much as in the case of San Carlos. The Francisco Marroquin school receives no funds from the government: Eighty percent of its support comes from tuition and another 20% from a foundation started to support the school. Tuition runs Q2,750 per year for Guatemalans, and approximately Q500 per year in extra costs. (charges)

The Francisco Marroquin curriculum is divided into three years of basic sciences and four years of clinical sciences. During its sixth year, the school works with 14 different clinics, situated in rural areas and which provide clinical training. During the seventh year, the students are referred to as interns and provide their regular EPS or public service.

The educational program at Francisco Marroquin is somewhat pyramidal, although less so than at the University of San Carlos. They lose approximately 40% of their students in the first 3 years, admitting 50 to 70 students per year and graduating approximately 35.

Resistance encountered initially from the University of San Carlos and elsewhere has abated, partly due to the fact that Francisco Marroqu n students do relatively well on placement exams when compared to graduates from other universities.7/ Since interns from Francisco Marroqu n are not from a state school, they are not paid the same Q150 per month as are interns who come from the University of San Carlos.

Although it would appear that the school is for rich families only, school representatives assert that at least 40% of the students have some form of scholarship assistance, only available for Guatemalans. Foreign students pay higher tuition fees. There are currently three or four North Americans among the student body, although it is the policy of the school not to take significant numbers of students outside of Latin America.

In short, medical education in Guatemala is offered by two institutions, one public and one private. The curricular organization at the two schools is not too dissimilar, although the Francisco Marroqu n school takes one more year to complete. Both are pyramidal, although the University of San Carlos more so than the Francisco Marroqu n. Perhaps the major difference between the two schools is that one is free and the other is, by Guatemalan standards, quite expensive. Possibly the most significant fact of all is that a private medical school has emerged in Guatemala and appears to have a secure position in the structure of medical education in the country.

13.5 Constraints and Issues

As was noted in the beginning of this section, developing countries such as Guatemala face resource constraints when it comes to the most expensive component, by far, in any health sector

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7/ Interview with Dr. Rodolfo Lorenzana, Chief of Instruction, Francisco Marroqu n Medical School, August 27, 1986.

budget--human resources. The training and support of health personnel is a major obstacle facing all governments, particulary those with limited resources.

A further constraint in the case of Guatemala, but also an opportunity, is the relatively high percentage of physicians in the private sector. With over half of all physicians working at least part time outside the institutional or public sector, the Government is somewhat limited in its ability to influence their distribution either by specialty or by geographic placement. On the other hand, this heavy representation of the private sector presents options for alternative delivery systems to emerge and answer demonstrated health needs.

A constraint and an issue is the distribution of health professions within the Guatemalan health care delivery system. While certain voluntary health workers and nurse auxiliaries outnumber physicians, the relative percentage of physicians in the health personnel pool remains quite high in Guatemala. Any review of locational decisions by these physicians shows that they tend to prefer urban areas and hospital practices, whereas Rural Health Technicians and, to a lessesr degree, auxiliary nurses tend to work at health centers and health posts. A reasonable question which this raises is whether the country should be training more of the lower-salaried Rural Health Technicians and nurse auxiliaries than physicians--or finding better means to redistribute physicians.

An additional constraint and issue is the location of other health personnel. Graduate nurses and others who might normally be considered to work in outlying areas or in an outreach capacity tend to concentrate themselves in the same areas preferred by physicians. These data suggest that the system needs either to restructure the way it defines, trains and distributes its personnel, or to find ways to redistribute those already trained.

Maldistribution is most evident with reference to urban vs. rural and hospital-based vs. community-based assignments. At the same time, it is not clear that urban residents living in marginal areas are well served, despite the relatively high percentage of health professionals in urban areas. This is a matter that deserves further study.

A prominent issue in any analysis of health manpower must be the educational system which undergrids it. In the case of the Guatemalan health system, such an analysis must take into account the Human Resources and Health Education Division of the Ministry of Health, training programs in the Social Security system and university-based educational programs, to name only a few. With many auziliary nurse and

other professional training programs located in private hospitals, there is reason to believe that the private sector may be making a substantial contribution to the education of health professionals in Guatemala.

13.6 Conclusions and Recommendations

Despite Guatemala's long-standing requirement for mandatory social service (EPS) both for medical students and others, it is clear that problems of specialty and geographic maldistribution persist. Given the weak economic base of most rural areas of the country, as well as the marginal urban areas, it is unlikely that market forces will soon correct these conditions. Further, it will require intentional planning and concrete action on behalf of the Ministry of Health, the Social Security system, the private sector and others.

A key to that planning will be a reevaluation of the educational experience in relation to service. Whereas training opportunities and requirements now exist for health science students to work in conjunction with service programs, this is sporadic and ineffective in terms of addressing national needs. Both for the purpose of attracting students to later practice in needy areas and for providing supervised service, some augmented preceptorship program should be considered. In addition, a total reevaluation of the mandatory service requirement (EPS) and its related curriculum is indicated. This could be combined with a major thrust by the various health service institutions and the universities to deal with previously intractable health care problems in Guatemala.

13.7 Recommendations

It is recommended that:

13.7.1 AID support programs designed to integrate educational experiences for health science students and service opportunities by placing students in selected health care delivery settings, such as San Juan Sacatepequez. Such programs should bring together universities and public sector institutions in a common purpose.

13.7.2 AID encourage programs designed to restructure the distribution of health professionals within the human resources system, putting greater emphasis on those professionals such as Rural Halth Technicians and Auxiliary Nurses which have a proven record of service in medically under-served areas.

13.7.3 AID support Private Voluntary Organizations engaged in the training of health promoters, to the degree that these health promoters are integrated into a larger, coordinated health care delivery system.

13.7.4 It is recommended that AID support programs designed to attract existing health professionals to medically under-served areas, be they urban or rural. Every effort should be made to institutionalize such programs so that they are not conducted on an isolated or sporadic basis.

13.7.5 It is recommended that AID should support a study of private sector health manpower development, particularly educational programs, with a view toward analysing its impact on the future of health services delivery in Guatemala.

CHAPTER 14

HEALTH SECTOR LOGISTIC SYSTEM

Guatemala has a territory of 108,889 km2, which is relatively well served by a good road system in most areas ; however, a large number of remote villages can only be reached by foot or horseback. This country is divided into 22 "departamentos" and these into 323 "municipios". The Ministry of Health has established 6 "Regiones de Salud" and 24 "Areas de Salud." Sixty per cent of the population lives in rural areas.

14.1 Ministry of Public Health and Social Welfare*

The availability of functioning equipment, pharmaceutical products and other supplies in most health centers and health posts is clearly deficient. This deficiency is due mainly to limited budgets, a poorly coordinated distribution system, lack of maintenance facilities, and inadequate warehousing. Therefore, even when donations arrive, it is difficult to make them available to the remote health posts where they are most needed.

14.1.1 Procurement of Pharmaceuticals

Drug procurement is based on three parallel but complementary mechanisms. The first is through decentralized acquisitions by hospitals directly from distributors; the second involves the Purchasing Department of the Ministry which makes at least two large centralized purchases during the year: by means of an "Open Contract" and a "Public Tender"; and, the third, a less used means, is direct importation by the Ministry.

In all 3 cases, deliveries are made directly to the hospitals; as the Ministry only distributes products intended for health posts, health centers, state pharmacies, and municipal shops, all of which are supplied through the Drogueria Nacional. The products purchased centrally are rarely sufficient and the hospitals must also make additional purchases independently. Some 350 different products are obtained by these means.

Under the "Open Contract", registered suppliers meeting a series of requirements are invited to bid on a list of products prepared by a specialized committee. They are expected to maintain prices quoted for one year, although the annual demand is supplied

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* The Ministry of Health is responsible for delivering medical services to the low-income sector of the population, which in 1985 amounted to 5.6 million people. Medicines are obviously an important part of these services.

on a quarterly basis. This is the most cost-effective way of purchasing medicines, but given the inflation the country is facing, suppliers do not want to participate as they are not willing to commit themselves to a fixed price for a whole year.

The "Public Tender," conducted once a year, is now preferred by suppliers, as it calls for a larger number of products to be delivered over a fixed period of time which, however, may take from seven months to one year.

The Ministry of Health can also import medicines directly when they are not produced locally or if the quality of locally produced products is not satisfactory. However, such purchases are restricted to drugs priced at least 15% lower than similar imported products offered by local distributors.

14.1.2 Quality Control

A $48,000 program financed by PAHO and UNDP was initiated in July 1983 for the quality control of medicines purchased by the MOH. Initial efforts focused on the organization of the administrative, technical, and legal structure of a specialized MOH official entity, the "Division de Control de Alimentos y Medicamentos," to deal primarily with registration and quality control of drugs and food products. The "Laboratorio Unificado de Alimentos y Medicamentos" (LUCAM), which reports to this Division, was reinforced to handle analyses of all products being considered for sanitary registration -- as well as those being purchased by the Ministry. This project has been extended through 1988, to allow time for the system to begin actual operation.

These two tasks have in fact already been undertaken by LUCAM, and it is assumed that within this 2-year period this unit will become financially self-sufficient.[1/]

14.1.2.1 Laboratorio Unificado de Control de Alimentos y Medicamentos (LUCAM)

The laboratory (LUCAM) is located on the premises of INCAP (at a yearly rent of Q45,000), and is staffed by 13 professionals (chemists, pharmacists, and microbiologists), 2 PAHO consultants, 4 secretaries, and 2 receptionists. The group of analysts seems to be sufficient for the present workload of the lab, but will have to be increased as other functions are added.

1/ Ministerio de Salud Publica y Asistencia Social, 1986. Desarrollo del Plan de Necesidades Prioritarias de Salud, 1986.

The main services offered by the laboratory are analyses of pharmaceuticals, cosmetics and foods applying for MOH registration, as well as household cleansing products. There is a section for control of pesticide residues on food products, both for local consumption and for export (mainly to the U.S.). For this purpose, the lab has been recognized by the Food and Drug Administration of the U.S. Public Health Service.

In 1985, LUCAM was designated as a training center for professionals in the field of quality control. In April 1985, it initiated a five-year program sponsored by PAHO, which provides: (1) scholarships for a four-month course for local and foreign professionals; and (2) expenses incurred by LUCAM (reagents, educational materials, etc.).

14.1.3 Official Production Units (Hospital-Based)

Some of the large hospitals have established small manufacturing operations for products for their own use, including syrups, ointments, and antiseptic solutions.

An important element is the production of parenteral solutions at the largest hospital in the country, "Hospital General San Juan de Dios" (built 3 1/2 years ago), which generates a significant demand for bottled solutions. The 3-year-old production unit is very well kept and organized by its staff of 28 (including 2 pharmacists), and during its short life, the quality of the production process has been substantially improved. However, a critical deficiency remains unresolved in the quality control area, which is still lacking the equipment for both sterility and pyrogen testing. Currently, finished products are not analyzed, and the production unit must rely on visual inspection and sporadic outside testing for quality control.

The modern San Juan de Dios Hospital, in addition to the previously mentioned production unit, has its own internal central pharmacy with an ample warehouse and three smaller branch pharmacies, (one in the Intensive Care Unit, one in Maternity and one in Pediatrics), as well as a state pharmacy supplied by the "Drogueria Nacional".

The hospital makes its own purchases, based on an annual budget of Q2,500,000 (1986). Due to budgetary limitations, the hospital faces a significant deficit of drugs, which has also affected the production of parenterals.

14.1.4 Biological Production Laboratory

The laboratory for biological production is part of the "Departamento de Laboratorios Centrales" of the "Division de Vigilancia y Control de Enfermedades", which belongs to the "Direccion General de Servicios de Salud" of the Ministry of Health. The functions of the "Departamento de Laboratorios" include clinical diagnostic testing and the production and storage of vaccines, some of which are manufactured in this laboratory, as well as those that are imported by the Ministry of Health.

Since all of the vaccines donated under the EPI Program (Extended Program of Immunizations) are delivered to this laboratory for storage and distribution, it also functions as the starting point of the Cold Chain.

14.1.4.1 Vaccine Production

The Biological Production Laboratory produces human and canine anti-rabies vaccines and anti-typhoid vaccine. The production of these three different types of antigens takes place in an inadequate environment, with great risk of contamination, as manufacturing operations are carried out in open labs. The equipment in use is obsolete and needs urgent replacement

Production capacity can be described as sufficient for the human anti-rabies and the anti-typhoid vaccines, but not for the canine anti-rabies vaccine.

The laboratory performs its own quality control of the finished products, with the exception of pyrogen testing. There is a clear need for more attention to the production of vaccines and upgrading the entire operation.

14.1.4.2 Vaccine Storage and Distribution

As mentioned before, all vaccines donated under the EPI programs are brought into the production unit for storage. The storage space consists of one large freezer, two large refrigerator units, a small freezer and a small refrigerator, which, due to space limitations, are scattered all over the building.

Serious problems of the storage unit include the lack of good thermometers, and fluctuation in the electric power supply; even though there is a stand-by generator. No alarm system for

electrical shutoffs is available. This is a particularly critical problem at night, when there are no reliable personnel to turn on the generator.

The biological production laboratories have no distribution system of their own. Thus the vaccines are picked up directly from the laboratories by the recipient institutions. During the vaccination campaigns, vehicles from various other sources offer transportation assistance. The vaccines (packed in cold boxes) are distributed to the 25 departmental health regions (vaccination campaign areas), which are fairly well equipped with cold storage equipment to receive the vaccines. However, at the peripheral level, only a few of the health centers and health posts have the capacity to properly store biological products.

14.1.5 Drogueria Nacional

The public sector logistic system for pharmaceuticals is centered on the "Drogueria Nacional," as it is the starting point of the distribution system. The Drogueria purchases medicines and other medical commodities to supply 234 Health Centers, 614 Health Posts, 53 state pharmacies and 142 municipal shops, and when availability permits, it also supplies some of the hospitals. As shown on the following map, in spite of its central location, the distances to be traversed in transporting supplies are significant.

The Drogueria Nacional is divided into four sections, maintaining separate inventories which are physically divided according to the units served. These divisions are as follows:

a) State pharmacies
b) Municipal shops
c) Health Centers and Health Posts
d) Medical Equipment

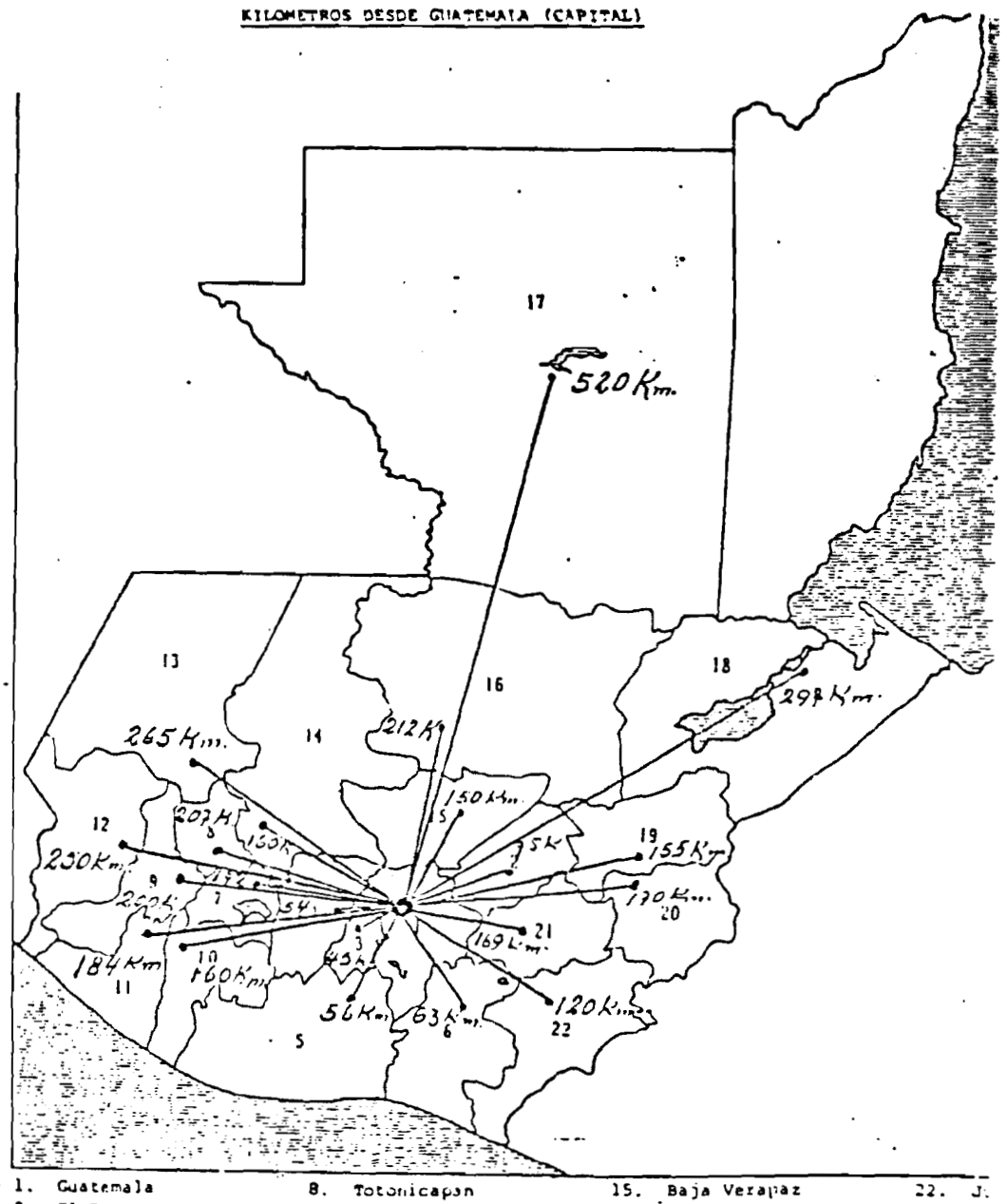
The inventories maintained in each section are rather small, the facilities very poorly subdivided, and the products not stored nor handled properly.

Under the new government (1986) and with PAHO support, work to improve the operation has begun by acquiring more professionals in the pharmacy, a full-time PAHO consultant, and a business administrator. The goal is to centralize the purchase, storage, and distribution of medicines and hospital supplies of all health institutions in the Drogueria Nacional. A surplus of nontechnical

Insert Map here

COBERTURA DE AREAS DE SALUD Y

KILOMETROS DESDE GUATEMALA (CAPITAL)



DATOS:

1. Guatemala
2. El Progreso
3. Sacatepéquez
4. Chimaltenango
5. Escuintla
6. Santa Rosa
7. Sololá
8. Totonicapan
9. Quezaltenango
10. Suchitepéquez
11. Retalhuleu
12. San Marcos
13. Huehuetenango
14. El Quiché
15. Baja Verapaz
16. Alta Verapaz
17. El Petén
18. Izabal
19. Zacapa
20. Chiquimula
21. Jalapa
22. J.

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employees is evident. Each of the units mentioned above has a minimum of five people on staff, (with a maximum of 12), for a total of 44 people running a very small operation. This situation is being carefully analyzed by the new administration. Another project under consideration would repackage bulk products into small packets more suitable for many of the smaller health units. A step already taken in the reorganization process has been the move into a more adequate building (Government building which will save the Drogueria rental costs).

The Drogueria Nacional has no independent distribution system. The state pharmacies and municipal shops pick up their own orders. The health posts and health centers are served by either APROFAM which distributes their products free of charge, or by private transportation for which they must pay.

14.1.6 Family Planning Unit

With the various changes which have taken place with the new Government, the Family Planning Unit, which is partially funded by AID, is now under the direction of the MCH Departament in the Ministry of Health. Its functions are to promote family planning, and to distribute contraceptives and educational materials. It has a good storage facility inside a large warehouse belonging to the "Direccion de Servicios de Salud". The Family Planning Unit covers 11 areas in the Southwest part of the country, which are not covered by APROFAM. These are: San Marcos, Quezaltenango, Huehuetenango, Totonicapan, Suchitepequez, Retalhuleu, Quiche, Solola, Chimaltenango, Sacatepequez and Peten.

The distribution and control of contraceptives and educational materials is done by four supervisors (medical doctors) who visit all health centers and health posts located in these 11 areas every four months using a fleet of five pick-up trucks. Contraceptives are purchased directly by the health centers from APROFAM or obtained free from the official Family Planning Unit.

One of the goals of this unit is to increase coverage step-wise in order to eventually be able to replace APROFAM in the areas they now serve. To accomplish this, it will be necessary to increase the number of supervisors and vehicles to at least ten of each.

As a general rule, most of the areas covered are rural, and a few areas cannot be served because of guerilla activities (e.g., Peten, northern Quiche).

IGSS purchases annually some Q8 million in medicines and Q3 million in other medical commodities. About 95% of the medical products purchased are imported directly or through a local representative. Most recent purchases have been local because of the lack of foreign currency. The list of medicines consists of about 380 products, including contraceptives, vaccines, and anti-malarial drugs. Vaccines are obtained through PAHO under the EPI program (Programa Ampliado de Inmunizaciones).

The IGSS purchasing system is similar to that of the Ministry of Health, and follows the Government Purchasing Law (Ley de Compras del Estado), which stipulates that up to Q1,000 may be purchased through petty cash; up to Q12,000 must be handled by Private Tender (open contract), with an Administrative Contract approved by the National Comptroller, and finally, the Public Tender, which is a much longer process generally used for larger purchases.

14.2.1 Storage and Distribution of Medicines (IGSS)

Medicines purchased by IGSS are stored in a warehouse divided into two areas, one for bulk products, and an operating warehouse for dispatch. The distribution to corresponding hospitals and Health Centers is done with 2 trucks and 3 pick-ups; although occasionally private transportation is used, especially for small urgent orders for rural areas.

No system has been established for checking the quality of the products received. IGSS asks the supplier to provide a certificate of analysis as proof of the quality of products delivered. Because of the time required for this, only in those cases where there are visible doubts are samples returned to LUCAM for analysis.

For the storage of vaccines, IGSS has a cold room, a large refrigerator, and two horizontal freezers, as the main part of a well-established cold chain. The main problem they face in their operation is the limited capability of personnel. There is only one pharmacist, (the Director), and a clear need exists for a second professional to supervise the staff of 50 (only 10 to 15 of whom are literate) who work in the handling and shipping of pharmaceuticals. This makes it very difficult to assure a reliable operation of the warehouse.

Record keeping is very good, as movement of products is controlled with a Kardex system, and information is fed daily into a computer located at the central administration building. Information from the field, such as the usage of products, is also reliable and readily available, allowing for good planning in purchasing. Obsolete products are destroyed after 5 years, and visibly damaged products are disposed of immediately.

Next to the IGSS warehouse, a small production unit is in operation (run by a pharmacist with two operators), which produces limited quantites of oral liquid preparations and ointments, for a total production of 400,000 units per year, which are moved into the inventory of the general warehouse as they are finished. Some finished products are tested at LAPROMED (Laboratorio de Productos Medicinales) in the School of Pharmacy.

14.3 The Private Sector - Production and Distribution

The pharmaceutical private sector in Guatemala is composed of private manufacturing companies, which import most of their raw materials. They produce a wide variety of finished pharmaceutical products, ranging from parenteral solutions to tablets, capsules, syrups and ointments.

A total of sixty companies, including many multinational firms (e.g., Upjohn, Hoechst, Roussel, Merck) operate pharmaceutical plants in Guatemala. A distinct advantage is the access to the Central American Common Market.

The distribution of medicines in the private sector is done by pharmaceutical wholesalers (droguerias) (54 are registered) which in some cases are affiliated with the manufacturers. However, in most cases these are independent firms which distribute locally made as well as imported products.

The distributors can be divided into two groups: those that have their own sales force to promote their products at the pharmacy level ("droguerias eticas") and those who sell the products to independent vendors ("ruteros") who distribute their products throughout the country ("droguerias populares"). The first group of distributors has a smaller coverage, since they visit mainly pharmacies. The second group visits the "tiendas", or small shops widely spread throughout the country, and also offer many other items besides pharmaceuticals.

The final outlet of the private distribution system is the private pharmacy. Approximately 50% of the country's 1,340 pharmacies are located in the Department of Guatemala, including 550 in the capital, and 50 more in the surrounding "municipios" of Mixco and Amatitlan. The remaining 600 pharmacies are spread among the other departments. As a result of the activity of the "droguerias populares", many pharmaceuticals are found on the stands of "tiendas" and supermarkets making these stores a very important part of the private distribution system. The private sector represents about 75% of the total market of pharmaceuticals in Guatemala, which was calculated in 1985 at Q100 million.

14.3.1 Asociacion Pro-Bienestar de la Familia (APROFAM)

This non-profit organization, funded by AID and IPPF (International Planning Parenthood Federation), is dedicated mainly to family planning activities, including the education and distribution of contraceptives, donated by AID and IPPF, which are sold at a very low price directly to consumers through voluntary promoters and official health units. Of the sales price, 60% goes to APROFAM and 40% goes to the health unit or promotor of the products. The same products distributed are given free to the consumers in the APROFAM clinics.

Recently ORS packs (Oral Rehydration Salts) and other medicines (e.g., sulfas, antibiotics and anti-helminthics) have been added to the list of products offered by APROFAM. These medicines are purchased from local distributors and sold at cost only at APROFAM clinics. Promoters only handle contraceptives, ORS, and Mebendazol. Contraceptives are the only products offered to the official health units. APROFAM has developed a good system for control of the distribution of products delivered.

Eleven clinics are visited at intervals of 15 days, and 1400 promoters are visited (on the average) every 3 months. Two additional representatives have the responsibility of visiting 430 official health units for contraceptive distribution.

With regard to educational programs, APROFAM offers periodic training courses for promoters. In addition to instruction in family planning, the promoters are also trained to assist the communities in sanitation and agriculture.

APROFAM has a coverage of 25% of all fertile women over 18 years of age, forty nine percent of whom are located in Guatemala City. APROFAM is also represented in 17 mostly urban areas in the Northeast part of Guatemala.

14.3.2 Importadores de Productos Farmaceuticos, S.A. (IPROFA,SA)

IPROFA began operation in 1984 under an AID project to distribute inexpensive oral contraceptives to the private sector.

In one and a half years of actual operation, IPROFA has grown 75%, and, although the project will end in December 1987, it is expected to be extended.

In 1985, IPROFA distribution outlets consisted of 378 pharmacies, 5 motels and 9 wholesalers, for a total of 392. In June 1986 the number had increased to 631 pharmacies, 41 miscellaneous outlets, and 16 wholesalers for a total of 688. Among the wholesalers, there are some popular distributors, who apparently are the ones offering the best sales support to the organization. IPROFA maintains a sales force of five people, each with his own vehicle. In addition to the wholesalers, they periodically visit the areas distributing and promoting their products.

14.4 Conclusions and Constraints

It is difficult to make an accurate assessment of the logistic system in Guatemala under the new Government, which is just beginning to implement new policies. However, thanks to the cooperation of the people involved in the logistic system, who shared their plans and ideas, certain conclusions and recommendations can be made.

In general, the official system is not integrated, that is, many health institutions participate separately in the purchasing and distribution of medicines. In some cases even the private sector collaborates in the distribution of medicines. There appears to be little coordination among the corresponding units; there is an excessive number of products in the basic list, but, most important, there is a very limited budget for the puchase of medicines. For instance, the "Drogueria Nacional" for 1986 has budgeted Q413,200 for the purchase of medicines for health units. If only the 848 health centers and health posts are considered, each one will have assigned Q40 a month for medicines.

Such budgetary limitations account for the lack of medicines in the units and the individual purchases by hospitals and clinics, in contra-position to the law that created the "Drogueria Nacional." As a result of the inability of the Drogueria Nacional to store and supply medicines to all health institutions, other warehouses have been established to fulfill this need.

The possibility of creating new distribution centers at the regional level has been suggested, but is not an ideal alternative, as it would only insert more personnel, administrative expenses, and more storage and requirements into an already overextended system.

Centralization of all purchases will require the provision of sufficient funds to meet the needs of the health units as well as hospitals. When the Drogueria Nacional has adequate warehousing space and conditions, distribution could be handled as it is now, with perhaps some additional collaboration from the private sector, such as APROFAM or a private distributor.

14.5 Recommendations

It is recommended that USAID:

14.5.1 In collaboration with PAHO, support a complete analysis of the basic list of drugs being purchased by the Ministry of Health, in consultation with medical doctors from medically underserved urban and rural areas, so that a smaller list of primary care essential drugs can be prepared.

14.5.2 Once a list of essential primary care drugs is available, assist the MOH in exploring alternative delivery mechanisms involving the private sector and providing necessary incentives to assure timely and consistent product distribution.

14.5.3 Assist the "Drogueria Nacional" in providing (1) an adequate space and proper conditions for the storage of medicines and other medical commodities; (2) equipment for warehouse work such as racks, lifters, etc; (3) some cooling units for vaccines and other products requiring cold termperatures; and (4) technical advise for the entire administrative organization.

14.5.4 Support the increased production of parenteral solutions at the General Hospital San Juan de Dios, so as to assure a supply for other hospitals. Technical assistance should be offered to allow the use of disposable plastics bags, instead of recycled glass bottles, and a small investment should be made in equipment for production and quality control.

14.5.5 Provide technical assistance to the Biological Production Laboratory for the proper production of vaccines, establishing good manufacturing practices for this type of operation, while providing adequate physical facilities and new equipment where vaccines are stored.

14.5.6 Make available necessary support to the "Laboratorio Unificado de Control de Alimentos y Medicamentos," through the provision of reagants and additional personnel, so that they can analyze all products purchased by the official sector.

14.5.7 Assist the Ministry of Health in developing an drug distribution system for Guatemala. This should include use of private agencies, such as APROFAM, as well as for profit businesses, including the alcoholic beverage industry.

CHAPTER 15

Management Information System Analysis

15.1 Overview

15.1.1 Background

Health statistics permit measurement of the status of health. They provide the information by which policies are formulated and programs designed. The quality and comprehensiveness of health data are especially important as they furnish the empirical (though not necessarily political) base upon which critical resource allocation decisions are made. Generation, collection, and analysis of data also are an integral part of evaluating existing health care policies and programs and identifying needs.

In 1957 the Guatemalan MOH developed a health statistics section in the Department of Epidemiology. The purpose of this section was to generate vital statistics at the national level, including births, deaths, causes of death and morbidity data from the health services units of the MOH.

Data were processed using a semi-mechanical keystrokes system, including counting and sorting machines for cards with eighty colums of coded information. However, due to the lack of spare parts in 1982, these machines were replaced with a "mini" computer. The computer was used for processing new data needs related only to the assessment of hospital resources and expenditures. The rest of the data were processed by hand calculator.

In 1982 the health statistics section became an independent unit of the Direccion General de Servicios de Salud (DGSS) under the name of Unidad de Informatica (UI). At that time new policies and activities of the MOH required more data support. Thus, new variables and health indicators were included in the information system in order to evaluate different health programs, allocation of resources, and assessment of selected activities of the MOH. However, since no major changes have been made in the structure of the UI, it has been unable to keep up with a growing need for more and better quality data, along with more powerful analysis. Ironically, the MOH has developed parallel and somewhat duplicatory information collection and analysis systems in order to cope with the new information needs, and the UI has been processing these data as well.

In 1985 the mini computer the UI had been using since 1982 was replaced by microcomputers* donated by PAHO, and vital statistics were included in this electronic data processing system. Plans for inclusion of morbidity data into the system have been developed but their execution delayed due to the relatively recent installation of the newer hardware.

15.1.2 UI Data Processing Functions

The data collection and processing structures and functions of the UI may be found in summary form in Table 15.1. Specific steps involved, in order of procedural sequence, are listed immediately below. It is important, if somewhat discouraging, to note that most data processing continues to be carried out manually, although much greater computer capacity now exists in the UI.

- Data are collected at all health posts, health centers, hospitals, and all parts of the health sector, using standardized data collection forms designed by the UI.

- Data collected at health posts are sent to the health center of each area. Similarly, data collected at the health centers are sent to the corresponding health sector. At the health sectors, health data (including vital statistics) are sent to the UI.

- At the UI the data are inputted into computers for codification only. All other data manipulations, including analysis, are carried out by hand.

- At the local level, the health centers and sectors carry out a preliminary data processing and analysis. At this level, a parallel data processing sponsored by different MOH health units -- such as the programming unit -- is carried out in order to get faster information from the different health programs in the MOH.

The pathway of data collection, data gathering, and the type of data collected is illustrated in table 15.2.

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*As of 1986, the UI has an IBM-AT with 30 megabytes of memory; 1 IBM PC with RAM 564K and 2 disk drives; 2 IBM PCs with RAM 564K and 1 disk drive; 1 Tall Grass hard disk with 35 megabytes and 70 interchangeable tape cartridges; 1 OKIDATA M 93 printer; 1 PC Network.

15.1.3 Data Generation and Analysis

Data are generated at the health post, health center and hospital levels. As the data are generated from diagnoses, the least accurate information comes from health posts where there is rarely an

TABLE 15.1

STRUCTURE OF THE UNIDAD DE INFORMATICA OF THE MINISTRY OF HEALTH 1986

SECTION	PERSONNEL	ACTIVITIES
Management and Administration	1 Chief 2 Supervisors 2 Secretaries	Management Supervision and Training Typing Reports
Manual Data Codification	9 Technicians	Codification of Morbidity and Mortality Data
Computer Room	5 Technicians	Programming Data entering Data Processing
Logistics	4 Technicians	Storage and Distribution of Working Materials Presentation of Findings
Data Collection and Data Gathering	Variable Number of Technicians, Nurse Auxiliaries, and Physicians	Data Collection and Data Gathering in all Health Facilities

SOURCE: Enriquez, M. Acting Chief of the UI. Personal Communication, August, 1986.

TABLE 15.2

PATHWAY OF THE HEALTH DATA COLLECTION AND DATA GATHERING
UNIDAD DE INFORMATICA OF THE MINISTRY OF HEALTH
1986

HEALTH FACILITY	DATA COLLECTED	DATA PROCESSING	DATA SENT TO
Health Post	Health care Activities for each program. Births. Deaths. Cause of Death* Morbidity Data* Immunizations. Notificable Diseases*	None	Health Center
Health Center (Type "A" and Type "B"	Health Care Activities for Each Program. Births. Deaths. Cause of Death Morbidity Data. Immunizations. Notificable Diseases Hospitalization** X Rays and Laboratory***	Preliminary Analysis for Local Health Statistics	Health Sector
Health Sector	Vital Data Data Gathering from Health Centers	Preliminary Analysis of: Vital Data and Activities for Each Program	UI
Hospital	Health Care Activities for Each Program. Births. Deaths. Cause of Death. Morbidity Data. Immunizations.	Preliminary Analysis of: Health Statistics, Activities for Every Program, and Hospital Expenditure	UI

Continuation TABLE 15.2

HEALTH FACILITY	DATA COLLECTED	DATA PROCESSING	DATA SENT TO
	Notifiable Disease Hospitalization X Ray and Laboratory Hospital Expenditure		

* Only when a physician is available
** Only in some Type "B" health centers with beds for hospitalization
*** Only when available in Type "B" health centers

SOURCE: Enriquez, M., Acting Chief of the UI, MOH Personal Communication. August, 1986.

attending physician. Conversely, hospital level data are the highest quality. While at all levels standarized data collection instruments are used, little training is given to health post personnel, who turn over at high rates. In addition, they do not have International Classification of Medical Terms manuals and, instead, rely on local terms. Needless to say, this makes comprehensive data aggregation difficult if not impossible.

Compounding that problem is a tendency for data processors at the UI to aggregate data under different rubrics from year to year. This makes longitudinal analysis impossible. Thus health authorities cannot measure reliably what impacts, if any, particular policies and programs may be having in achieving specified goals.

No system or procedures for sampling exist. This has obvious and costly limitations for data generation and analysis. But given the elementary status of the UI data system, this is not surprising.

Analytical techniques are predictably underdeveloped. Only nominal level analysis is used, despite the existence of sufficient hardware to run porgams which the UI already has, including Database 3, EPISTAT and Number Cruncher. A major part of the problem is that there is only a nurse trained in biostatistics along with a part-time (less than 50 percent) systems engineer to supervise a staff of 3 programmers and 2 data entry specialists.

15.1.4 Quality Control

With the exception of machine verification of data codification, all quality control is carried out by hand. But procedures are underdeveloped and make data reliability questionable. While there appears to be a willingness to learn more advanced and improved procedures for collecting, verifying and analyzing data, few resources are avilable for training. The consensus in the MOH is that data are inaccurate, delays in processing information persist, and a general inefficiency characterizes management of the information system.

15.2 Constraints

There are several problems and limitations with the health statistics system of the MOH.

First, the UI lacks clear objectives and tasks needed in order to organize its activities. Perhaps this helps the MOH explain why it has not produced official information on time for the last four years. As of September, 1986 the UI has not officially reported data for 1984 and 1985.

The UI system was designed 29 years ago and has not experienced any major change in its structure since then. However, information needs have increased considerably. Thus, the UI is collecting and processing large amounts of information without any substantial improvement in the way the data has been always collected and processed.

As a result, the MOH has had to design parallel information systems to obtain necessary data. At the same time, the UI has not been released from processing the same data. The result is waste and confusion, with undue delays the rule and inacurate data commonly appearing in UI reports.

No professional personnel are working in the UI except for the Chief of the unit, who is a nurse with training in health statistics, and a systems engineer in charge of the computer room.

No biostatistician or health statistician works for the UI. Most of the technicians do not have formal training in health statistics. None of the technicians working in health centers or hospitals has such training.

Supervision outside UI facilities is poor. Only one supervisor visits all health facilities of the country to advise and provide on-site training when necessary. As a result, there is no acceptable quality control for the data collecting phase.

Computer processing capabilities are limited, and only vital data are included. No data analysis is made in the computer. Manual data calculations using hand calculators are not only inadequate, but there are not enough calculators for all personnel. Upgrading the microcomputers' capacity seems to be insufficient to the need.

There is little communication between the UI as a provider of information and the users. Usually, the UI takes decisions on what information should be collected, in addition to how it is collected and processed. Therefore, available results seldom satisfy the users' needs.

15.3 Conclusions

The present budget does not allow for major modifications or improvements. Thus, very little had been done to cope with the increasing amount of information to be processed.

The UI is aware of these problems and limitations. Accordingly, the UI and the programming unit have prepared two different proposals for improving the UI [1], [2]. However, very little has been carried out in this regard.

At present, the structure of the UI has had no major changes since it was installed in 1958. A large proportion of the data processing is done by hand. Computer analysis is only carried out for vital statistics, due to the small capacity of the current computer capacity.

Part of any plan for improvement of the data system is the need to improve communication between the UI and the users of the information. Currently available data seldom satisfy user needs for complete, reliable and opportune information.

Very few professional staff are working in the UI at present. No biostatistician or health statistician works for the UI. Most of the technicians have not had formal training in health statistics, and none of the technicians working in health centers or hospitals has had such training.

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[1] Solorzano, J.: "Analisis del Fortalecimiento del Sistema de Informaci n del Ministerio de Salud Publica", Unidad de Programacion, M.S.P., 1983

[2] Propuesta para el Desarrollo del Sistema de Informacion del Ministerio de Salud Publica. Unidad de Informatica, D.G.S.S., M.S.P. presentada en la reunion de OPS en Antigua, Guatemala en Mayo de 1985.

UI reports are not consistent with each other with regard to the selection of the data that are presented. These changes make it impossible to follow the trends of several health indicators.

It should be noted that the UI and the programming unit have prepared two different proposals for improving the UI. However, very little has been done by the Ministry to implement these proposals. Technical and financial support from donor agencies may be needed.

15.4 Methods to Improve Data Gathering

In addition to a complete re-structuring of the UI, the following steps should be taken.

1. A review of the pathway for data collection and gathering should be carried out.

2. Proposals should be writen that would facilitate data analysis (by hand) at all facilities at the local level.

3. New precoded data collection forms, especially designed for computer data processing, must be developed.

4. Review and implementation of new activities to be carried out by personnel who clean and prepare the data for processing in the computer is needed.

5. It is important to have access to commercial computer programs for data entry, data analysis, word processing, and presentation of the data, including tables, graphs, and figures.

6. Relocation of some of the technical personnel currently on the UI into other units of the MOH, and hiring well trained personnel at all levels, must be considered.

7. Duplication or multiplication of health information systems must be avoided.

8. No action should be taken on any data collection decission before a complete agreement is reached between the UI and the users of information.

9. Proposals should be written for a sampling process to permit detailed annual assessments of the morbidity situation.

10. An effective quality control system for data collection must be designed and implemented.

11. Evaluate the actual health information system in order to determine capabilities, limitations, and needs.

12. Define specific objectives for the UI with regard to the information needs of various health programs, health services administration, and vital statistics.

13. Conduct a sampling process as a baseline for periodical assessments of outpatient health care.

14 Develop a plan for a more efficient data processing using appropriate computer facilities.

15.5.0 Recommendations

It is recommended that:

15.4.1. USAID review the MOH proposals for improvement of the health information sector. This should include training of technical personnel needed to implement and maintain a fully functioning health information system.

15.4.2. USAID sponser a study on how best to carry out the necessary re-structuring of the current health information system.

15.4.3. USAID make a careful evaluation for financing a study of the need for complementary computer facilities, such as a "mini" computer compatible with the microcomputers of the MOH, as well as any necessary software.

15.4.4. USAID make a careful evaluation for financing a study of the need for complementary computer facilities, such as a "mini" computer compatible with the micro-computers of the MOH, as well as any necessary software.

CHAPTER 16

CONCLUSION

16.1 Overall Recommendations

The conclusion of this health sector assessment will, in the minds of some, be found in its specific recommendations. These have appeared in the various chapters of this report. The recommendations found in this chapter are the ones deemed to be of highest priority. They as well as the others address specific problems that have been identified as the various components of the health sector in Guatemala have been analyzed. Detailed discussions leading to these recommendations appear in appropriate chapters of the report.

In actuality, the conclusion of this report is much broader. Chapter 1 defines the parameters within which individual recommendations may be measured. Issues appropriate to a policy dialogue and a general strategic approach to health sector problems are included. In the absence of these guidelines and directions, individual recommendations have little meaning.

The reports' recommendations have been directed toward the United States Agency for International Development and what it might do to assist the Government of Guatemala in addressing identified problems. Every attempt has been made to keep these suggestions consistent with the objectives of the Government of Guatemala, the Pan American Health Organization, and the United States Government itself, as represented by the Kissinger Commission and USAID.

Regardless of the importance of individual recommendations, the highest priority needs to be given to a systematic approach, as presented in Chapter 1. No individual recommendation, even if fully implemented, can have the impact of a coordinated and integrated attack on the health problems of Guatemala. It is for this reason that "an incentive-based and multi-institutional community oriented primary health care system characterized by prevention, information, training and service delivery" has been prepared. When this happens, the miracle of Guatemala will be realized.

16.2 Priority Recommendations

The priority recommendations are grouped under the eight basic policy recommendations found in Chapter 1. Those listed in a particular group are not representative of all recommendations included in the report that fall within this group; nor are they illustrative of all that can be said about that particular policy issue. Rather, they represent the major specific suggestions of the health sector assessment for Guatemala.

- Incentive-based. It is the thesis of this report that human behavior is motivated, at least in part, by appropriate incentives. These apply equally to providers and consumers of health care. As was noted in Chapter 1, providers may be induced to more efficient and appropriate behavior by economic and professional rewards. Likewise, experience with health maintenance organizations and health insurance in the United States and elsewhere has shown that consumers of health care can be directed toward the more appropriate use of health services with various incentives and disincentives.

  Examples of this are found in Guatemala where Salud Total, a health maintenance organization, is currently rewarding plan members with a free month of care for each new member they enroll. This same plan is moving torward reimbursement of physicians based upon the number of members for whom they are responsible (capitation), providing a "wellness incentive" for the provider.

  Non-monetary incentives are equally if not more important. For a health care provider in the field, the accurate and prompt analysis and return of data from the central collecting source can be a positive incentive to continued cooperation in data gathering. In Guatemala and elsewhere there is wide acceptance and use by mothers of immunization cards for their children, an apparent incentive to regular participation in the program.

  Two priority recommendations in the report highlight the need for incentive-based behavior. One of these relates to improved efficiency of the existing health care delivery system; the other to methods of assuring a more successful outcome of a particular program effort - immunization.

1. It is recommended that USAID promote provider incentives to insure the more efficient use of existing health personnel in public facilities of Guatemala. This includes support of projects which maximize use of outpatient facilities through an increase in on-site provider time and a greater number of patient contacts per unit or provider time available.

2. It is recommended that USAID explore the costs and feasibility of incentives directed at both providers and users of health services, especially during immunization campaigns. Incentives could take the form of immunization certificates for mothers, gifts for children, and special uniforms for providers.

- Multi-institutional. A fundamental concept of this report is that, where possible, a multi-institutional approach is more effective and enduring than an individual or isolated effort. This is to be distinguished from a "multi-sectoral" approach, a term commonly used among international donor agencies. "Multi-institutional" is used to refer to programmatic collaboration at the local level by agencies with a common objective - e.g., health or health-related agencies. "Multi-sectoral" projects involve a term which typically refers to programs that cross disciplinary lines and require collaboration at the ministry level. While affirming the desirability of multi-institutional linkages, one of the recommendations warns against the potential confusion generated by a multi-sectoral approach. Examples from Guatemala include health projects which, when combined with water and sanitation projects, have not always been successful.

  In addition to promoting collaboration among various government agencies, such as the Ministry of Health and Social Security Institute, USAID should work to promote closer working relationships among other donors and private voluntary organizations working in-country. An example of where such assistance would be helpful is in water and sanitation projects, where a variety of funding agencies have been involved and greater coordination is needed. Still another example is to be found in the malaria control program. Here the public and private sector must work together, if effective control measures are to be mounted.

Seven priority recommendations are found in this most important area. As noted, they range from inter-agency collaboration at the government level to public/private collaboration.

1. It is recommended that USAID coordinate its program activities more effectively with other donor agencies, such as the IDB and UNICEF. Particular attention should be paid to "Guatemala Sur" as a possible model for future multi-institutional program development.

2. It is recommended that USAID encourage the development of multi-institutional health projects at the local level, particularly those which involve government health agencies, including hospitals, the public and private universities, and the private sector, including private voluntary organizations where appropriate.

3. It is recommended that USAID support joint efforts between the Ministry of Health and Social Security Institute, facilitating any steps to consolidate facilities and programs between these two organizations.

4. It is recommended that USAID use its influence as a major donor to help achieve better planning and coordination between the various national organizations engaged in water and sanitation projects. Case studies of the quality of delivery systems and their relation to health would be appropriate and useful.

5. It is recommended that USAID promote better collaboration of the malaria control program with the general health services and primary health care systems in the country, as well as PVOs and elements of the private sector (such as plantation owners, agricultural cooperatives, etc.).

6. It is recommended that USAID support multi-institutional (including universities) operational research on various vectors involved in malaria transmission in order to develop new or more effective means of malaria control. Data on vector population densities, behavior, and relation to human activities should be considered and the results and data used in a stratification process.

7. It is recommended that USAID recognize the challenge of multi-sectoral projects, particularly when health concerns are combined with other (e.g., water and sanitation) directions. This implies limiting health projects to health concerns or supplying the necessary administrative and technical support to assure the success of multi-sectoral approaches.

- Community-oriented. Historically, community participation has not been a prominent part of health care delivery systems in Guatemala. At best, local advisory committees are formed to work with health care providers in government owned and operated facilities. The concept of the "patronato," common in El Salvador, is virtually unknown in Guatemala. That is, there is no tradition of consumer groups with authority, however limited, over program and budget decisions in health care settings.

  There is, however, some sensitivity to the problems of a multi-lingual and multi-cultural population in adapting to a western health care delivery system. However, this understanding is infrequently translated into action. Accordingly, certain recommendations have been made in this report to enhance communication between provider and patient in the cross-cultural setting.

  In addition, the report addresses certain issues which relate community orientation to agricultural production and nutrition. In Guatemala, as elsewhere, cash crops have often replaced crops grown for local consumption. These local food crops have been shown to be closely related to the nutritional status of a population.

  Recommendations in the health sector assessment speak to the need for greater community involvement in health delivery system management, for both a study of and action toward improved provider-patient communication, and greater awareness of the need to produce crops which are supportive of local health needs.

  1. It is recommended that USAID support programs designed to move the publically funded Guatemalan health care delivery system at the local level toward greater degrees of community/consumer participation and control. This may range from the use of local health advisory committees to development of community groups, such as cooperatives, with budgetary and decision making authority.

2. It is recommended that USAID support anthropological and sociological research in health and that implementation of this research should be an integral part of health program design, execution and evaluation. Focus should be on improved communication between health care providers and their patients, drawn from different cultural backgrounds.

3. It is recommended that, where possible and practical, USAID support programs in language and cross-cultural training for health care personnel which will enhance communication with and understanding of patient populations. Linguistic and cultural differences need to be incorporated as integral components into all relevant health care strategies.

4. It is recommended that USAID continue supporting agricultural programs and farming enterprises, especially those related to locally consumed crops because of the relationship between such crop production to nutrition and good health.

- Primary health care. This health sector assessment begins and ends with concern for the health status of mothers and children. Child survival is a constant and recurring theme and is a priority of USAID. Oral rehydration therapy and expanded immunization programs are means of promoting child survival. It is the contention of this report that child survival will best be served in the context of primary health care.

  The report concludes with case reports on two model primary care programs, one rural and one urban. Both have a strong emphasis on maternal and child health. They provide a basis for future funding by USAID. Even if total primary health care programs cannot be funded, it may be possible to support model child health units within existing primary care centers. A model child health unit within a larger primary care center could indirectly stimulate positive change throughout the center.

  A particular concern of the primary health care delivery system in Guatemala is lack of essential drugs. Even when health care providers are available and write prescriptions, drugs are often unobtainable. This is both due to cost and unavailability. In late 1986 the Ministry of Health was experiencing a crisis of confidence because of its inability to make affordable drugs available throughout the country.

It is the concern of the health sector assessment not only that greater attention be paid primary health care issues such as those mentioned, but that correspondingly less attention be paid to high technology, hospital-based and tertiary care programs. Only when scarce resources are transferred from these areas, will support be available for primary care.

Specific recommendations call for establishment of model child health units in primary care health centers as a basis for promoting child survival activities. Preventive health activities are encouraged, as is the development of both an essential primary care drug package and the means to deliver it. Finally, these recommendations actively discourage the investment of scarce resources in secondary and tertiary care programs, as well as the constructon of new health care facilities at all levels.

1. It is recommended that USAID support oral rehydration therapy and expanded immunization programs as a coordinated and integral part of the overall emphasis on community-oriented primary care in Guatemala. Such activities could best be carried out in model child health units, to be situated in existing primary health care centers.

2. It is recommended that USAID support projects relating to primary care and preventive medicine at the community level, such as the program in San Juan Sacatepequez, and which are carried out either in Ministry of Health facilities or in cooperation with Ministry of Health personnel.

3. It is recommended that USAID, in collaboration with the Pan American Health Organization, support a complete analysis of the basic list of drugs being purchased by the Ministry of Health, in consultation with medical doctors from medically underserved urban and rural areas, so that a smaller list of primary care essential drugs can be prepared.

4. It is recommended that USAID, once a list of essential primary care drugs is available, assist the Ministry of Health in exploring alternative delivery mechanisms involving the private sector and providing necessary incentives to assure timely and consistent product distribution.

5. It is recommended that USAID not become involved in projects which will promote the further development of tertiary care medical practice in Guatemala or which will impose continuing operational obligations upon the Guatemala health care system that the Government of Guatemala will be unable to sustain without external assistance.

6. It is recommended that USAID join other donor agencies in avoiding involvements in high technology and hospital-based programs. Construction of new health facilities at any level is discouraged, at least until existing facilities are operating adequately and near capacity.

- Disease prevention. In Guatemala, where preventable diseases are prominent among the top ten causes of morbidity and mortality, disease prevention has the highest priority. Measles and tetanus, for example, is among the principal causes of infant mortality and may be prevented with immunizations. Diarrhea and respiratory diseases, commonly associated with preventable environmental health hazards, are usually listed as the two major causes of morbidity and mortality among Guatemalan children.

  Where resources are limited and disease rates are high, prevention becomes the only cost-effective mechanism of control. The cost of preventing a case of severe dehydration or malaria is a fraction of the cost of treating the diseases. Preventive techniques typically may be performed by less trained personnel than is the case for medical care. An example is the malaria control program, which relies upon volunteers for case identification and control.

  Possibly the most cost-effective preventive technique is immunization. Use of a proven vaccine against a susceptible disease is the essence of primary prevention. The major questions being debated at present is the most effective way to pursue an immunization strategy -- mass campaigns or a more targeted "channelization," utilizing existing health care delivery sites and outreach. Where the necessary infrastructure exists, the latter approach is generally favored over the former.

  Mass campaigns, coupled with diligent case findings, were responsible for the eradication of smallpox. Other diseases have been eliminated from certain countries, but not eradicated. The opportunity exists in Guatemala to eradicte a troublesome disease (onchocerciasis) long associated with the country and a frequent case of blindness.

1. It is recommended that USAID support the Guatemalan malaria control program, emphasizing the need to reduce dependency on household spraying with chemical insecticides. Support should focus on improvement of the surveillance network, increased knowledge concerning the ecology of the major vectors, operational research on alternative means of vector control, and improvement in the system of antimalarial drug distribution.

2. It is recommended that USAID, in collaboration with other donors, make available an adequate supply of vaccines and other immunization products when and where they are needed. In Guatemala this may require the provision of certain major commodities, such as vehicles, needle/syringes vaccines and other components of the cold chain.

3. It is recommended that USAID emphasize more highly focused and age-targeted immunization programs ("channelization") in areas of Guatemala where the necessary health infrastructure exists. This would replace an emphasis on mass national campaigns.

4. It is recommended that USAID support a national campaign to eradicate onchocerciasis in Guatemala. This should be based upon the provision of Ivermectin for treatment of the disease and a decrease in transmission potential, as well as focal control of the vectors in well defined areas of transmission.

- Health information. Throughout this health sector assessment, the need for more accurate, comprehensive and timely data has been a recurrent theme. Data in the public sector are generally available, but of questionable accuracy and often delayed. Information also tends to be limited in focus.

  Data from the private sector are essentially unobtainable. What exists is proprietary information, often not shared among similar providers or institutions. In the case of private hospitals/clinics, there is not even a trade association -- reputedly for lack of confidence by these institutions in one another. Means need to be found to obtain improved data on the private sector.

  Health planning is presumably based on health data. Where data are weak, health plans will be weak. The Guatemalan health plan suffers another deficiency. It fails to incorporate budgetary considerations. Data are required on the economics of health care in Guatemala. These figures, in turn, need to be incorporated into the Guatemalan health plan.

The recommendations of this section call for USAID to work with the Ministry of Health in improving its health planning capability, including the coupling of budgetary considerations with health plans. Two additional recommendations address the need for a study of private sector data and means of obtaining that data on a regular basis.

1. It is recommended that USAID assist the Ministry of Health in improving the Guatemalan health information system, principally through standardizing the criteria by which primary records are kept, and seeking a series of health indicators that are both simple and effective.

2. It is recommended that USAID assist the Ministry of Health in reconciling activities, norms, and procedures with the real capacity of the system for service delivery, in part by incorporating budgetary considerations -- and limitations -- in the Ministry's national health plans.

3. It is recommended that USAID support gathering data on the size and economic implications of the following private sector activities: a) private hospitals; b) outpatient clinics; c) private physicians' offices; d) time studies of physicians' activities, since many of them hold multiple jobs, and e) private pharmacies.

4. It is recommended that USAID, in conjunction with the public sector, support systems designed to assure regular and accurate reporting of health data by the private sector in Guatemala. This should include development of: a) appropriate reporting forms; b) incentives to providers for the use of such forms; and c) timely and accurate data analysis and reporting.

- Personnel training. Adequately trained health personnel are the backbone of any health care system. This is particularly true in Guatemala, which is undersupplied in virtually all categories of health manpower. In particularly short supply are those health professionals who contribute most to service in medically underserved rural and periurban areas. These are the Rural Health Technicians and auxiliary nurses.

A possible reason that physicians, nurses and other health professionals are not better represented in the underserved areas is that much of their training is in the cities. A decision was made some years ago to train Rural Health Technicians and auxiliary nurses in a remote rural site. This appears to have been effective.

There is evidence in the literature that physicians are most likely to return to the location of their last training site to practice. Further, if their training is in primary care, they are more likely to practice in a medically underserved area. This would speak for training upper-level undergraduate and postgraduate medical personnel in remote locations and stressing primary care disciplines. A further advantage of this approach is that is provides services to needy areas.

In some cases professional personnel cannot be induced to work in medically underserved areas in sufficient numbers to meet the need. In these settings, the use of health promoters and traditional practitioners may be required. Private voluntary organizations have been particularly active in training health promoters in Guatemala and the Ministry of Health has had successful programs in the training of traditional midwives ("comadronas").

Recommendations in this section are targeted on the training of health personnel in medically underserved service settings, particularly those personnel most likely to return to these areas to work. Emphasis is given to the need for more health promoters, Rural Health Technicians, and nurse auxiliaries, as well as trained midwives.

It is recommended that:

1. It is recommended that USAID support programs designed to integrate educational experiences and service opportunities for health science students by placing students in selected health care delivery settings, such as San Juan Sacatepequez. Such programs should bring together universities and public sector institutions in a common purpose.

2. It is recommended that USAID encourage programs designed to restructure the distribution of health professionals within the human resources system, putting greater emphasis on training those professionals such as Rural Health Technicians and auxiliary nurses, which have a proven record of service in medically underserved areas.

3. It is recommended that USAID support incentive programs designed to attract existing health professionals to medically underserved areas, be they urban or rural. Every effort should be made to institutionalize such programs so that they are not conducted on an isolated or sporadic basis.

4. It is recommended that USAID promote and support more training and supervision of unskilled midwives to improve hygiene for child delivery care. These activities should be carried out as a compulsory task for physicians and nurses working in rural areas and for all health professionals during their supervised professional practice (EPS).

5. It is recommended that USAID support private voluntary organizations engaged in the training of health promoters, to the degree that these health promoters are integrated into a larger, coordinated health care delivery system.

- Service delivery. The end point of the health care delivery systems and of these recommendations is servicve delivery. If incentives, multi-institutional arrangements, community orientation, primary health care, disease prevention, health information, and personnel training fail to result in improved health services, then they have been for naught. To the degree that better health services are associated with better health, such improved services should be the goal of this assessment.

  The need for health services to mothers and children has been stressed throughout this report. While much of the attention has been on the Ministry, attention should also be paid to other public and private entities. Projects meriting special attention are those associated with child survival, family planning, and water and sanitation. Given the crisis with drug distribution, this must be a priority service delivery concern.

  A concern for limited resources dominates most discussions of service delivery in Guatemala. Real per capita expenditures by the Ministry of Health have steadily declined since the early 1980s. Until this situation can be reversed, there will be a net reduction in available services. Resolution involves both the Guatemalan economy and the proportion of that economy directed toward health care.

  Many of the recommendations of this report could be included in the services delivery section. Eight of the most important have been selected for inclusion. They stress the need to address high risk groups, encourage service expansion by IGSS, promote child survival programs, facilitate family planning, develop periurban water supplies, improve drug distribution, and increase aggregate public health expenditures.

1. It is recommended that USAID selectively support public health programs within the Ministry of Health which are directed at high-risk population groups such as women and children, with a goal of reduced morbidity and mortality. Possible projects might include oral rehydration therapy and immunizations, as related to communicable diseases and malnutrition.

2. It is recommended that USAID increase support of child survival programs conducted by the Guatemalan Ministry of Health. Particular attention should be given to activities aimed at extending coverage of health services, developing human resources, and improving the health information system.

3. It is recommended that USAID should encourage the geographic extension of coverage offered by the Social Security Institute, to the degree that it can assist in promoting studies or other activities which will demonstrate the feasbility of a more comprehensive system.

4. It is recommended that USAID continue to work through and with private voluntary organizations when they can appropriately serve national interests. Areas to be supported include training of rural health promoters, extension of family planning information, distribution of surplus commodities, and participation in oral rehydration therapy and expanded immunization programs, among others.

5. It is recommended that USAID continue to support family planning services, such as the one conducted by APROFAM. This is especially important for inaccessible rural areas and for educational programs in the use of contraceptives.

6. It is recommended that USAID, in the design and implementation of future water and sanitation projects, place more emphasis on the provision of water in periurban areas of the capital city and smaller cities of the country.

7. It is recommended that USAID assist the Ministry of Health in developing an improved drug distribution system for Guatemala. This should include use of private voluntary agencies, such as APROFAM, as well as for profit businesses, such as the alcoholic beverage industry.

In this section thirty-nine priority recommendcations flowing from the 1986 health sector assessment have been recorded and reviewed. They have been grouped according to the eight principal policy recommendations of the report. A much larger number of specific recommendations have not been repeated here, but may be found in their respective chapters.

All recommendations found in this section should be attainable. Clearly, resources will be required. An important resource, not always seen as such, is human will. This is found in certain ongoing projects in Guatemala today. Their very existence validates the potential for the present recommendations. These "models" of health care delivery are to be found in the following section, or case study, including the Primero del Julio and El Milagro health centers.

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CHAPTER 17

CASE STUDIES

17.1 Primero de Julio and El Milagro

This health sector assessment ends with the story of four clinics. Two of these are urban and two are rural. One clinic in each pair may be considered a "model," based on current realities, and the other a more typical example of what occurs in Guatemala today.

The purpose of ending in this way is to remind the reader why a health sector assessment has been conducted, which is to make realistic recommendations for health sector development in Guatemala. It has not been carried out simply to reiterate figures published elsewhere nor to discover new data and to report upon it. Neither has it been conducted solely to assess the problems of the health care system of Guatemala and make individual recommendations for their resolution.

This health sector assessment has been conceptualized from the beginning as part of a totality, where parts are seen in relation to the whole. Only when solutions are proposed in their totality will they begin to address the problems identified. Only when a system plan is in place will there be a basis for analyzing individual program proposals. This was the purpose of Chapter 1, with its more global policy recommendations.

Whatever the problems and whatever the solutions, it must never be forgotten that everything suggested in this report is directed toward a single purpose. That is to improve the health of the people in Guatemala. The reaity of this process can only be appreciated in the context of real world clinical settings--settings within which preventive and curative medicine may be practiced; settings which recognize community orientation and practice primary care; settings which are compatible with disease prevention, information gathering, personnel training and service delivery; settings which reward both provider and patient for appropriate behavior and involve multiple institutions in their planning and program implementation.

Thus, we conclude this report with a brief review of two rural and two urban health centers. In the case of the rural settings, San Juan Sacatepequez is presented as a model clinic; in the case of the urban settings, the model is seen to be the El Milagro clinic. They are contrasted with two other, more typical clinics, the rural San Martin Sacatepequez and the urban Primero de Julio Clinics. In the opinions of the authors, the very existence of San Juan and El Milagro validates the general recommendations of this report.

17.1.1 San Martin and San Juan

San Martin Sacatepequez and San Juan Sacatepequez are in different parts of Guatemala. San Martin is in the department of Quezaltenango, site of the second largest city in Guatemala. The community is within one hour's driving time of the departmental capital. It has a health center operated by the Ministry of Health.

San Juan Sacatepequez is in the Department of Guatemala. It is within one hour's driving time of the capital city. While on the periphery of Guatemala City, San Juan (like San Martin) is distinctly a rural community. Unlike San Martin, it is part of a multi-institutional, community-oriented, integrated primary health care delivery system.

17.1.1.1 San Martin Sacatepequez

The health facility in San Martin Sacatepequez is technically a health center, although actually more the size of a health post. That is, it has a waiting room for about ten patients and three small offices, each no more than 40 square feet. One is for the doctor, one for the nurse, and one for administrative functions. There is also some limited storage and general work space.

San Martin is a health center by definition, because it has a physician. This physician is in his fifth year of service, having originally been placed there as a social service obligation. The doctor lives in Quezaltenango and commutes daily to San Martin on his motorcycle. A graduate nurse also commutes daily. In addition to the physician and graduate nurse, there is one health inspector, one janitor and one secretary. There is also a Rural Health Technician, who has his office in a separate building several hundred yards from the clinic. The janitor is the only employee at the clinic to have worked there during the guerilla movement of the late 1970's and the early 1980's. Other staff have come since that time.

The clinic contains a permanent data book (dated 1982), which contains annualized diagnostic information. These figures, which appear to be representative of limited data kept by the clinic, are shown in Table 17.1. Daily records are kept in a continuous log and are not separated by the day on which the patient is seen.

An unannounced site visit was made to San Martin Sacatepequez on August 28, 1986. The clinic had a small working refrigerator, which was equipped with vaccines obtained from the recently concluded national immunization campaign. The janitor began sweeping the clinic shortly after the visitors arrived. No patients were present at the time of the site visit (late morning).

TABLE 17-1

Condition	Consultations
Diarrhea	180
Upper respiratory infections	136
Parasitic infections	131
Stomach disorders	128
Adult diseases	91
Bronchitis	90
Pregnancy	83
Protein-calorie malnutrition in children	74
Anemia	58
Tonsilitis	58

SOURCE: Annual Log Book, San Martin Sacatepequez Clinic, Quezaltenango.

NOTE: Each consultation represents a single diagnosis on an individual patient and does not include repeat visits for this condition.

About one half block from the clinic is the office of the Rural Health Technician. Various posters hang on the wall, many having to do with the immunization of children. He states that he has no money for gasoline in order to visit frequently outlying areas, but carries out some visitation anyway.

Near the office of the Rural Health Technician is a "mini-pharmacy," looking more like a hot-dog stand than a pharmacy. A small array of drugs is contained on shelves inside a tiny wooden building with a single counter to the outside. The pharmacy is independent of the health center and the Rural Health Technician's office.

17.1.1.2 San Juan Sacatepequez

San Juan Sacatepequez represents a collaborative endeavor involving Roosevelt Hospital, multiple Ministry of Health primary care delivery sites and the Francisco Marroquin Medical School. The program is a coordinated system of health care, serving a geographic area, rather than a single village or aldea. There is an emphasis on teaching and research, as well as medical care.

The health post of Sagacavilla (part of the San Juan Sacatepequez service area) is attended by two "vigilantes." These are similar to health promoters in function, except that vigilantes (by definition) live in the small communities which they serve--not necessarily the case for health promoters. Indeed, vigilantes appear to fill a role normally associated with health promoters.

The health post is a simple building, with one large room divided by curtains. The room is lined with maps and charts demonstrating the health status of the community. A single map shows every home in the aldea.

A planned site visit took place on August 29, 1986. When asked by the visitors on this planned visit who inhabited a randomly identified home, remotely situated from all roads, the vigilantes consulted their files and found the answer immediately. Secondly, when asked what the demographic and immunization status of this family might be, the health visitors provided this information. Finally, when asked to produce a detailed medical history on each family member, this was accomplished.

The health post at Sagacavilla is supervised by a young woman physician on the staff with Francisco Marroquin Medical School. She has been with the project just under one year. She also visits weekly in the home of a local comadrona--or village midwife--in order to consult with patients selected for her attention by the comadrona. When patients need to be referred to the hospital, they are sent to Roosevelt, often in the company of the comadrona, who is well known to hospital staff.

The project involves a training program for medical students from the university, who participate in all aspects of patient care and community health. This concludes with a monthly meeting with all comadronas in the area, of which there are approximately 35 now active. The physician and the medical students visit various healthposts throughout the San Juan area in order to provide both preventive and curative services.

There is participation by voluntary and regional entities in the program. An example is INCAP, which oversees growth monitoring of children. Committees from various local communities assure at least some degree of community participation in the project.

Records on both morbidity and mortality are extensive and detailed. In addition to having annual figures for all conditions treated, comparative records are maintained for departmental, country and, in some cases, international rates. For example, Table 17.2 provides comparative mortality rates for San Juan, Guatemala and the United States of America. The accurate collection and recording of information is an important part of the San Juan program, of which Table 17.2 provides only a limited example.

TABLE 17.2

MORTALITY RATE PER THOUSAND RESIDENTS

Region	Rates
Guatemala*	10.0
United States of America**	8.7
San Juan Sacatepequez***	17.9

SOURCE: *Memoria e Labores del Ministerio de Salud Publica y Asistencia Social, 1983
**Estado Mundial de la Infancia, UNICEF, 1985
***Registro civil de la Municipalidad de San Juan Sacatepequez, 1983

Pharmaceuticals at San Juan are made available at the clinics through a revolving fund established by the Francisco Marroquin Medical School. After an initial purchase of drugs, the school arranged for these medications to be sold at cost to the people attending clinics in the region. Payments for medicines are used to purchase more medicines-- thus the revolving fund. A small storage area for these drugs is maintained at the headquarters of the Francisco Marroquin Medical School, which is a separate building located in the region. Oral rehydration salts are prepared by an aide working in this facility and distributed throughout the region.

Key to oversight of the entire regional progam is a physician on the staff of the Francisco Marroquin Medical School. He lives at the central facility for the school, which also contains classroom space, in the San Juan area. Training is provided there for both health personnel in the region, as well as medical students from the medical school.

In these two programs, San Martin Sacatepequez and San Juan Sacatepequez, two health care delivery systems have been represented. Both communities are approximately equidistant from the two major cities of Guatemala and are in rural areas. Both are served by a combination of physicians and other health personnel trained by the country's medical schools and the Ministry of Health to provide outreach services to their respective areas.

In the case of San Martin Sacatepequez, personnel are well-intentioned and committed to service within resource limitations. The program appears to stand alone in terms of its relationship with organizations other than the Ministry of Health. Record keeping is minimal, outreach is restricted and drugs appear to be in short supply.

In the case of San Juan Sacatepequez, there is an extensive support system built by collaboration among Roosevelt Hospital, Francisco Marroquin Medical School and the Ministry of Health, among others. Teaching and research play a prominent part in the health care delivery system, resulting in extensive records on both patients and communities. Referral patterns exist between the clinics and the hospital and oversight is provided by university-based physicians.

San Juan Sacatepequez provides a model rural health care delivery setting which, by its existence, validates many of the recommendations in this health sector assessment. It is multi-institutional, community oriented and dedicated to primary health care. It practices prevention, excels at information gathering, and is centered around health professional training. Incentives for both providers and consumers may be somewhat subtle, but may be found in a quality health care delivery system, designed to promote both professional and patient satisfaction. Hopefully, such a model will provide a basis for the Agency for International Development to structure its future health-related activities in Guatemala.

17.2.1 Primero de Julio and El Milagro Clinics

The Primero de Julio and El Milagro Clinics are both peri-urban health centers. Both are located on the periphery of Guatemala City, the former being much larger and older than the latter. Both are operated by the Ministry of Health, and both relate to Roosevelt Hospital.

Unlike the two rural clinics previously cited, where one was part of an integrated health program and the other was not, both Primeo de Julio and El Milagro health centers are part of a large urban health initiative sponsored by UNICEF. Nonetheless, as a description of each clinic will show, they are quite different in their operation and orientation.

17.2.1.1 Primero de Julio

The Primero de Julio (First of July) Health Center was built in 1971 and financed by the Banco Nacional de la Vivienda (National Housing Bank). The building in which it is located is quite large, containing a laboratory (which is limited to simple blood, urine and stool procedures), various examining rooms for physicians, a dental suite, a separate pediatrics section, a room for child stimulation, a storage area for supplemental room, administrative offices, etc. Indeed, the facility is of such a size that it has been designated by the Interamerican Development Bank for reconstruction and expansion to a polyclinic-- one of three scheduled to be built in Guatemala City.

The staff is equally large. It consists of 5 physicians; 2 graduate nurses; 11 auxiliary nurses; 1 social worker; 1 laboratory technician; 3 office workers; 2 sanitary inspectors; 2 janitors; 1 watchman; 1 Rural Health Technician; and 2 dentists. While the physicians are not all full time, the Health Center does have a permanent medical director. In short, the Primero de Julio Health Center consists of some 31 employees working in a very large building with limited equipment, medications and supplies.

The clinic is typically open from 7 to 11 a.m. and from 1 to 3 p.m. In the afternoon services are limited to obstetrics, dentistry and medical emergencies. In the morning there is general medical care. The average number of medical patients, including pediatrics, seen in a day, is "between 30 and 40." In addition to this, some "30" dental patients are seen daily.

The reason why so few patients are seen in such a large building with so many staff is a matter of some concern, in a country where services and resources are scarce. Theoretically, this could related to the facility being poorly located, an unlikely conclusion if it has been designated as a site for one of three new polyclinics in Guatemala City.

The reason appears to lie, rather, in the method by which appointments are made. The experience at the Primero de Julio health center may be indicative of what is happening at many other public health facilities in Guatemala. The answer is to be found in a study carried out by INCAP at both the Primero de Julio and El Milagro health centers. A portion of their findings regarding Primero de Julio follows:

"The patient observed arrived at 8 a.m. to request a number and was told: 'Now no, because it is too late to receive a number, come back tomorrow, but come earlier.' The same individual arrived at 6:25 a.m. (the next day) and they opened the doors at 6:45 p.m. to give out numbers to people who had already formed a line and were waiting. In other occasions the observed noted that they attended to persons who arrived 'late' and also attended to emergencies. It seemed that care was given on demand when the number of patients was low."[1]

This report goes on to note that even if the patient has an appointment in the afternoon, it is necessary to come between 6 and 7 o'clock in the morning in order to receive a number. It also seemed that each physician had his or her quota of patients and became upset if the number of patients exceeded this particular quota. Unfortunately, physicians often came late or, on occasion, did not show up at all.

The average waiting time for patients at the Primero de Julio health center was noted to be 3 hours and 15 minutes, this being measured from time of arrival to discharge time. This particular waiting time did not count time waiting in line for a number. Neither did it include time needed to fill a prescription, if medicine could not be provided by the health center.

In the INCAP study, it was noted that health sector staff were frustrated and unhappy by the lack of supplies, medicines and equipment available to them. In general, the investigators found employees at the health center complaining a great deal about their working conditions.

Referral relationships with Roosevelt Hospital were described as not good. A particular case was cited where a patient was referred to Roosevelt Hospital, treated discourteously, and given a prescription--not medication. This patient later required admission to the hospital for a serious medical condition, presumably related to the first consultation. According to the report, "there was observed some failure of coordination between hospital authorities and the director of the health center."[2]

There was no evidence of any community organization at the health center. Treatment of patients by physicians was felt to be amiable and courteous, although at times paternalistic. Other times, the observers felt that physicians did not adequately describe conditions to patients, nor explain what steps needed to be taken to correct them.

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1 Hurtado, E. and Hernandez, B.: "Informe Final del Estudio de Caso del Centro de Salud de la Colonia Primero de Julio," INCAP, December 1985 (unpublished document)

2 Ibid.

The Primero de Julio health center is part of the "Guatemala Sur" project supported by UNICEF in cooperation with Roosevelt Hospital and the Ministry of Health. This health center has been repeatedly described as "traditional," when compared to the other major health center involved in this program.[3] That center is El Milagro.

17.2.1.2 El Milagro

The El Milagro (The Miracle) health center serves a newer peri-urban population than does the Primero de Julio health center, but, in addition, also serves a surrounding rural area. The total population served is about 66,000, approximately half of whom live in the immediate area where the health center is located.

Because the colony is new, there is no running water in El Milagro. Water is therefore trucked into the center and pumped into large barrels in front of homes in El Milagro. As with water, the community has no sewage disposal system and raw sewage runs open in the streets.

The El Milagro health center is a much smaller building than the Primero de Julio health center. It consists of a medium-size waiting room, with a small number of examining rooms, a room for child stimulation, and a larger room where two Rural Health Technicians and one social worker are headquartered. The total staff consists of 1 physician, 1 graduate nurse, 4 auxiliary nurses, 1 sanitary technician, and the 3 Rural Health Technicians and 1 social worker already mentioned--for a total of 11 staff.

The number of patients seen daily at El Milagro is equivalent to that seen at Primero de Julio. The clinic is often crowded with patients, at least throughout the morning. Because of the more cramped physical quarters, patients and staff mix more freely and frequently than is the case in Primero de Julio.

The Rural Health Technicians keep complete records with maps on all families outside of the urban area. They have the capacity to identify a house by number, find all of the occupants in that house on an appropriate reference card, and then to document the health status of each member of the family--including the preventive health status (e.g., immunizations). Because of the complexity of the urban zone immediately surrounding the health center, similar detailed records are not kept on families who live there.

Beyond its own staff, the El Milagro health center is attended by a general physician who is on the staff at Roosevelt Hospital and pediatric residents from the hospital. These latter residents rotate

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3 Op. Cit. Daily Activity Report, November 6, 1986

on regular six week intervals, assuring coverage by a pediatrician at all times. (A similar rotational arrangement is in effect at the Primero de Julio Health Center.) There is an overall physician coordinator for the program based at Roosevelt Hospital, whose job it is to assure coordination with other agencies as well as between the hospital and the health center.

Unlike the San Juan Sacatepequez clinic described in the previous section, several of the principal objectives of the "Guatemala Sur" program hav only been partially satisfied at El Milagro (and less well satisfied at Primero de Julio). Coordination of patient referrals to Roosevelt Hospital is not ideal. No one accompanies the patients to the hospital and the patient is not assured of coordinated care upon arrival. Likewise, participation by the University of San Carlos, although technically part of the program, is less than is the case of the Francisco Marroquin medical school in the case of San Juan Sacatepequez. San Carlos University does send its students doing mandatory (EPS) services to El Milagro, but has a training program of its own for preceptorship assignments in a nearby colony (Carolingia).

UNICEF plays a prominent role in the "Guatemala Sur" project. It provides salaries for the Rural Health Technicians and the one Social Worker who attend to the El Milagro clinic. They are paid at Ministry of Health wage levels, with a commitment from the Ministry to extend their positin after UNICEF support is transferred to a future site. In addition, UNICEF provides some medicines and supplies for the clinic. The total UNICEF budget for Guatemala Sur is less than $100,000 per year.

17.2.1.3 Guatemala Sur

The "Guatemala Sur" project of Roosevelt Hospital and the Ministry of Health has been briefly described in the section on UNICEF. Involving primarily the Primero de Julio and El Milagro health centers, it is a much newer program than the San Juan Sacatepequez program described earlier in this chapter. At present, it has a number of deficiencies which need to be corrected.

The most impressive finding in relation to these two clinics--El Milagro, in particular--is that they represent a coordinated effort by the Ministry of Health, including one of its major hospitals, and a donor organization to solve a major urban problem. That problem is health care for the increasingly large number of people moving to the areas surrounding Guatemala City. Nearly 50% of the city's residents are estimated to live in these barrios.[4]

[4] Daily Activity Report, November 6, 1986

It is of particular interest to this study that the project has begun to deal with problems of children's health and to promote child survival. The planning document for El Milagro and the surrounding areas states the following:

> "Recently the South Guatemala Health Area initiated the planning of a project planned to improve the health of a marginal urban population, with an emphasis on the mothers and children, utilizing services from the various sectors and a strategy of primary care to facilitate access from the marginal urban areas."[5]

The significance of this quotation is that the "Guatemala Sur" project is designed as a primary care project in order to impact on the health of mothers and children.

In a larger document describing the overall project purpose, the authors define primary care as

> "essential care bsed on practical methods and technologies, scientifically founded and socially accepted; designed to reach all individuals and families in a community, through their full participation and at a cost which the community and the country are able to support, in every stage of its development, with a spirit of self-sufficiency and self-determination."[6]

A number of more general strategies are defined for the project. These include community participation, training of community personnel, training of institutional personnel, extension of the hospital to more underserved areas, organization within the hospital to deal with patients from these areas, development of new norms and procedures for the project, inter-sectoral (or inter-institutional) coordination, assurance of long-term financing, and technical assistance. Basic to the Guatemala Sur project has been the development of baseline information, obtained with the cooperation of INCAP. This should make eventual evaluation of the program's impact more meaningful.

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5 Situacion de Salud y Natricion en la Colonia El Milagro y Areas Aleda as, unpublished document, Roosevelt Hospital, 1985

6 "Programa de coordinacion institucional, extension de cobertura en el area Guatemala Sur, con enfasis en atencion materno-infantil--modelo operativo de atencion de salud," unpublished document, Roosevelt Hospital, 1984

"Guatemala Sur" is not, in itself, an answer to either the problems of the peri-urban areas of medically underserved areas in Guatemala, in general. It is a promising start in dealing with a difficult situation. The "marginal" areas surrounding Guatemala City have been defined as those that are only marginally related to the benefits, the national economy and the society of Guatemala.[7] As with any "marginalized" population throughout the world, individuals in these settings often lack education and skills needed to support themselves and their families.

The needs of the marginal areas around Guatemala City and elsewhere in the country are enormous, as are the needs in the rural areas. It is clear that the resources do not exist in any individual agencies, be they public, non-governmental or private, to arrive at satisfactory solutions. Only when all are working together and moving in the same direction are solutions likely to be found. When that happens, the overall condition of the "Guatemala Sur" project can be realized. That is, to draw upon the:

> "LIFE EXPERIENCE of many people, the STRENGTH and LESSONS of many national programs;...to IMPROVE THE QUALITY OF LIFE at the international level, putting an emphasis on the MOTHER and CHILD."[8]

It is for the purpose of improving the life of members and children everywhere, but particularly in Guatemala, that this report has been written. Its realization on a large scale will simply magnify what happens wherever the life of a mother or child is spared. When that person--or persons--is allowed to live and grow, a miracle has occurred; the Miracle of Guatemala.

7 Ibid.
8 Ibid.

APPENDIX 1
LIST OF INDIVIDUALS CONTACTED

Ms. Paula Feeney	Health and Population Section, AID, Washington, D. C.
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Mr. Mark Schneider	Senior Policy Advisor, Pan American Health Organization, Washington, D.C.
Mr. Robert Badîa	Health Specialist, BID
Ms. Holly Burkhalter	Washington Representative for Americas Watch
Mr. William McGreevey	Senior Financial Analyst for Population, Health and Nutrition, World Bank
Ms. Heather Foot	Acting Director, Washington Office on Latin America
Mr. Joel O'Riley	Chief, Department of Operations, International Development Bank
Dr. Alberto Viau Dâvila	Physician
Ms. Liliana Ayalde	Health Director, AID Guatemala
Dr. Edilberto Antesana	Interim Representative, Pan American Health Organization
Dr. Mario Izaguirre	Vice-Minister of Health, Technical Affairs, Ministry of Health
Dr. Kjell Enge	Anthropologist
Ms. Liliana Ayalde	Health Director, AID Guatemala
Mr. Tony Cauterucci	Director, AID Mission in Guatemala
Ms. Elena Brineman	Director, ROCAP Office in Guatemala
Ms. Elizabeth Burling	ROCAP Contract Employee
Mr. Roberto Perdomo	Program Office, AID

Dr. Otto Zeissig Bocanegra	Chief, Epidemiology Division, Ministry of Health
Dr. Dionel Vâsquez Paz	Epidemiology Division, Ministry of Health
Dr. Luis Alonzo L.	Epidemiology Division, Ministry of Health
Dr. Roberto Rizzo Castillo	Epidemiology Division, Ministry of Health
Dr. Enrique Molina	Epidemiology Division, Ministry of Health
Dr. Vîctor Daniel España P.	Epidemiology Division, Ministry of Health
Dr. Arnoldo Ericastilla	Chief, Zoonos4s Section
Dr. Obdulio Cordôn Paredes	Epidemiology Division, Ministry of Health
Dr. Luis Felipe Rizzo de Leôn	Chief, Biologicals Production Laboratory, Ministry of Health
Dr. Jaime Solôrzano	Programming Unit, Ministry of Health
Ms. Laura E. Cârcamo de H.	Programming Unit, Ministry of Health
Ms. Marcia Elena Enrîquez D.	Information Unit, Ministry of Health
Mr. Rodolfo Poitevin Paz	Programming Unit, Ministry of Health
Dr. Jaime E. Carredano M.	Programming Unit, Ministry of Health

Dr. Pablo Werner	Director General of Health
Dr. E. Croft Long	Project Hope
Mr. Cliff Sanders	Project Hope
Dr. Hêctor A. Godoy B.	Malaria Control Program, El Salvador
Mr. Douglas W. Frago	Director, Peace Corps
Ms. Jill Carty	Peace Corps
Ms. Stacey Sloan	Peace Corps

Dr. Rodolfo Lorenzana,	Chief, Instructional Program, Francisco Marroquîn University Medical School
Dr. Eusebio Del Cid	Administration Department, Roosevelt Hospital
Mr. Larry Oddle	AID Guatemala
Mr. Ed. Grant	CARE Guatemala
Ms. Heather Nesbitt	CARE Guatemala
Ms. Doug Frago	CARE Guatemala
Mr. Christian Nill	CARE Guatemala

Dr. León Arango P.	President, College of Physicians and Surgeons of Guatemala
Ms. Vilma de Paniagua	Project Director, Catholic Relief Services
Dr. Marco Antonio Castillo	SEGEPLAN,
Dr. Carlos Estrada	SEGEPLAN
Ms. Marina Sagastume	SEGEPLAN
Mr. Christian Will	Deputy Representative, International Development Bank, Guatemala
Mr. Huberto Saackmann	Dean, Medical Faculty, University of San Carlos
Mr. Erick Daniel Chicol	Administrator, Behrhorst Clinic and Hospital, Chimaltenango
Mr. Rolando Urízar	General Manager, Salud Total
Mr. Cliff Sanders	Project Hope
Mr. Benjamín Son	Project Hope
Dr. Carlos E. Méndez G.	Health Center, San Martín Sacatepéquez
Mr. Víctor Morales Pixca	Health Post, Concepción Chiquirichapa
Ms. Miriam Judith Méndez	Rural Health Technician
Dr. Eusebio Del Cid	Roosevelt Hospital
Dr. Rodolfo MacDonald K.	Roosevelt Hospital
Dr. Hernán Andrade	Francisco Marroquín University
Dr. Barbara Schreiber	Guatemala South, San Juan Sacatepéquez Project
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Ms. Ana Maria Galindo	Executive Director, Compañeros de Guatemala
Ms. Mireya Palmieri	Maternal and Child Health, INCAP

Dr. Jaime Solórzano	Programming Unit, Ministry of Health
Ms. Karla Rodríguez	Guatemalan Affairs, UNICEF Guatemala
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Dr. Isaías Ponciano G.	General Coordinator of Planning, University of San Carlos
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Dr. Alfonso Luarca	Vice-Minister of Agriculture
Dr. Roberto Echenberg	President and Medical Director, Salud Total
Ambassador Alberto M. Piedra	U.S. Ambassador
Mr. Tony Cauterucci	AID Director
Mr. Richard Steelman	AID
Ms. Joanie Hempstead	President and Manager, Agrosalud
Dr. Carlos Armando Soto G.	Minister of Health
Dr. Jorge Mario Izaguirre E.	Vice Minister of Health
Dr. Roderico Monzón	Chief, Human Resources, Ministry of Health
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APPENDIX 2
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