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ANNEX 5.9

FINANCING THE HEALTH SECTOR OF GUATEMALA

GUATEMALA HEALTH SECTOR ASSESSMENT

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Annex 5.9

FINANCING THE HEALTH SECTOR OF GUATEMALA

I. DESCRIPTION OF THE STUDY

A. Overview

The financing, or funding, of services is closely related to the pattern of use of the services, and therefore, a two-way relationship probably exists between the sources and the expenditures of funds, i.e. the uses partially determine the sources of support selected, while the existing or potential sources might affect the volume and distribution of expenditures.

This report on the study of health sector financing, conducted as part of the Guatemalan Health Sector Assessment, covers both the sources and the expenditures of health care funds. However in accordance with the contract under which it was written it focuses more on sources than on expenditures. Its principal objective is to appraise the main sources of finance for the health sector in Guatemala and to suggest a rearrangement and/or expansion of funding of the sector. Other parts of the Assessment (see Reference 1 and 2) focus on the use of funds and the real volume of services utilized.

The introduction of modern health services in developing countries has reduced mortality and morbidity; it also has increased the need for further health services expansion which exceeds the financial ability of most developing countries to pay for even a minimum of care for everyone. One solution to this dilemma is to increase the efficiency of production of health services. Another solution, is to increase the income of the health sector. The first is considered in another part of the Assessment, the latter is the focus of this report.

Some of the ideas presented in this report have been taken from the Sector Assessments in Bolivia, Colombia, and the Dominican Republic. (5-8) Data from these Assessments were used as a partial base for testing a model of financial analysis emphasizing sources recently explained in a HEW contractors' report by Zschock, Robertson, and Daly^(9,51) and referred to in this report as the "HEW report". The model described is being adapted to Guatemala for the purposes of this study.

This report is organized as follows:

I Description of the study

- A. Overview
- B. Identification of the health sector
- C. Quality and availability of information
- D. Comparison with GOG Plan objectives

II Analysis

- A. Description of Patterns of Financing the Health Sector
- B. Evaluation of Patterns of Financing the Health Sector
- C. Interrelationships with other Elements of the Health Sector

III Proposed actions and programs

- A. Possible Proposals for Modifying the Health Sector Financing Pattern
- B. Manner of Choosing the Course of Action

IV Summary

B. Identification of the Health Sector

The identification of the health sector for study purposes is more difficult than it might at first appear. Certainly health services at all levels ought to be covered. Although expenditure data is available for several public and mixed (decentralized) organizations at the national level and for

the major organizations at the regional, departmental, and municipal levels, few sub-national level details could be collected and analyzed. Sources of funds could not be attributed to the various levels at all. In the private sub-sector, a variety of expenditure data are included; their limitations are considered later.

The types of services embraced by the "health sector" constitute a broad area presenting some conceptual and empirical problems. The cure or the prevention of many illnesses lies in the areas of diet, potable water, shelter, sanitation, clothing, and working conditions as much as, or perhaps more than, in specific medical interventions. Since services of shelter and clothing, and working conditions usually are excluded from the health field they are excluded here, with the exception of Social Security services for certain industrial accident victims. The more immediately health-related programs of nutrition, water supply, and sewage disposal have not been classified consistently in the research; some studies cover only supplemental activities aimed at bringing certain underprivileged groups up to some norm. Therefore, with respect to nutrition, this report covers only special food programs. On the other hand, the environmental health services of water and sewerage disposal have been covered as extensively as possible.

Population programs, specifically family planning, can have a long-term impact on health and in practice the delivery of such services might be linked with medical care. Unfortunately, data availability and the scope of the Assessment in Guatemala suggest the wisdom of excluding population programs from a financial analysis. Family planning services in the MOH Budget are subsumed under maternal and child health data and therefore are included in this study, but specific financial data is unknown. Private efforts, such as those of APROFAM, while acknowledged here, will not be included further in this report.

Medical services to outpatients and inpatients and disease control programs, such as that for malaria are included with no problem; however, "traditional" medicine is a different matter, given lack of data on its utilization and financing. To the extent possible, curative care is distinguished from prevention in expenditure data; this is less easily done for sources of funding.

Probably the most controversial decision in defining the health sector applies to educational finance. Arguments can be made for including the costs of education, such as: the uncertain lag before educational investments show up as operating costs and are thus caught in the data, and the difficulties of separating teaching and studying from provision of services in the education of health professionals. But, it can also be considered double counting to include both the costs of formal education and the payments to providers of care who are realizing a return on the investment in their education. Thus, the educational budget is omitted in this report. However, it is appropriate to include on-the-job training expenses, and these along with an unavoidable increment for more formal educational activities, are included in some records under categories such as "human resource" development.

C. Quality and Availability of Information

Various sources of information have been used for the study, among them: budgetary reports covering the national Treasury and most public and mixed service organizations, especially the Ministry of Health and Social Security Institute (IGSS); various reports from surveys of consumer income and spending; a study of private voluntary health service organizations⁽¹⁶⁾; some special research reports; and a pharmaceutical marketing source which provided useful drug sales data. Additional information is not readily available from other providers or their associations.

The sources vary greatly in availability and quality. Except for the Ministry of Defense, which guards its data, the public sub-sector is quite well represented. The national accounting system produces data that seem to be of good quality and usually in sufficient detail. While Social Security (IGSS) system reports are not so detailed, they are adequate for this report. The private sub-sector is far more poorly represented. No recent national survey provides solid figures on family health expenditures, much less relates them to income levels and family characteristics. Responsiveness of consumers to prices (fees) cannot be assessed well either. "Traditional" health services are hardly seen. There is no way of telling the degree of completeness of the data on sources and uses of funds by private organizations.

Additional considerations must be borne in mind when reviewing this report. In the public and mixed sub-sectors, it was usually possible to obtain values for expenditures or income actually "executed" or "realized", which is far better than "budgeted" or "programmed" information. Tables are clearly labeled with respect to this distinction. The entire study deals with monetary values, sometimes adjusted for inflation, which do not reveal real resources used on outputs attained by the health system. This limitation is consistent with the Scope of Work for this report.

Restrictions on certain details of expenditures must be acknowledged. Activities of the Ministry of Health and IGSS below the national level are incompletely covered. Ministry of Health spending has been disaggregated by region and department, but little more is readily seen. Local adjustments are not made for variations in prices. The Ministry's reports permit only rough separation of health care expenditures from those on social assistance, which is thought to be relatively small. Social Security cash payments for disability and other problems are not completely separable from the costs of medical care. Therefore, all components, clearly labeled, have been included

in this report, as was done earlier in the National Health Plan (10, pp 49-57).

Income sources could not be separated at all. Therefore, the data consistently are overstated. The Ministry of Health data includes an additional overstatement, because the "Current Transfers" among its expenditures include the employer's share paid to IGSS for all central governmental ministries.

In a different sense, revenue figures for the Treasury are much too high. Except for a few special funds, there is no way of distributing its sources of revenue among the various public ministries. The best recourse appears to be the presentation of the full Treasury data, with indication of the proportion of its total revenue that accrues to the health sector.

D. Comparison of Study with GOG Plan Objectives in this Area

In general, the National Health Plan used a reasonable selection of the financial data that could be found or created by projections (10, pp 49-57 and 130-141), but did not deal with the private sub-sector nor analyze any sources of revenue in depth. This report should be viewed therefore as a supplement to the National Health Plan.

It also is related as closely as possible to the five priority policy areas of the Guatemalan Government which are stated in the Plan and have been adopted by USAID/G for the Health Sector Assessment. Of the five, its greatest applicability is to the policy objective of increasing coverage, but it should be helpful in implementing the entire Plan.

II. ANALYSIS

This section of the report consists of three parts, one which describes the patterns of health sector finance, first by expenditures and then by income; one which evaluates those patterns; and a brief final section which notes some interrelationships of the results of this analysis to other elements of the sector. Almost all data used are executed ones; if only budgeted values are used, it is so noted.

A. Description of the Patterns of Financing the Health Sector

1. Expenditures--

The most important organizations that provide health services in Guatemala can be divided into public, mixed or decentralized, and private organizations.

a. Public Organization

In the public sector, the Ministry of Health (MOH) is the major organization. Table 1 contains data on its sources of income and expenditures, by programs, from 1970 through 1976, with the last year's values being budgeted ones. Most of its funds have been for operating expenses, not capital items.

The largest program group within the MOH is medical-hospital attention. These services, mostly curative, consumed about 60 per cent of the MOH budget from 1970 to 1972 and have used about half of it since then.

The second largest category is the transfer of funds to other organizations, both mixed and private and even a few international agencies. The data for those transfers is not tabulated here (see Reference 11), but almost 80 per cent of their full value recently has been for the transmission of funds to IGSS to cover the central government's required contribution as an employer to the Social Security system. The MOH role as conduit of IGSS funds for all national agencies makes it apparent why MOH "health" activities are considered

overstated. The largest recipients of MOH transfers in 1976, apart from IGSS, were the Cancer League (\$300,000), the Leprosy Organization (\$150,000), and the Red Cross and the Children's Protective Society (\$100,000 each). Most of these are located in the capital city (12, p 5).

The third most important expenditure has been for administration, which is taking an increasing share of the Ministry's budget. That share now stands at about one-fifth of the full amount, even including the transfers above.

The MOH funds remaining after curative care and overhead expenses are used for essentially preventive services and in relative terms have remained almost steady at approximately 10 per cent of the budget. The preventive service category embraces environmental activities, specific disease control programs, and maternal and child care which has a variety of elements including some family planning.

With the stress upon actual financial transactions rather than plans or intentions, it is appropriate to compare budgeted and executed values for the MOH in recent years. It should be noted that even "executed" values might not really take place without a lag, sometimes becoming "effective" in a subsequent year. The comparison is presented for both income and expenditure in broad categories in Table 2 which indicates that while a high proportion (94-98%) of budgeted operating expenditures actually have been spent, a much lower percentage of budgetary plans for investment expenditures has been realized, varying between 38 and 66 per cent for 1971 through 1975 and falling dramatically to 14 per cent in 1976. The shortfall resulted from a combination of a greatly expanded pre-earthquake budget and a failure to spend more than customary amount (in current Quetzales, unadjusted for inflation).

Although the Ministry of Health is by far the most significant public organization in its field, there are other central governmental agencies with health expenditures, especially for environmental sanitation i.e. water

supply and/or sewage disposal. The budgeted expenditures for 1976 of those ministries with notable contributions to health are summarized as follows (Source 13, Cuadro 6):

<u>Ministry</u>	<u>Health Expenditure</u>	<u>Purpose</u>
<u>Communications & Public Works</u>	\$15,135,928	Almost all for investments: Water supply (largest) Construction of hospitals & other buildings
<u>Public Finances</u>	\$ 2,899,567	All for investments: Water supply and sewage system (about evenly divided)
<u>Presidency</u>	\$ 4,304,940	All for operating expenses for child and maternal health services.

The tabulation above together with the "Expenditure" portion of Table 1 suggests the total magnitude of the public sub-sector in Guatemala, excluding the unknown and perhaps significant role of the Ministry of Defense. The total value of expenditures budgeted for 1976 was over \$60 million, with the MOH accounting for almost two-thirds of that figure. Capital items, heavily weighted toward construction and equipping of environmental sanitation projects, constitute perhaps one-third of the national total value.

b. Mixed or Decentralized Organizations

The national Social Security Institute, IGSS, can be examined in a fashion similar to that for the MOH. Table 3 provides the basic sets of data on IGSS' income and expenditures by type of program. About one-fourth of Social Security expenditure are incurred by the programs of cash and related benefits for disability and other such hazards. Between 1972 and 1976, the share of the

budgeted total (including cash benefits), used for medical-hospital attention dropped from 60 to 48 per cent, though it rose in monetary terms. One factor in its relative decline was the substantial rise in planned capital investment from a negligible amount to almost eight per cent in 1976. Unfortunately, no report is available which reveals the actual execution of that plan. (It will be recalled that the budgeted increase in investment did not materialize for the MOH in 1976.)

The only other notable use of funds by IGSS is the administrative account, covering overhead for both medical care and cash benefits. Again resembling the MOH's experience, IGSS exhibits a notable rise in volume and share for administration, especially in the most recent years. It seems that inflationary and other factors have been manifested most in administration of the health sector's principal organizations.

Table 4 which performs the same function for IGSS as Table 2 does for the MOH uses comparative figures available for only three years (1973-1975). The message is clear and similar to that for the MOH: budgeted and executed expenditures have been almost identical for operating expenditures (covering medical care, administration, and education) and for cash benefits; but there has been a consistent shortfall in execution of investments.

Just as the public sub-sector could be more fully described by looking beyond the MOH, so the components of the mixed sub-sector, in addition to IGSS, that offer health services or pay for them should be identified. Of the many other "decentralized" organizations in Guatemala only one appears to have a significant role now, i.e. Instituto de Fomento Municipal (INFOM) the Municipal Improvement Institute*. Empresa Nacional de Fomento y Desarrollo Eco-

* This should not be confused with the multiple-service Community Development unit in the office of the President which has a small volume of health activities.

nómico del Petén (FYDEP) might develop a significant role as the Petén region develops.

The recent efforts of INFOM in the health field have been primarily in improvement of environmental sanitation, especially water supply. In 1975 a little over 30 per cent of its nearly \$6 million budget was targeted for health, almost all for investment purposes. Of the approximately \$1.8 million budgeted for health, \$1.6 million was for environmental projects while the rest was earmarked for control of food and drug quality and for construction of health centers (14).

A complete summary of health expenditures in the mixed sub-sector is not possible and probably not necessary. However, the data found so far suggest that \$40 to 45 million probably was spent on "health" in 1976 (about \$10 million of it on cash security benefits).

A distribution of health expenditures by type of expense might be useful more for institutional management than for national planning and policy making. Data are available on these for the MOH in both budgeted and executed forms, and for IGSS as budgeted, but are not included here.*

The MOH data show a personnel expenses account which increased in absolute terms while decreasing in relative share between 1971 and 1975, always comprising at least 40 per cent of the total (15). Although not so large in Quetzales, materials and supplies increased as a percentage of the total, reaching more than 20 per cent in 1975. The other two measurable types of expenditures were current transfers and machinery and equipment.

* Their tabulations will be on file at the Health Unit of the Planning Council.

The largest category for the 1974-1976 IGSS' budgets also was personnel expenses, constituting 35 to 40 per cent of the total (14). The second largest category, about 30% of the total was current transfers, mostly for the cash benefit programs but also for miscellaneous other public and private uses. Materials and construction expenditures followed.

c. Private Organizations

Private spending on health in Guatemala can be divided into three broad categories: expenditures by private voluntary organizations, purchases of pharmaceuticals, and personal, or family, spending on health. While these categories are convenient for obtaining information, their data will overlap to a considerable extent. If individuals pay for medicine at a drug store, their personal spending duplicates pharmaceutical company revenues. If a person pays a fee at a privately-run health center, that payment might show up once in the personal accounts and again in organizational reports. If the private center purchases drugs from retail stores, again there might be double counting. There is no simple way to solve this problem, especially given the time constraints under which this report is being written. The best resort is to start with private delivery organizations, then introduce some pharmaceutical data, and finally consider family expenditures without really adding the three into a total.

In a recent study of private voluntary organizations (PVOs) in Guatemala (16) data was collected from as many health care delivery organizations outside the public and mixed sub-sectors as possible. The data indicate that the basic core of PVOs included in the study spent about \$1.8 million on health services in a recent year.

Subsequent information indicates expenditures of nearly \$3 million more by those PVOs not included in the study. However these expenditures partially duplicate the transfers

account of the MOH, already considered in the public realm, and thus only a part of this additional expenditure data, i.e. \$2.2 million will be included here as private spending by private voluntary organizations. A small group of private charity clinics does not appear in the basic PVO study (18) or the supplemental information; they are being ignored here, but will be partially covered in the next categories of private spending. Without them the PVO study yields a conservative estimate of about \$4 million for the value of PVO and related programs. This estimate may be slightly more than would be normal for the time period covered because it includes several "one-shot" non-recurring expenditures related to the earthquake (17).

It has been written frequently that the populations of developing countries use a large volume of pharmaceuticals for health purposes, often substituting them for other types of services, such as treatment by physicians. These assertions have not often been bolstered by private expenditure surveys with details on drugs even in the "modern" health sector. (See Reference 9).

In the absence of sufficient survey information in Guatemala, providers' data on the value of pharmaceuticals sold has been used. A major drug firm in Guatemala City (19) made available a pharmaceutical marketing survey report on Central America which estimates total sales to retail drug stores in Guatemala during 1976 (20) and which when projected to the entire country from a presumably random sample of about 100 stores indicates an annual value of pharmaceutical sales (of both "ethical" and "popular" drugs) of over \$ 31,000,000 before retail

It would be vital to relate these results to the level of annual family income, no simple task in view of the difficulty of obtaining adequate responses concerning income, including food raised for the family and other "in-kind" income. This ideal does not exist yet in any developing country studied. It is no severe criticism to say that the surveys in Guatemala, for both urban and rural dwellers, are limited in usefulness because they are dated and are of questionable geographic coverage on any random basis (21-23). The urban one, for example, covered only five cities, and its sample was dominated by the capital (22).

It is wise not to attempt to construct and present estimates of personal health expenditures from the data at hand. And the rough percentages of family income which were thought to have been spent on health care (or some broader category of services) are better left unreported here. Until a good survey is conducted it is recommended that no estimates be made and that the private sub-sector just be noted as consisting of a much greater, but unknown, volume of expenditures on health than is captured in the partial values presented for the categories of PVOs and drug sales. Some might try a rough approximation of the type made in the past Sector Assessment for Bolivia (5, pp. 245-248) which requires a set of estimates of the volumes of use of the most important types of personal health services, such as physicians, hospital beds, and drugs. Combined with unit values of the services, these utilization data would permit estimates of total receipts of providers or total expenditures of private payors. Some preliminary work toward this might already appear in the Guatemalan National

Health Plan (10, pp. 119-129). The results of this approach might be cross-checked against some existing data such as per capital health expenditures available in other less developed countries. Those results should not be double-counted with drug firm receipts, and they would run the risk of overlapping with FVO estimates to the small extent that people pay for at least a part of the cost of their care from voluntary organizations. It is doubtful that they would tell much about traditional services, but they might reduce considerably the understatement of total private spending that remains in the data now.

It would be well to describe the process by which funds are channeled into the public and mixed sub-sectors of health, i.e. how the allocative decisions for the public budget are made. However, insufficient information is available and such a work seems to fit more appropriately in a separate study despite its relevance to this report. Such a study should include transfers among and within the Ministries. The share of the economy devoted to health is discussed in Section II-B.

2. Income--

The sources of income of the health sector are diverse and vary with each organization or program. The private sub-sector expenditures are different from others because private spending is at the same time a source of income as well as an expenditure. Thus, family payments for health care are an ultimate means of financing the sector. Likewise, sales of drugs outside of the public and mixed sub-sectors point to the individual or family as the source of funds. The support for PVOs is more complex, as it could stem from more than one source. Most likely, it represents individuals' payment of fees plus monetary and in-kind contributions of others in and out of the country. Most of those contributions are from private resources, but some are publicly provided (for example, through MOH transfers).

A different group of income sources consists of external assistance by international and bilateral agencies which accounts for an appreciable, though not predominant portion of the health sector's funds in Guatemala. One large program is the distribution of food under P.L. 480 of the United States, conducted by AID out of its public resources. In Guatemala two private non-profit organizations, CARE and Catholic Relief Services - Caritas, handle the distribution of the food. CARE's role was about twice as great as that of CRS-Caritas; but since the 1976 earthquake, the CRS-Caritas share has increased. Their own funds are not isolated here, and the relatively modest transfer from the MOH (\$46,000 and \$27,000, respectively, in 1976) to defray their transportation costs already have been included in the Ministry's finances in Table 1. The following are the values of AID-provided food in recent years (24):

<u>Fiscal Year</u>	<u>Value (in thousands)</u>
1970 (7/1/69-6/30/70)	\$ 2,491.0
1971	2,348.0
1972	2,880.0
1973	2,034.0
1974	1,247.0
1975	3,133.0
1976	8,379.0
Transition (7/1-9/30/76)	1,417.0
1977 (10/1/76-9/30/77)	7,500.0 (est.)

The PVO study (16) estimates a considerably higher total for 1976: about \$11.5 million.

Grants from international agencies are buried in various public accounts in Guatemala, but loans from them to public organizations can be identified. Over the past decade, an appreciable volume of loans has been received from AID, the Interamerican Development Bank (IDB, in its Spanish abbreviation), and the Central American Bank for Economic Integration (BCIE, in Spanish). The total values of their assistance from 1966 through 1975 was (25):

IDB	\$ 95.9 million
AID	8.1 "
BCIE	1.8 "

While AID's funds went for a variety of operating expenditures, such as malaria eradication and rural health promotion, as well as investment items, the assistance of the other two organizations was capital intensive and focused on environmental sanitation, especially through aqueducts. It is probable that external assistance, especially from IDB and AID, provided a

substantial part of the revenues of some public and mixed agencies, especially the Ministry of Communications and Public Works with its heavy recent investments. In 1976, EID approved a large multi-year loan of \$28.0 million "for construction and equipping of regional hospitals, health centers and health posts" (26, p 21). Additional external sources of support include the various funds of the World Health Organization and Pan American Health Organization used to support local PAHO efforts.

It is evident from Table 1, which describes the income sources of the MOH, that the great bulk of the Health Ministry's support comes from ordinary revenues from the Treasury, which constituted between 97 and 85 per cent, showing a decline, over the period 1971-1976. The only other noticeable group of sources has been in connection with revenues for capital purposes, especially borrowing (both internal and external). The highest share of total finance from that group was the 13 per cent budgeted for 1976. Income from the sale of services and other products by the MOH was not great at any time during the period.

Table 2 presents a comparison of budgeted and executed income for broad categories in 1971-1975 and shows that most budgeted operating revenues (mostly from the treasury) actually were received, but that capital revenues were much less reliable; approximately two-thirds of their value was executed. Given the Ministry's budgetary control techniques which apparently tie expenditures directly to income for each of the operating and capital categories, it is not surprising that the lesson from comparative expenditures is repeated here.

As expected, the sources of income of IGSS are much different from

those of the MOH and other public ministries. According to Table 3, from 1972 through 1975, more than 94 per cent of total revenues came from required premiums paid by employees covered by Social Security and their employers. Sales of services, especially for medical care, and capital revenues comprised the rest. The 1976 budget called for an increase in capital revenues, whose execution is not known yet, but the main picture remained the same. Of the premiums paid, over two-thirds came from employers, particularly private ones.

During the three years (1973-1975) for which comparative data could be found for Table 4 on IGSS, the operating revenues account was consistently over-achieved; that is, executed, or actually received, income exceeded the budget. On the other hand, the plans for capital revenues always fell short of realization. To some extent, but not perfectly, this matches the experience of the operating and investment expenditure categories. It appears that the current (operating) revenue budget is realistic while the capital side is almost meaningless as a predictor of actual behavior.

The basic sources of funds of the Social Security system are clear enough, but those of the MOH and other public organizations require further detail. In particular, the revenues sources of the Treasury need to be specified, as it provides most of the income of the public entities, or at least of the MOH. Only minor amounts of funds are specifically earmarked for health. Thus, the Treasury's general sources of income are of interest (see Table 5).

Without identifying specific percentages in the distribution of total income among categories, several significant lessons can be learned from this table. One is that operating income is much more important than capital income which is heavily based on borrowings; however, the latter's share and its absolute value rose greatly in 1976, related to loans from within the country. Another lesson is the heavy reliance on indirect taxes in comparison with direct taxes. Although income taxes yield enough to be worth mentioning, they are not so large as any one of the three major groups of indirect taxes: duties of foreign commerce, sales and use taxes, and commercial and legal transactions fees and taxes. Among these, sales taxes have not grown at so great a rate as the rest. Within the external commerce group, data for 1975, not tabulated here, show that about two-thirds of the total yield came from import duties while the rest came from export levies, greatest of all on sugar. It is assumed in the absence of other information, that the health sector receives its proportionate share of all general revenues, rather than only some of them, so the evaluation of income sources in the following section considers resources for health to be in relation to those revealed in the Treasury's table.

B. Evaluation of the Patterns of Financing the Health Sector

Many interpretive matters can be discussed as part of the evaluation of health sector expenditures in Guatemala, but in keeping with the Scope of Work of this study, a majority of this evaluation section applies to income sources and only limited interpretations of spending are included. Although the Grosse and Lee work ⁽¹⁾ warrants citation it is not clear that any portion of the Assessment is focused on expenditure analysis; the large literature on it (e.g., benefit-cost analysis) is ignored here.

1. Expenditures

Among the findings of the descriptive section is the fact that the total health sector, in financial terms, is larger than might have been expected. The tables and additional data reveal its scope, especially when it is defined to include environmental sanitation programs of organizations beyond the MOH and IGSS. Probably over \$ 100 million was spent during 1976 in the public and mixed sub-sectors, and private sources added an appreciable, though not well-measured, component of health expenditures. Although the data are too limited to permit simple summing of them all, they do make this general point. Certain aspects of personal spending are considered under income sources, but in general in such areas as family expenditures, especially as related to income and traditional services and medicines,

analysis beyond this study is needed.

Although the full size of the health sector cannot be accurately quantified, the relative importance of its two principal organizations, the Ministry of Health and the Social Security Institute, can be judged by comparing their total expenditures with certain economic aggregates of the same year: the Gross Domestic Product (or value of sales of all domestic final products); the Consolidated National Budget, covering decentralized agencies as well as the Central Government Budget, and the Central Government budget, covering all central ministries and the national legislative and judicial branches.

These comparisons are contained in Table 6, and are pertinent to the concern expressed in the National Plan (10, p.130) that the MOH had not been growing as fast as other ministries during the years 1970-1973. The table for the rather brief period of 1970-1975 (and some additional data for 1968-1974 on file at the Planning Council shows that the MOH's share of the Central Government Budget fell from 9.8 to 8.9 per cent, and its share of the Consolidated National Budget dropped even more, from 7.2 to 5.5 per cent, these declines really occurred between 1970 and 1972. (As an aside, the total Central Budget grew somewhat more slowly than the Consolidated one). During the even shorter period of 1972 to 1975 (1970 and 1971 data could not be used), the percentage

share for the total of the MOH and IGSS stayed about the same in terms of both budgets, paralleling the experience of the Ministry of Health alone. Finally, neither agency's share of the GDP changed, but was steady at a low level. Indirectly it can be judged that the total public sector's share of the GDP rose slightly from 1970 to 1975. It should be remembered that there are health programs, especially environmental ones, in organizations other than the two covered in this table.

Each of these two principal health organizations can be subjected to closer examination, using the information in the descriptive section and the tables. For the MOH, the share of total expenditures going to investment uses between 1970 and 1976 was relatively small, and the full budgeted amounts were never realized. It is possible that activities under the new BID loan will change the investment picture. The reasons for the large shortfall in 1976 should be studied. Within the category of operating expenditures, where most of the budgeted values were executed, the pattern of programs suggests some problems. One is the heavy reliance of the MOH on curative services relative to preventive care, which threatens to keep the organization constantly on the run just to keep up with rising demands for treatments. The BID loan may aggravate this situation. The national situation is somewhat better, because several other agencies are active in environmental sanitation, which has more promise of promoting health through

preventive effects. Other preventive efforts, such as the use of auxiliary personnel for primary care, have not been revealed yet in the data. A second problem area shown in Table 1, is the increasing share of MOH spending made on administration which raises questions of efficiency.

A third problem concerns the distribution of funds among the various types of MOH institutions. Data not reproduced here (27) indicate that of a \$ 22 million total, the 1977 budget will permit spending of about \$ 17 million on hospitals and only \$5 million on health centers and health posts. This confirms the notoriously heavy reliance on hospitals in this public program.

There are many possible facets to the concern for distributive equity expressed in the Plan (10, pp.57-58), especially with respect to rural-urban or other geographic differences. To do justice to the question of geographic inequities would require more intensive analysis of additional information including productivity as well as spending data, than is possible in this report. Much of that analysis should take place as part of the Rural Health Services Evaluation (3). However, a few interpretive comments can be made. One is that the Metropolitan Health Region has been receiving over half of the MOH's medical-hospital funds since 1971 while containing less than one-quarter of the national population (16,11). Examples of such disparities can be multiplied and include data on the highly uneven availability of personnel and physical

facilities by department and municipality (10, 26, 29), which tend to be translated into expenditure differences not necessarily related to the size of the population served. The assessment of geographic disparities is further complicated by regional or local differences in prices which distort comparisons of spending if real resource differences are the interest.

Many of the comments made regarding the Ministry of Health apply also to IGSS, the Social Security system. Most expenditures of IGSS, apart from cash benefits, have been made for operating, not investment, purposes. The capital budget has not been fully executed, while the operating budget has. Services probably are heavily curative rather than preventive; an example is IGSS' limited coverage of industrial accidents. The share of total spending for administration has risen greatly in recent years, which indicates that similar questions of efficiency should be asked of IGSS and MOH officials. The benefit and coverage provisions of IGSS are weighted toward the residents of the capital, so geographic inequities are noteworthy. Data has not been accumulated in this report to measure the degree of financial disparity by location.

An adjustment of all of the expenditure data to reflect values for price increases or inflation, which has been considerable since 1972, has not been done but some figures which partially accomplish this are used in Part III. Table 7 provides the most useful price index values.

With respect to this short evaluation of health expenditures, some study restrictions stated in Part I bear repeating: Coverage is limited with respect to nutritional and family planning services; and the private sub-sector is not fully treated but is discussed in the following section on income sources.

2. Income

The statement made in Part I that the introduction of modern health services in a developing country has given rise to demands for increases in sector income is not "news". The question is how to respond to such demands while at the same time insisting that efficiency of health care delivery be improved. In view of the cogent interpretations of the present situation found in the National Health Plan (10) and its clearly stated aims for the future, the financial portion of its arguments will be developed into evaluations that might enhance its actual implementation in policies. In this attempt, the focus will be upon sources of sector revenue regardless of the agency or program accounting for expenditures. Despite their usefulness, transfers are not covered, because they are not the ultimate sources of funds. Of course, any suggestions concerning means of finance will have implications for the level and distribution of expenditures.

The most important revenue sources for Guatemalan health care are: (1) general revenues of the Treasury, specifically, direct and indirect taxes, whose components are seen in Table 5; (2) mandatory

insurance premiums ("quotas" in Guatemala, often called "contributions" in the United States), more from employers than employees; (3) external assistance, mostly through loans; and (4) miscellaneous private sources, mostly in the form of family expenditures along with measurable charitable support. Other basic types of support appear less significant. These include: earmarked special taxes; domestic debt financing, although it technically is included in the Treasury's records and, in fact, was large in the unusual year 1976; lotteries and betting; direct medical service programs paid for by private companies; and in-kind contributions, such as services extended free or below the prevailing rate as part of education. Some of those are examined further in the following pages. None of the data is good for sub-national sources of support.

a. Criteria for Evaluation of Income Sources

These sources must be analyzed applying similar criteria of appraisal to judge their principal merits and deficiencies. While some criteria may be less controversial than others, all are arbitrary to some extent, and few can be scientifically verified. For example, almost everyone would agree that a method or source of finance should be fair or equitable, but the appropriate measure and degree of equity are value judgments on which reasonable persons may differ. A list of criteria, based on "normative" judgments is presented here. They are defended elsewhere (9, pp. 10-15), and their meanings and feasibility should become clearer when some of them are applied below to specific income sources. They are:

1. Equity (fairness) effects of sources of income:
 - a Horizontal equity, or equal treatment among persons of similar conditions such as economic or geographic conditions;
 - b Vertical equity, or fairness in accordance with ability to pay.

(Note: Equity in benefits received from health care is relevant to a social assessment, but is beyond any reasonable scope of this study. It deserves more research than is likely to be devoted to it in a Sector Assessment).

2. Efficiency effects of sources:
 - a Gross yield, in current Quetzales;
 - b Net yield (i.e. gross yield minus costs of collection);
 - c Satisfaction of payors;
 - d Effects on health status;
 - e Political impact, such as acceptability.
3. Effects of sources in terms of the health service delivery system, including its efficiency:
 - a Effects due directly to the source of income;
 - b Effects due to the manner in which providers are compensated through the source (e.g., compensation on a fee-for-service basis through private family payments).
4. Macroeconomic considerations on sources:
 - a Impact on inflation, unemployment, and so forth;
 - b Impact on incentives (of payors) to work;
 - c Affordability, or the national ability to pay.

Certain of these criteria are not likely to be useful in practice, at least for this stage of research in Guatemala. In particular, there

are empirical difficulties with: payor satisfaction, that is, reactions of those paying or helping to collect a tax or other source of income (criterion 2c); effects on health status, such as from a tax on alcohol (2d); political impact, which is broader than just the reaction of payors (2e); delivery system effects due to method of payment of providers (3b); and most of the macroeconomic norms (criterion 4), except affordability which is covered in Part III for all sources as a whole. In addition, all discussion of the important topic of equity effects of the benefits of health care is omitted despite its potential importance in social analyses (30, 31). Almost all of the criteria pose some practical difficulties, usually traceable to inadequacies in available data but it has been possible, using the information at hand to draw suggestive conclusions in most cases. Other analysts may wish to further evaluate income sources in order to give additional guidance to planners and policy makers.

B. Principal Sources of Health Sector Revenue.

The four principal sources of health sector revenue currently in existence are considered in the following paragraphs. Brief analyses of possible alternative sources are reserved for Part III, which discusses proposals for change.

(1) The first important income group vital to the operation of the MOH and other public agencies is general revenues, excluding deficit financing, of the National Treasury. Its general revenue sources have varied in relative importance over the years covered in this study but can basically be divided into: direct taxes, i.e. the personal income tax; indirect taxes, i.e. external commerce

duties, especially on imports; sales and use taxes; and commercial and legal transactions fees and taxes, including the "stamp tax"; and, for 1976 in particular, domestic debt financing, which is regarded apart from the Treasury's general revenues.

As McLure points out in an excellent survey of taxation of the urban (and other) poor for developing countries (30, p.5), it is generally accepted that the personal income tax actually is borne by the direct payors; his data from Colombia indicate that such a tax imparts progressivity (a greater proportionate burden on higher income persons) to the tax system (32, esp. pp. 51 and 57). Thus, the criterion of vertical equity, or distribution of the burden in accordance with ability to pay, is satisfied by the income tax. Horizontal equity, for example, equal treatment of persons who have the same income but live in different regions, is more complicated to assess. Among other things, it depends on uniformity of taxation of different types of incomes and the ability of the government to administer its program evenly across the country. One might doubt the likelihood of the latter.

McLure and others have shown that indirect taxes probably are borne in large measure by the consumers of taxed products, and that import levies are more likely than export duties to fall on the poor (30, p.5), although their impact is affected by the prior existence of import quotas (p.7). The progressivity of sales taxes depends on the items taxed, which can carry general effects (causing regressivity) or can fall on luxuries (tending towards progressivity). In general, the Guatemalan tax pattern is probably regressive. McLure considers that commercial transactions taxes have mixed effects, stating that "they may, on balance, add to progressivity (but also) so encumber the free

flow of merchandise and property in many countries, that they can only be classified as nuisance taxes ..." (p.21). Their size in Guatemala is too great to accept McLure's suggestion of sharply reducing such taxes.

His final observation calls to mind the variety of criteria that ought to be applied to evaluations of health sector income sources. Efficiency standards should be applied to general revenues, in order to supplement those of equity; gross and net yields of each source are good examples of such standards. The analysis of yields suffers from the same kind of data limitations as the study of equity: there simply is not readily available information with which to compare the sources. Given more time, at least part of the needed data on yields might have been collected, while in contrast a deeper study of equity would be a major undertaking of uncertain result requiring a separate research project. Some aggregative Treasury figures in Table 5 at least show the rising values (presumably representing gross yields) of its largest sources; from 1970 to 1976, the rates of increase were about the same for the income tax (through at a lower absolute level), external commerce duties, and commercial and legal fees, while sales tax returns rose less rapidly. The other criteria concerning efficiency effects of income sources cannot be tested here. One assumes that the predominance of indirect taxes is a testimonial to their greater political acceptability relative to income tax or other direct taxes.

A different sort of efficiency concerns the delivery of health services. How does the selection of one particular source in place of another affect the pattern of use of services and other performance variables of the health system? Presumably public revenues, especially

progressive ones like the income tax, can support the health system without discouraging use of its services by low income persons. The different, more complicated situation for personal health expenditures is covered below.

As stated above, it is impossible in practice to deal with the macroeconomic criteria for appraising sources. Aggregative economic effects, such as on employment or inflation, are much too complex to provide a basis for making health sector financial policies. The old accusation that income taxes hamper work incentives has not been well proven in other countries and seems to be of doubtful validity in Guatemala with its low income tax. The question of the capacity of the nation to expand general revenues, through either direct or indirect taxes, is considered in Part III.

(2) The second major source of support for health care is mandatory insurance premiums paid by employers and employees to fund the health services and other benefits of Social Security programs. To the extent possible the same criteria of appraisal must be applied to this source as was applied to general revenues.

Standards of equity clearly apply to the case of premiums. To see how, a decision must be made on the "incidence" or ultimate burden of these taxes. Obviously, employees who are covered by IGSS pay their own share. The employer premiums are harder to classify; are they borne by employers or are they shifted to others ("forward" to consumers through higher prices or "backward" to employees through lower wages)? The answers to this question are not immediately at hand, but it is assumed that a substantial portion probably is shifted. (Shifting backward would not be possible for employees already receiving mere

subsistence level wages.) This assumption complicates the overall question of equity, because it involves other parties like consumers. Vertical equity probably cannot be assessed for these premiums.

Horizontal equity is interesting and complex. Social Security recipients would appear to gain over others of the same income level, except that they must pay for at least a part of their benefits. However, if IGSS' beneficiaries forego use of public medical services of the MOH while paying their own taxes into the Treasury, they might really be subsidizing their non-covered peers who use the MOH. Also, there is an inevitable redistribution of benefits (not taxes) from those of the IGSS population who are healthy and use no services to those who use them. Finally, some higher income employees covered by the program might elect to use private services outside of IGSS, thus indirectly subsidizing the others at IGSS.

- Not much can be said about yields of social insurance premiums. They appear to have been adequate to support the Social Security system at a higher level than the Ministry of Health's activities, but cause and effect are not clear. It seems likely that collection costs are fairly low, thus enhancing net yields.. One or more specialized studies would be necessary to judge payor satisfaction and general political acceptability. The idea that an employee and his employer are paying for his benefits probably strengthens the system.

There do not appear to be important effects on the health service delivery system from the premium method of finance. The existence of health services which are separate from the general public medical system in Latin America might have efficiency implications, but it probably cannot be directly tied to the source of funds. The manner

of compensating providers of care, especially physicians and general hospitals, might have an impact on overall efficiency in the form of the pattern of services used (high cost hospitals -vs- lower cost health centers and health posts) at IGSS and under other programs such as the MDH's. There has been no opportunity as part of this report to study that question. However, research in North America suggests that capitation and salary methods of compensating doctors seem, under certain institutional conditions, to reduce costly inpatient care relative to outpatient services (33;34;35;36, footnotes 5 and 6;37). It would be interesting to study this issue further in Guatemala.

In a self-financed system like IGSS, there probably are few macroeconomic effects. The system might add to the net support of the health sector affecting "affordability", but it is not certain.

(3) The third important category of finance for the Guatemalan health sector is external assistance especially through loans. Domestic or internal deficit financing, used heavily in 1976, has some similarities to external aid; to the extent that internal borrowing is evaluated here it will be studied within this third group. Most of the criteria either have little applicability to this category or can be applied only roughly. Equity effects, for example, depend upon the actual requirement and terms to repay and the sources for accomplishing it. Efficiency effects appear obvious. No distinctive effects upon delivery system efficiency can be stated with confidence. Nevertheless, it can be speculated that the usual loan objective of investment in buildings and equipment runs the risk of distorting health care in an expensive, capital-intensive direction. (An example of this might well be the new BID loan, whose probable impacts (good and bad) deserve further analysis. This probably is less of a problem, though by no means

negligible, in the case of investments in water supply and sewage treatment facilities. (These however, carry dangers of inequities if aimed at relatively prosperous urban areas.) External assistance does raise macroeconomic issues, especially regarding inflation and perhaps, employment. Massive expenditures financed from outside the country could aggravate price increases. Some such inflationary pressures would be mitigated in times of general unemployment and underemployment, but "bottlenecks" (such as occurred in the construction industry after the 1976 earthquake) could produce the feared pernicious effect. A full treatment of the aggregative economic impacts of deficit financing, especially through external assistance, is beyond the scope of this report.

(4) The fourth and final, principal source of income for the health sector consists of a variety of private means. Personal (family) spending is emphasized in this report, but there are other components partially described earlier, such as some external support for PVOs. Two statements about private financing of health must be made: (1) it is a very big part of the health sector "witness the apparently large volume of private drug purchases alone" and (2) we do not know much about it.

In Section II. A.1 regarding the private sub-sector, the crucial deficiencies in information available, especially consumer surveys of expenditures related to income levels was noted. Ideally, there would be data available on expenditures for specific types of health services (through various types of delivery systems, if possible), adjusted for family size, and age and sex of head of household (30, pp. 2-3), as well as for income. Although Guatemalan researchers have tried to do more than their counterparts in some other developing countries (21,22), the results do not

warrant close analysis here. Measures of income pose conceptual and practical difficulties, and although these problems have been attacked, especially in the area of agricultural incomes (38), they have not been resolved for our purposes.

Furthermore, health expenditures surveys are more difficult to accomplish than similar studies of spending on food, for reasons that include a higher random component in health problems and needs than in food consumption (39). It is possible to point to studies of private payments or willingness to pay for some kinds of services, such as transportation and electricity (30, p. 18-20; 40), but it is not possible to do more than cite fragmentary evidence about private patients' fees for medical and nutritional services (41) and about the portions of income spent on health and related services or goods (21,22). The informational base is unavailable to approximate the total volume of private spending on health in Guatemala or to try to estimate the potential effects of income changes on health expenditures by employing some kind of "sensitivity analysis" that would use a reasonable range of possible ratios or coefficients. (42). The implications for necessary future research are clear. One important step already in progress is the design of a national sample by the Unidad Sectorial de Planificación Agrícola, USPA (43).

In effect it does not appear possible in Guatemala to obtain any valid estimate of the "income elasticity of demand" for health care, that is, the measure of the relationship between percentage

changes in quantity of health services demanded and percentage changes in associated incomes of consumers. (For an attempt to do so in certain cities. see 22. pp.205-210.) This inability is frustrating, because it would be useful to predict changes in demand as incomes rise; such predictions would be helpful in the public and mixed sub-sectors as well as for private support of health care. Likewise, not enough is known about the relationship of demand to price, or to other variables like access and waiting time, to resolve issues such as the impacts of fee increases (a familiar idea in AID) upon various groups of the population. These limitations have implications for equity effects of private financing of care. The other criteria, not as applicable to private spending as to the other categories of income sources, are omitted here.

3. Projection of Expenditures and Income

Although this report concentrates on past and present financial events, it is desirable to project into the future the same types of information on both expenditures and income. However, given time limitations, only a brief discussion of projections is presented here.

There are two different bases for extending quantitative values into the future. One is some form of extrapolation of past experience (perhaps modified due to different expectations for the years to come). The other is an estimate of future requirements or "needs", not necessarily related to what has gone before. Examples of both kinds of projections can be found in Guatemala.

With respect to past experience, Lic. Maria Luisa Hernández de Alveño (a collaborator on this report), using a simple extension of the past (1970-1975 or 1976) growth rates, has projected the income and expenditures of the MOH and IGSS, separately, to 1985.* The results generally show a surplus for the MOH, reaching a size of about \$1 million in 1985. For IGSS, the projections suggest a worsening deficit of about \$1.3 million in 1985. The organizations continue to match each other in approximate size. Of course, such projections do not allow for major institutional changes.

Using more complicated formulas obtained from fitting curves to past data, Lic. Guillermo Chávez (also a collaborator in this report) has projected the National Treasury's financial situation from 1978 through 1987 for current income (excluding borrowings)

* Copies of the results in tabular and graphical forms will be maintained in the central data file at the Health Unit of the Planning Council.

and operating and capital (investment) expenditures. Over that period, the projections, with borrowing omitted, show a sharply reduced deficit.* Earthquake effects might not be reflected in this work.

In contrast to these two projections based on past experience, the projections of the National Health Plan (10, pp.130-144) are based on assumptions of needs aimed at realizing the goals of the Plan. They show among other things, substantial requirements for investments from 1975 to 1979 or 1980, especially in environmental sanitation facilities and health establishments. These projections appear to have been made before the large BID loan was formalized.

The BID program, making various assumptions, has its own projections, not necessarily maintaining past rates of change. These are summarized in a recent BID document (see Item 114 in the Assessment literature file: Informe de Proyecto: Guatemala, PR-730-A, 13 Abril 1976, in particular Apéndice 11.)

Projections are only as good as their assumptions which can vary widely. An example of the range of assumptions possible for health sector financial studies are found in the following:

- a. Scope of Work of this Assessment (p.15): Budgetary needs projections for a study of efficiency, based on various productivity improvements;
- b. The Chad Assessment (48): Projections of income based on rates of economic growth and share of the economy devoted to health.

* Copies of the results in tabular and graphical forms will be maintained in the central data file at the Health Unit of the Planning Council.

C. Interrelationships with Other Elements of the Health Sector

The highlights of the preceding evaluations and their relations to the rest of the health sector should be obvious. In one sense, the analyses stand by themselves, not directly related to demographic studies, analyses of human resources, technical studies of water supplies, and the like. In another sense, however, they are pertinent to almost every other component of the Health Sector Assessment, applying to medical care, nutrition, and other health-related services. Together with analyses, by others, of efficiency of resource use, these evaluations of the existing pattern of expenditures and income sources have implications for the realization of almost every facet of the National Health Plan.

This approach to the evaluation of existing income sources can be applied to consideration of alternative financing mechanisms and will be a significant portion of the following section on proposed actions or changes.

III. PROPOSED ACTIONS AND PROGRAMS

In this section, income sources are examined in some depth and suggestions made concerning them. Expenditures are mentioned briefly, but comments on them are not developed into recommendations. Some alternatives to the present funding pattern are studied with the aid of the criteria presented earlier and some tentative judgments are made on the merits of the existing financial pattern of the Guatemalan health sector. The analysis of alternatives involves a review of the concepts of national effort and probable capacity to afford new revenues for health. ("Affordability", listed earlier as a specific criterion for applicability to each individual source of income, can be studied adequately for the needs of the Assessment at the more aggregative level employed below).

No one would deny the difficulty of formulating firm recommendations on the manner of financing the health sector in Guatemala; the suggestions presented in this section must be taken as tentative for further consideration by the bi-lateral staff of the Assessment and by other officials of the country. Some additional information is required as a basis for certain decisions, and special studies beyond this one are recommended to obtain such information together with necessary interpretations of it.

This section is divided into two parts:

- A) possible proposals for modifying the health sector financing pattern; and
- B) manner of choosing the best course of action.

A. Possible Proposals for Modifying the Health Sector Financing Pattern

1. Review of Evaluation Section, II-B

a. Expenditures

The most notable pair of observations regarding expenditures in recent years, as highlighted in the evaluations in Section II-B, are:

(1) the health sector is larger than expected but (2) the public and mixed sub-sectors (see Table 6) account for a small portion (2%) of the national product, even while holding their own as a proportion of the governmental budget (approximately 11 per cent of the consolidated budget). In real terms, the impact of these sub-sectors is diminished by the high rate of inflation since 1972 which almost offset the full increase in absolute spending. The rising volume of external assistance for capital investment also merits emphasis especially given the anticipated further increase through the BID loan.

An increasing portion of both MOH and Social Security spending is used for administration; the concern expressed by the writers of the National Health Plan is shared. A separate study of administration related to efficiency questions is suggested, in addition to the Assessment's section on efficiency. Further consideration is warranted by the current emphasis of MOH and probably of IGSS on hospital-based curative services in preference to preventive ones and on activities in the capital area in preference to the rest of the country. These important disparities, already well known to Guatemalan officials and to AID, are not commented on further.

b. Income Sources

Observations regarding income sources indicate that general revenues, used heavily by the MOH, include a comparatively large reliance on indirect taxes, which tend to be regressive, and which are a cause for concern based

on the criterion of "vertical" equity (ability to pay). Ease of administration, except for commercial transactions taxes, and adequacy of yield enhance their appeal. Additionally, indirect levies have been more acceptable politically, although the views of the true payors are not known.

Insurance premiums (or taxes), most of them paid to the Social Security Institute by employers and employees have diverse equity effects: "vertical" ones cannot be assessed well due to limitations on the knowledge of shifting of the employer contribution; impacts on "horizontal" equity have several facets, including potential subsidies within the IGSS population. Whatever the ultimate locations of the burden, it appears that earmarked premiums are well accepted in Latin America as a means of raising revenue for social insurance programs despite qualms over them of some outside observers. Such acceptance probably strengthens the prospects for reasonably adequate yields from this service, especially after a program has been in effect long enough to be stabilized in acceptance and financing, but more evidence on yields would be useful. Neutral or unknown effects from the premiums exist for the other norms of appraisal.

It is doubtful that an economic and social appraisal in this report of external assistance as an income source will greatly affect lenders' and borrowers' policies especially in view of uncertainties in the analysis of vital macroeconomic effects. However, one caution is given with respect to the specific health programs, and their resources supported by external aid, i.e. there appears to be a considerable danger of over-emphasis on investment, especially in hospitals. The remedy might not lie in changing the sources of finance but in altering decisions on uses of funds.

Private spending as an income source has several components, all of them tantalizing to appraise; conceptual difficulties and large deficiencies in data are at fault. There is great need for development and study of survey data.* Recommendations made in the absence of full data must be viewed as tentative, or at least as subject to error.

2. Recommended Alternatives

Having reviewed the salient results of the evaluation of current income sources the following alternatives for new or modified sources are considered:

- a. Expansion of the personal income tax
- b. A new tax on hotel room and restaurant meals bills
- c. An increase in the national lottery (if feasible)
- d. Fees charged to public and Social Security outpatients to cover a portion of their costs,

There is no guarantee of the share of any new revenue which would accrue to the health sector from these sources, except for the fees.

a. Expansion of the Personal Income Tax

The merits and limitations of the personal income tax, probably are as clear in Section II as they can be made and apply to the question of expanding the tax. In particular, desirable progressivity probably would be introduced into the Guatemalan system of raising public revenues if income taxes could be applied to more persons and perhaps increased in rates at the higher end of the income scale. McLure's survey contains

* One example of research that demonstrates both a clear conception of needs and the limitations of empirical work is the nutritional study of Pinstrup-Andersen and associates (44).

some excellent thoughts on the ways by which these reforms might be implemented; for example, through coverage of all employers' workers, as well as of self-employed people and of capital income (30, pp.21-23). He acknowledges, however, the administrative challenge that such changes would pose. Persons with more experience on these matters in Guatemala will be needed to fully appraise the proposal; and additional study of revenue yields from various changes or reforms also are in order.

Another direct tax for possible consideration would be a property tax, especially on luxury housing (30, pp.24-25).

b. New Tax on Hotel Room and Restaurant Meal Bills

A second alternative income source might be a new tax (or set of taxes) on bills for hotel rooms and meals in restaurants, i.e. an increase in the taxation of luxuries. For fairness and simplicity of administration the levy might exclude hotel charges below some low daily rate and restaurant bills below a given amount per person. Vertical equity can be improved through this proposal, as the use of relatively good hotels and expensive meals tends to be by high income persons. (Strong suggestions for such a tax and cautions concerning its form can be found in Reference 30, p.21). Although a separate sub-study will be required to obtain useful estimates of yields under various conditions, a small exercise here might be instructive. Assume that a research project in Guatemala requires the use of several visiting consultants who spend a total of 28 man-months in the country and spend over \$33 per day on hotel and meals. The total expenditure of such persons would be about \$28,000 (28 x about \$1,000). With a tax rate of, say five per cent, approximately \$1,400 in taxes would be paid to the government. Multiplied by several such projects, many tours, and individual visitors, the revenue could be noticeable,

though probably not nearly of the size of the principal sources of general revenues realized today. Objections of Guatemalan (and foreign) travel agents and local hotel operators can be anticipated but negative aspects of such a tax appear to be small. There would be the opportunity to minimize meals taxes by splitting the bills. The chief danger is that political pressures could lead to earmarking of these taxes for tourism or something other than health care.

c. Increase in the National Lottery

The third alternative income source considered is an increase in the national lottery. It requires the capability of selling more tickets, which is not a certainty, but the comparatively heavy reliance of Colombia on lotteries to finance local level public health services should be noted (9, pp.34-35). A lottery for fund raising has great advantages and disadvantages. (The latter might explain the relatively limited use of the national lottery in Guatemala.) Its strengths include ease of collection and the possibility of high net yields; admittedly, it often is difficult to learn enough about overhead costs to compare net and gross yields. Payor satisfaction is another strong point, and general political acceptability is likely to be still another. It probably is neutral with regard to several of our evaluative criteria, especially effects on the health delivery system and macroeconomic impacts, except for a possibly positive effect on total employment. With respect to disadvantages, in terms of net yield (the appropriate measure), it is highly regressive, given the pattern of such gambling in relation to level of income and the probable inelasticity of demand with respect to "price", or ticket charge. In fact, McLure considers this regressivity an overwhelming disadvantage (30, p.18). A more guarded appraisal is in order in view of

the probable need to strengthen public support for health care in Guatemala. There are precedents for earmarking the revenue, and health might be a popular use; this alternative deserves further consideration by policy makers.

Sometimes similar arguments are made in support of other "sumptuary" taxes, such as those on alcohol or cigarettes, as are made for a lottery or levies on betting. And, it often is said that a tax on alcohol beverages, for instance, has favorable effects on health status (refer to criterion 2d). In fact, this last claim has doubtful validity, whatever the other merits of the tax. It is likely that the demand for alcohol (certainly, that for beer) is "price-inelastic"; that is, the quantity of it which consumers are willing (and able) to buy does not go down much as its price rises. If that is true, then there will be only limited health benefits in the form of reduced consumption when such a tax is imposed or raised. Furthermore, as argued above for a lottery, there might be the pernicious effect of regressivity because expenditures on alcohol probably are "income-inelastic", with purchases not rising proportionately as fast as income; therefore, the tax burden falls relatively heavily on lower income persons.

d. Fees Charged to Public and IGSS Outpatients

The final idea suggested involves the imposition of fees on public and Social Security outpatients, probably through a flat charge of twenty-five centavos per consulta. This has the obvious danger of weighing relatively heavily on poor people. Also, it might discourage the use of needed services. In contrast is the experience of some organizations that have tried this, notably INCAP (a 15 centavo charge, 41) and in the past the MOH (25 centavos). Fees collected would stay in the health sector probably with the institution levying them. It seems that a small, below-cost,

fee system might be tried while awaiting the results of formal analyses of elasticities and ability to pay, based on survey data. These analyses should not be ignored, however.

Although other modifications in the revenue system of Guatemala might be surveyed, no more specific ones will be stated. A more general, or aggregative, topic remains to be covered: the capacity of the Guatemalan economy to support increases in income directed into the health sector. This refers basically to the ability to afford more revenues (and health expenditures), in part based on a public tolerance of the burden or public will to make the financial effort. "There is no single concept of affordability" (45, p.48); rather, it is a flexible idea related to social values as well as to economic indicators. Even a fairly complex analysis would not fully resolve this complicated and value-ridden question. Therefore, the remarks here are confined to rough comparisons and an indication of ways to proceed further in studying the issue.

The most persuasive approach to assessing overall financial capacity, or "affordability", is to compare countries with respect to tax revenues (and other revenues, if desired) as a percentage of gross domestic product (or, perhaps, gross national product, which adds the international share to a country's home economy). Such a measure for comparisons might be disaggregated into separate percentages for different kinds of income sources, for example, direct taxes, taxes on foreign commerce, other indirect taxes, mandatory social insurance premiums, and the like. Refined analyses that are beyond the reasonable scope of research related to an Assessment, would adjust the percentages to take into account differences among countries in the relative sizes of their foreign economic sectors ("openness" of their economies), in the degree of their industrialization,

and in certain other characteristics (46, 47). A low ranking for a country would not "prove" that it should increase its taxation, in general or in particular, but would suggest the wisdom of a critical examination of national financial effort.

No recent study of Guatemalan capacity or effort is known, and cannot be accomplished during the short time available for this report. Crude measures, as a basis of judgement in the absence of the better ones suggested above, would include recent and anticipated growth rates for the economy and assumptions as to the ability of the government to increase its share of the national product, especially in the field of health. (This approach applied to Chad is discussed in 48.) Others may wish to try this before the Assessment is concluded. Meanwhile, the general feeling remains that the effort in Guatemala has not been high and that the economy probably could sustain an increase in the tax burden in the interests of better support for health care, especially in the public sub-sector.

The ability of the populace to make a greater effort through private expenditures (and maybe in-kind contributions of labor) is equally hard to judge. Consideration of this has been recommended, citing some limited evidence. Further arguments for it might include the World Bank's views on finance of village water supplies (49, pp.38-46) and the recent findings in Guatemala of high interest and a stated willingness to pay for more rural electrification services (40), not necessarily applicable to health care. Nevertheless, the low average income of the nation, especially of its rural residents, should be kept in mind (21, 22, 38). In the private sub-sector, as in the public, the limitations of knowledge available for writing this report, and the great need for additional information must be emphasized. The most important single extension of this work might well be a special project (conceivably supported by AID) to study

affordability in Guatemala more thoroughly and make recommendations concerning additional or redirected financial efforts, especially at the level of the national government. Sub-studies of selected revenue sources, such as those suggested above, might be subsumed under the larger project.

The identity of the income sources suggested for consideration in a revised pattern of sector support is clear enough. Daly has written that "it is strongly suggested that mixed financing be considered for public health programs" (50, p.43). However, the ideal combination of new and existing sources and the appropriate mix of financing is not self-evident. In the absence of additional information and interpretations of the kinds sought above, it may be generalized that a sweeping revision of any nation's revenue system is rare and that marginal changes are more realistic.

The suggestions presented here do not seem to contradict the general argument, inasmuch as they represent relatively limited supplements to the existing system (with the possible exception of the private fees) or, at most, partial substitutes for some of the present revenue sources.

B. Manner of Choosing the Course of Action

A series of additional evaluations probably involving outside technical assistance and in some cases requiring new data collection and/or interpretive research have been recommended. Among these recommendations are:

- (a) A review of administrative efficiency of the MOH and IGSS. (This assumes that an additional study of efficiency will be a part of the Assessment and that the Rural Health Evaluation also will go farther.);
- (b) Studies of the incidence of various revenue sources;

- (c) Information-gathering concerning several criteria of appraisal e.g. yields (during a changing economy); political acceptability, and perhaps, payor satisfaction;
- (d) A possible study of the effects upon the health system's efficiency of different methods of compensating service providers;
- (e) Private health expenditure surveys;
- (f) An analysis of national financial capacity or "affordability" of more health services..

Of these, the expenditure surveys and the affordability analysis have the highest priority, assuming that efficiency studies already are accepted.

There are additional practical considerations for the implementation of any new pattern of finance for the sector (or for the nation as a whole). Clearly, changes must not be too radical and must be related to political realities. Even if acceptable in principle, revenue recommendations must be accompanied by ideas of procedures for effecting changes. These procedures might include legal changes, development of new administrative units and modified accounting schemes, training of personnel, and others. Finally, appropriate attention should be given to the manner of communicating all suggestions, substantive and procedural, to policy makers in order to have the maximum result in the form of a more healthy health sector.

IV. SUMMARY OF REPORT FINDINGS AND CONCLUSIONS

A. Description of the Study

This study of health sector financing in Guatemala covers both health expenditures and sources of income (funds), with emphasis on the latter, as specified in the Health Sector Assessment's Scope of Work for this study. This report is intended to be complementary to other portions of the Assessment, especially the study of efficiency, and to the research on health service coverage, and that concerning fincas, PVOs, and environmental sanitation. It is compatible with other AID endeavors which are oriented towards rural health services.

Because this project flows directly out of earlier work from HEW and AID which led to a report by Zschock, Robertson and Daly (9), all three should be viewed as co-authors of some portions of this paper.

The "health sector" is defined fairly broadly for the purposes of this study, although it is restricted in its coverage of family planning and nutrition, the latter treated only in terms of P.L. 480 food supplements. A possibly-controversial omission is the area of educational finance.

The national accounting system has been good to work with and has yielded usable data, most often with "executed" rather than just "budgeted" values, on the public and mixed ("decentralized") sub-sectors of health care. However there are definite limitations to information, notably, the lack of sub-national level data and large gaps concerning private expenditures. Such problems have been noted clearly when encountered.

The objective of this report is to supplement and reinforce the National Health Plan of Guatemala, especially concerning extension of coverage, in order to facilitate its implementation through actual policies.

B. Analysis

1. Description

Some of the most important findings of the descriptive section are evaluated below. The Ministry of Health (MOH) and some other public agencies (especially the Ministries of Communications and Public Works) spent a total of about \$60 million in 1976 on health care, which includes a small, unknown amount on social assistance. The MOH usually has executed most of its budgeted operating expenditures, but this is less true of its investment expenditures; there was a large deficiency, or "shortfall", in investment in 1976. The story is similar for the Social Security Institute (IGSS) and probably for other mixed (decentralized) organizations. These institutions spent over \$40 million in 1976, or somewhat less if cash payments for non-medical social insurance benefits are excluded.

The private sub-sector in the health field of Guatemala obviously is large. PVOs alone spent about \$4 million in 1976, while retail sales of drugs (both "ethical" and "popular") appear to have reached \$40 million in the same year based on probably understated data. Overlapping those totals is an unknown, but surely appreciable, volume of family spending for all types of personal health services. This report recommends consumer surveys to clarify the value of this spending and offers a method of more roughly approximating it.

The most important sources of financial support for the health sector are: general revenues, especially indirect taxes, used to support the MOH and other public ministries; mandatory insurance premiums (taxes), especially on employers, for funding IGSS; external assistance, especially loans (with more to come via BID, whose effects should be subjected to close scrutiny), to a variety of programs, including investments in environ-

mental sanitation, and the P.L. 480 program whose recent annual food value ranged up to \$8 million; and private expenditures, including some charitable sources. Types of finance used in other Latin American countries but are not relied upon heavily in Guatemala include: special taxes earmarked for health; domestic deficit financing (except for its importance in 1976); lotteries; and some varieties of private contributions.

2. Evaluation

Guatemalan health expenditures appear to be large in total, especially when environmental sanitation programs are taken into account, but they are not necessarily "large enough". The share of the gross domestic product going to health has been consistently small, and the portion of the national budget for health, while steady, has been only moderate.

There are some disconcerting aspects to the disaggregated spending figures for the MOH and IGSS (which are surprisingly similar between themselves). One is the predominance of curative over preventive services. For the Health Ministry there is a further imbalance towards hospitals (in preference to centers and posts), which will receive something like \$17 million out of a \$22 million medical care total in 1977. Geographic disparities in services are evident from rough evidence, bearing out fears expressed in the National Plan and AID documents. Still another cause for concern is the growing proportion of the MOH and IGSS budgets being consumed by administration; combined with rapid inflation since 1972, this trend suggests little or no real growth recently in direct health services. A logical observation is the need to study the administrative efficiency of both organizations.

The evaluation of income sources is more intensive than that of expenditures. It includes the selection of criteria, necessarily based

on value judgements, for appraising any source of revenue; the norms include equity, yield, efficiency, and aggregative economic effects of source. Admittedly, some criteria are more useful than others when actually applied to the sources.

The first group of income services, i.e., general revenues accruing to the National Treasury, appear on balance to be regressive; that is, higher income persons pay a smaller percentage of their incomes in the form of taxes than do lower income persons. This results from the heavier use of indirect taxes, like duties on imports, than of direct taxes, especially on personal income. Hence, the criterion of "vertical" equity, or taxation in accordance with ability to pay, seems to be violated. The yields of all the revenues, including their flexibilities in response to changing economic conditions, are not known directly, although it can be inferred from the Guatemalan experience that indirect taxes, especially those on foreign and commercial transactions, have met the norm of reasonable yield. Empirical studies of tax burdens ("incidence") and yields from general revenues (as well as other sources of income) would be very useful for future decisions.

The second group of sources, mandatory social insurance premiums paid by employers and employees, have uncertain implications for "vertical" equity and various effects on "horizontal" equity (i.e., fairness among people of similar total incomes but different characteristics like geographic location). Yields from such payments probably are adequate, especially after an insurance program has been in effect long enough to stabilize in benefits and funds. Methods

of compensating providers of services at IGSS (and in programs of the MOH and the private sub-sector) warrant study to determine their impact on the efficiency of delivering services. The effects, outside of Guatemala, on hospital utilization rates of paying physicians on a capitation or salaried basis suggests the potential importance of studying this question if data are adequate to do so.

The effects of external aid as a revenue source depend on such factors as repayment arrangements for loans so it is difficult to generalize about them. One of the most important results of such assistance consists of possible distortions in service patterns due to outside requirements of spending on investment items like hospitals instead of less capital-intensive facilities and personnel. In addition, there might be macroeconomic consequences of aid from abroad, including worsening of inflation and/or improvement in employment; these complex effects cannot be stated with confidence.

Much too little is known about private means of financing health care in Guatemala, despite a useful and unique recent study of PVOs. (16) A high priority need is for health expenditure data, related to incomes, which would permit the estimation of measures, such as "income-elasticity of demand", i.e., the relation of product demand to income, in terms of percentage changes. Without such estimates one cannot say much to assist decision-makers about the impact of income rises on personal health payments. The substantial volume of existing private services, the interest of AID and other organizations (Guatemala and external) in self-payment and the proposed action below add force to the suggestion that improvements admittedly difficult be made in consumers surveys.

C. Proposed Actions and Programs

1. Possible Proposals for Modifying the Health Sector Financing Pattern

Rather modest proposals concerning expenditures are presented above. Several areas deserve attention, all of them previously recognized in the Health Plan.

Four suggestions for changes in revenue sources are offered for consideration:

- (1) Expansion, perhaps with reforms, of the personal income tax. Cautious actions are suggested, bolstered by information from a survey of Guatemala public acceptability of such changes;
- (2) Addition of a new tax, or set of taxes, on hotel room and restaurant meals bills above specified amounts. The justification for this appears strong, despite potential objections from certain special interest groups and some concern over the health sector's probable share of funds from this source.
- (3) Increase, if possible, in the volume of the national lottery. Advantages, like acceptability, and disadvantages, like regressivity, are large and need to be considered.
- (4) Imposition of below-cost fees on outpatients' services of the MOH and IGSS. Some past experience in Guatemala is in their favor, but questions of equity are not resolvable without survey data.

General "affordability" of health care also is treated in the proposals in the report. This embraces the national capacity to provide

funds, based on a will to do so. Coverage in this report is more on the general concepts and the necessary measures of their magnitude than on actual empirical conclusions for which there is only impressionistic evidence. An important step would be to mount a new project, possibly financed by AID, and using outside technical assistance (with Guatemalan counterparts) to estimate affordability in terms of some specific sources and of total revenue in Guatemala.

2. Manner of Choosing the Course of Action

A broad conclusion is that the present mixed pattern of financing the health sector is realistic and probably desirable. Thus, policy recommendations would start with the premise that marginal, rather than sweeping, changes in revenue sources are needed. Several ways to gather new information are suggested to resolve the issues. The two most important of these are the private health expenditure surveys and the appraisal of affordability.

In proceeding with these ideas methods of communicating with national policy makers should be included. Practicalities of this nature, while undramatic, are vital to the successful implementation of the National Plan to improve the health of all Guatemalans.

(in thousands of current Quetzales)

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TABLE 1

Income Received, by Source of Income (including Transfers), and Expenditures Made, by Program,
by Individual Organization Which Provides Health Services and Raises Its Own Funds:
Ministry of Health (Ministerio de Salud Pública y Asistencia Social)

	1970		1971		1972		1973		1974		1975		1976	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Source of Income:	(Not readily available)													
Operating Revenues:	(*Income only)													
Ordinary (Treasury)			20,216.4	97.3	22,140.1	94.6	23,055.0	88.7	26,565.5	86.3	32,142.5	89.2	37,279.3	85.9
External Assistance			---	0	69.9	0.3	295.3	1.1	275.3	0.9	1,013.7	2.8	418.0	0.9
Capital Revenues:														
Ordinary (Treasury)					493.4	2.1	6.1	0.1	214.7	0.7	334.1	0.9		
Borrowing (Internal)			433.5	2.1	---	0					694.2	1.9	5,723.2	13.2
External Assistance					143.3	0.6	2,074.3	7.9	2,919.5	9.5	984.2	2.7		
Specific Inccms (Sales of Products, etc.)			115.9	0.6	557.5	2.4	567.6	2.2	803.9	2.6	888.7	2.5	---	0
TOTAL INCOME +			20,765.7	100.0	23,404.2	100.0	25,998.5	100.0	30,779.0	100.0	36,057.5	100.0	43,420.5	100.0
Expenditure:														
Operating Expenditures:														
Administration	1,098.5	5.4	1,688.8	8.8	3,017.0	13.2	4,056.1	16.0	5,324.1	17.7	7,340.0	20.6	7,742.3	19.4
Preventive services #	2,115.9	10.4	2,093.0	10.1	2,144.3	9.4	2,401.4	9.4	3,323.2	11.1	3,976.9	11.3	4,161.3	10.4
Medical-Hospital Attention	12,506.9	61.4	12,978.2	62.9	13,511.5	59.1	13,300.2	52.3	14,181.3	47.3	17,774.8	50.5	20,560.7	51.5
Human Resources	225.0	1.1	229.7	1.1	289.3	1.3	315.1	1.2	329.8	1.1	407.1	1.1	455.3	1.2
Current Transfers ##	3,357.0	16.5	3,226.8	15.6	3,247.9	14.2	3,267.6	12.9	3,682.4	12.3	3,657.3	10.6	4,919.6	12.3
Investment Expend:														
Environmental Services	983.5	4.8	417.1	2.0	457.0	2.0	1,041.0	4.1	1,128.8	3.8	1,663.0	4.7	762.2	1.9
Hospitals & Schools	66.7	0.4	16.4	0.1	179.7	0.8	1,039.5	4.1	2,005.4	6.7	349.6	1.0	778.3	2.0
World Food Program	---	0	---	0	---	0	---	0	---	0	---	0	520.9	1.3
TOTAL EXPENDITURE	20,353.4	100.0	20,649.9	100.0	22,846.7	100.0	25,430.8	100.0	29,975.0	100.0	35,168.8	100.0	39,900.6	100.0

Notes: # = Includes all services of a substantially preventive nature (especially environmental services and specific diseases control, as well as all maternal-child care).

= Transfers include a majority of the category for payments of other ministries as employers to IGSS.

* = Budgeted, rather than executed, data. Data for 1976 Income are not comparable with others.

All data include financing of unknown (small) amount of social assistance services.

Totals might not = sum of their parts due to rounding, in this and other tables.

Sources: Ministerio de Finanzas, Dirección de Contabilidad del Estado: Liquidación de Presupuestos y Egresos del Estado: Ejercicio Fiscal: 1970-1975 (for Income, 1970-1975). Balances de Saldos: 1970-1976 (for Expenditure, all years). Dirección Técnica del Presupuesto, Presupuesto de Ingresos y Egresos del Estado: 1976 (for Income, 1976).

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TABLE 2

Comparison of Income and Expenditure Budgeted and Actually Executed,
by Broad Categories in Selected Years (1971-1976) for Ministry of Health
(in thousands of current Quetzales)

CATEGORY	1971			1972			1973			1974			1975			1976		EXPL.
	Budgeted \$	Executed \$	Budgeted Executed %	Budgeted \$	Executed \$													
Income:																		
Operating Revenues(Total)	20,712.6	20,216.4	97.6	22,833.9	22,210.0	97.3	23,489.3	23,350.4	99.4	27,690.2	26,940.8	96.9	35,173.5	33,156.2	94.3		(Not Available for income)	
Capital Revenues(Total)	655.0	433.5	66.2	1,657.1	636.7	38.4	3,247.7	2,080.5	64.1	4,908.3	3,134.2	63.9	3,049.3	2,012.6	66.0			
Specific Income	115.9	115.9	100.0	557.5	557.5	100.0	567.6	567.6	100.0	803.9	803.9	100.0	883.7	883.7	100.0			
TOTAL	21,483.5	20,765.7	96.7	25,048.5	23,404.2	93.4	27,304.6	25,998.5	95.2	33,402.5	30,779.0	92.1	39,111.6	36,057.5	92.2			
Expenditure:																		
Operating Expend (Total)	20,712.6	20,216.4	97.6	22,833.9	22,210.0	97.3	23,991.9	23,350.4	97.3	27,690.2	26,840.8	97.0	35,173.5	33,156.2	94.3	40,014.2	37,939.2	
Investment Expend (Total)	655.0	433.5	66.2	1,657.1	636.7	38.4	3,247.7	2,080.5	64.1	4,908.3	3,134.2	63.9	3,049.3	2,012.6	66.0	14,724.3	2,061.3	
TOTAL	21,367.6	20,649.9	96.6	24,491.0	22,846.7	93.3	27,239.7	25,430.9	93.4	32,598.6	29,975.0	92.0	38,222.9	35,168.8	92.0	54,738.9	39,900.6	

Sources: Substantially same as those for Table 1.

Notes: (See Table 1)

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TABLE 3

**Income Received, by Source of Income (including Transfers), and Expenditures Made, by Program,
by Individual Organization Which Provides Health Services and Raises Its Own Funds:
Social Security Institute (Instituto Guatemalteco de Seguridad Social (IGSS))
(in thousands of current Quetzales)**

	1970		1971		1972 ^a		1973		1974		1975		1976 ^a			
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%		
Source of Income:	-(Comparable data not available.)-															
Operating Revenues:																
Insurance Premiums:																
Employers:																
Private							13,803.9	49.7			17,012.6	51.9			19,354.8	53.6
Public and Mixed					23,180.0	95.7	3,954.9	14.2			4,684.5	14.3			4,761.6	13.2
Employees							8,400.8	30.2			10,070.2	30.7			11,177.7	30.9
Specific Income (Sales of products, etc.)					1,051.6	4.3	546.1	2.0			497.1	1.5			835.0	2.3
Capital Revenues (All)					---	0	1,075.0	3.9			515.0	1.6			---	0
TOTAL INCOME					24,231.6	100.0	27,780.7	100.0			32,779.4	100.0			36,129.1	100.0
Expenditure:																
Operating Expend:																
Education					70.0	0.3	54.3	0.2			58.5	0.2			48.6	0.1
Administrative					3,675.2	15.2	3,253.1	11.5			-3,739.9	12.2			6,079.5	16.8
Medical-Hospital-Attention Cash & Related Benefits (Disability, old Age, etc.)					14,455.7	59.7	16,208.3	57.3			17,771.4	57.6			20,129.0	55.8
Investment Expend (All)					5,980.7	24.7	7,740.5	27.4			8,709.8	28.3			9,725.8	27.0
TOTAL EXPENDITURE					24,231.6	100.0	28,269.9	100.0			30,746.8	100.0			36,090.7	100.0

Notes: * Budgeted, rather than executed, data. (Thus, data for 1972 & 1976 are not strictly comparable). All data include values (income or expenditures) for non-health service Cash & Related Benefits.

Sources: IGSS, Informe Anual de Laborés del IGSS: 1973-1976
Presupuesto de Ingresos y Egresos de las Entidades Decentralizadas: 1972 and 1976.

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TABLE 4

Comparison of Expenditure and Income Budgeted and Actually Executed,
By Broad Categories, in Selected Years (1973-1975)
for Social Security Institute (IGSS)
 (in thousands of current Quetzales)

C A T E G O R Y	1 9 7 3			1 9 7 4			1 9 7 5		
	Budgeted \$	Executed \$	Budgeted Executed %	Budgeted \$	Executed \$	Budgeted Executed %	Budgeted \$	Executed \$	Budgeted Executed %
<u>Income:</u>									
Operating Revenues (Total)	25,775.0	26,705.7	103.6	28,624.1	32,264.4	112.7	33,711.1	36,129.1	107.1
Capital Revenues (Total)	3,450.0	1,075.0	31.2	2,735.0	515.0	18.8	2,462.0	--	0
T O T A L	29,225.0	27,780.7	95.1	31,359.1	32,779.4	104.5	36,173.1	36,129.1	99.9
<u>Expenditure:</u>									
Operating Expends (Total)	19,416.6	19,515.7	100.5	21,730.0	21,509.8	99.0	26,269.7	26,257.1	100.0
Cash & Related Benefits	7,718.6	7,740.5	100.3	8,728.3	8,709.8	99.8	9,725.8	9,725.8	100.0
Investment Expends (Total)	2,089.7	1,013.7	48.5	900.9	527.2	58.5	177.7	107.8	60.7
T O T A L	29,225.0	28,269.9	96.7	31,360.1	30,746.8	98.1	36,173.1	36,090.7	99.8

Sources: IGSS, Informe Anual de Labores del IGSS: 1973-1975.

Note: All data include values (income or expenditure) for non-health service Cash & Related Benefits.

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TABLE 5

Income Received, by Source of Income (including Transfers),

By Individual Organization which Only Collects & Transmits Funds:

Central Government (Treasury) (Presupuesto del Estado, Ministerio de Finanzas Públicas)

(in thousands of current Quetzales)

SOURCE OF INCOME	1970		1971		1972		1973		1974		1975		1976	
	\$	Q												
Operating Income														
Governmental Requirements ("Tributarios"):														
Direct Taxes:														
Income Tax	18,653.7		20,502.1		22,382.9		25,270.9		31,994.0		54,786.2		59,165.8	
Other Direct Taxes	6,008.9		5,762.2		7,419.4		7,690.9		8,429.8		8,893.7		9,555.5	
Indirect Taxes:														
External Commerce Duties (Exports & Imports)	40,501.2		41,785.6		41,554.9		50,549.4		72,279.4		82,344.0		119,138.4	
Sales & Use Taxes	37,367.3		39,702.4		41,819.7		47,548.1		55,547.5		62,135.7		75,081.2	
Commercial & Legal Transactions Taxes	37,413.5		38,526.6		42,324.2		51,394.5		76,187.8		80,743.6		107,166.5	
Governmental Receipts for Sales of Good & Services	6,206.4		6,829.3		7,713.6		7,111.3		10,918.2		13,692.6		17,557.2	
Other Operating Revenues	19,097.8		20,308.5		21,922.6		23,571.7		25,651.2		27,231.3		19,176.8	
TOTAL OPERATING INCOME	165,248.8		173,416.8		185,137.3		213,186.8		281,007.9		329,827.1		406,841.4	
Capital Income														
Direct External Loans	21,333.3		17,591.2		24,244.5		28,136.9		24,485.0		18,723.8		22,176.1	
Internal Borrowing	16,000.0		20,000.0		45,650.0		36,000.0		61,000.0		30,500.0		148,475.2	
Other Capital Revenues	888.1		3,286.3		4,481.1		4,120.1		11,937.3		40,254.6		21,183.1	
TOTAL CAPITAL INCOME	38,221.4		40,877.5		74,375.6		68,257.0		97,422.3		89,478.4		191,834.4	
GRAND TOTAL INCOME	203,470.2		214,294.3		259,512.9		281,443.8		378,430.2		419,305.5		598,675.8	

Source: Ministerio de Finanzas Públicas, Dirección General de Contabilidad del Estado, Liquidación del Presupuesto de Ingresos y Egresos del Estado: Ejercicio Fiscal 1970-1976.

Note: Income here is total income of National Treasury which is used for all purposes, not only health services. For Treasury's support of Ministry of Health see Table 1.-

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TABLE 6

Comparison with Gross Domestic Product and with Governmental Budget Totals
of Health Expenditures Made by the Ministry of Health (MOH)
and by the Ministry and Social Security Institute (IGSS) Combined
(in thousands of current Quetzales)

EXPENDITURES & OTHER TOTALS	1970		1971		1972		1973		1974		1975		1976	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Gross Domestic Product (GDP)	1,904,038.0	--	1,984,818.0	--	2,101,645.0	--	2,569,309.0	--	3,161,490.0	--	3,585,775.0	--	(Not Available)	--
Ministry of Health (MOH)	20,353.5	1.1	20,649.9	1.0	22,846.7	1.1	25,430.8	1.0	29,975.0	0.9	35,168.8	1.0	39,900.6*	(N.A.)
Total MOH & IGSS	(Not Available)	(N.A.)	(Not Available)	(N.A.)	47,078.3*	2.2	53,700.7	2.1	60,721.8	1.9	71,159.5	2.0	82,537.8*	(N.A.)
Consolidated Nat'l. Budget	280,853.0	--	295,989.6	--	418,855.4	--	472,847.9	--	552,727.0	--	634,312.5	--	(Not Available)	--
Ministry of Health (MOH)	20,353.4	7.2	20,649.9	7.0	22,846.7	5.5	25,430.8	5.4	29,975.0	5.4	35,168.8	5.5	39,900.6*	(N.A.)
Total MOH & IGSS	(N.A.)	(N.A.)	(N.A.)	(N.A.)	47,078.3*	11.2	53,700.7	11.4	60,721.8	11.0	71,159.5	11.2	82,537.8*	(N.A.)
Central Gov't. Budget	208,652.8	--	211,912.0	--	261,477.7	--	278,778.0	--	351,629.5	--	394,024.9	--	(Not Available)	--
Ministry of Health (MOH)	20,353.4	9.8	20,649.9	9.7	22,846.7	8.7	25,430.8	9.1	29,975.0	8.5	35,168.8	8.9	39,900.6*	(N.A.)
Total MOH & IGSS	(N.A.)	(N.A.)	(N.A.)	(N.A.)	47,078.3*	18.0	53,700.7	19.3	60,721.8	17.3	71,159.5	18.1	82,537.8*	(N.A.)

Sources: Gross National Product: Banco de Guatemala, Boletín Estadístico del Banco de Guatemala, Octubre-Diciembre, 1976, pp.52,72,85.
Ministry of Health: Table 1

Total MOH & IGSS: sums from Tables 1 & 3

Consolidated & Central Budgets: Ministerio de Finanzas Públicas, Dirección Técnica del Presupuesto, Evaluaciones Presupuestales 1970-1975.

Notes: See Tables 1 & 3, especially for inclusions that overstate health expenditures. But health expenditures are understated due to omission of other organization

** Preliminary data.

* Budgeted rather than executed data (in whole or in part).

GUATEMALATABLE 7Indexes of Prices of Selected Consumer Products

<u>YEAR</u>	<u>Index of Consumer Prices</u> (1972 = 100)	<u>Index of Articles of</u> <u>Highest Necessity</u> (in the capital) (1946 = 100)
1966		137.3
1967		138.0
1968		140.6
1969		143.6
1970		147.0
1971		146.3
1972	100.0	147.0
1973	114.4	168.2
1974	132.7	195.0
1975	150.1	220.6
1976	165.5	(Not Available)

Sources: Index of Consumer Prices: Tabulated in R.A. Orellana, "Problemas Nacionales: Aumento del Costo de Vida y la Merma del Poder Adquisitivo del Quetzal", "Instituto de Investigaciones Económicas y Sociales, Universidad de San Carlos (Guatemala City, April 1977), p.3
Index of Articles of Highest Necessity: Boletín Estadístico del Banco de Guatemala, Octubre-Diciembre 1976.
 (Both depend on data of Dirección General de Estadística).

Annex 5.9

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