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UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)

MID-TERM EVALUATION

HEALTH SYSTEMS SUPPORT PROJECT (519-0308)

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

Cambridge Consulting Corporation

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Health Services Support Project (519-0308)
Mid-Term Evaluation

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EXECUTIVE SUMMARY

A. Goal of Project

The goal of the Health Systems Support Project is to assist the MOH to improve the access to and availability of basic health care services and to reduce child and infant mortality. The project purpose is to support and strengthen the capacity of the Ministry of Health (MOH) to deliver and support basic health care services, including preventive and primary care services important to the MOH child survival program.

B. Purpose of Evaluation and Methodology

The purpose of this evaluation was to determine progress in the delivery of commodities and planned improvements in the acquisition and management of drugs and supplies; compare efficiency of the maintenance systems for equipment and facilities before and during the project implementation; measure progress in the existence of health services to rural areas; examine progress in implementing malaria control activities; compare the status of the installation of the MIS with the project plan; and, determine changes, if any, which should be made in the Project.

The evaluation compares progress with the specific End of Project (EOP) outputs as established in the logical framework of the Project paper.

The evaluators have reviewed project accomplishments, problems and constraints, and lessons learned, key MOH service systems impacted by the project, and the extent of institutionalization of systems. This was accomplished through interviews with key MOH, AID, MSCI, Clapp and Mayne, PAHO and other personnel involved in or knowledgeable of the project, site visits to MOH facilities and projects, and review of the basic reports, project files, project monthly and annual reports, and the diverse studies prepared under the project.

C. Findings and Conclusions

End of Project Status (EOPS)

1. 90% of open MOH care facilities have at least minimum stock levels (appropriate to the level of facility) of selected drugs and medical supplies.

Status: 53% (MSCI Monitor Report 5/31/90)

2. 90% of MOH bio-medical equipment (including cold chain equipment functioning).

Status: 80% ^{Given several reports} (Project Status Report, 10/1/89-3/31/90)

3. 25% increase in the number of consultations given at the primary level (units, posts, and by community workers);

Status: 6.1% increase 1986-1988 (Project Status Report, 10/1/89-3/31/90).

4. 20% increase in amount of MOH operational budget allocated for regional health services (i.e., facilities other than hospitals and outreach programs).

Status: 13% increase from 1989 to 1990, based on a sample of 60 basic drugs (MSCI data).

5. Improved MOH policy, program planning and management capabilities.

Status: Insufficient progress has been made in this area.

The project has definitely contributed to the improved delivery of health/child survival services. The project can claim at least some credit for the reduction in infant/child/maternal mortality and in the reduction of the third level of malnutrition.

In general, most of the planned activities took place as scheduled, although most of the accomplishments occurred in the past 12 months. Some of the component goals will not be accomplished by current EOP date, particularly those involving biomedical equipment and the clinical laboratories.

APSISA has contributed to the development of the MOH infrastructure and its materials have facilitated improvement of services delivered by the health care system and the commodities have maintained the functioning of the MOH. The extensive work in the development of operating systems, manuals, guidelines, research studies, quality of care studies, etc., represent positive developmental efforts which will help to improve the health system.

APSISA has had some development impact within the MOH through the use of the Project Steering Committee and the UTMIN. The latter has helped to rationalize the pharmaceutical system. The Community Health Program has been institutionalized as an independent Department.

A major conclusion is that AID/HPN has developed a highly effective team effort involving MOH, AID and the Technical Assistance advisors, increasing participation in project activities and developing an important climate of mutual respect and understanding with all agencies and personnel involved. This development, suggested as a major problem during the VISISA project, has been one of the most important factors in achieving project success.

D. Recommendations

1. AID should extend the LOP at least two and preferably three years. The budget should be increased accordingly.

2. AID should focus the majority of future assistance to maternal health and child survival interventions targeted to high risk groups. Emphasis should be on service delivery at the lowest three levels of the health care system. To improve these efforts, AID should stimulate the MOH to increase attention to systematic strategic planning.

3. AID should continue to provide the majority of the current level of technical assistance to the project through the present EOP date of September 30, 1991. Beyond that date TA should be reduced to meet specific needs of the MOH. Assistance should continue in acquisitions and logistics, management information systems, malaria prevention, research and community health development and particularly, planning. Technical assistance in health education, training and bio-medical equipment maintenance may benefit by changing from long-term to short-term consultancies.

4. AID should continue support to the Community Health Program. Support should give priority to developing decentralized local planning and programming, logistics improvements, training and more effective integration of the CHP into the health system through closer and more organized connections to health Posts and Centers. When the program has consolidated its internal systems, the number of promoters should be increased. Greater use of the CHP in family planning should be considered, including development of more effective strategies, improved training and effective logistics to maintain adequate and timely supplies. Support should have a programmatic focus, using technical assistance as well as material inputs, to refine its systems and help the program prepare for its eventual complete integration into the health services system. Careful planning and a substantial training component will be required to successfully carry out this process.

5. Support for health education should be continued as a basic support system for primary health care. The type of

materials produced should be planned to meet primary health priorities and the needs of the CHP promoters and health facilities staff, based on research, and adequately field-tested.

6. The project extension should emphasize functional rather than structural decentralization to avoid added personnel (recurrent) costs. This emphasis should be at the core of the planning process. Decentralization must be developed within the context of a major profound analysis of the objectives, programs and mechanisms of the Ministry of Health.

7. Family Planning should be given more emphasis in a Project Extension. Due to the close out of the Population Dynamics Project (519-0210), AID should fund MCH/FP activities as well as CHD activities in family planning through an APSISA Project Amendment. This amendment would include the establishment of a standard reporting and commodity tracking system for this program.

8. AID should continue to encourage and support MOH efforts to improve coordination in the health sector, especially with PAHO, other donors and PVO's.

9. AID and the MOH should continue efforts at human resource development in the project. TA efforts should increase attention to developing knowledge, skills, attitudes and a culture of planned change within the MOH. The MOH should place considerable emphasis on staff development and improved coherence of staff utilization at all levels.

10. Support for the Drug Quality Control Laboratory should be phased out over an 18 month period. A less ambitious quality assurance program may be more realistic and appropriate. Other sources of financing and mechanisms for cost recovery should be urgently sought to prepare for the end of project support.

11. MOH and AID should reassess the feasibility of setting up six new clinical laboratories, in light of current difficulties in supplying reagents, equipment maintenance, and staffing. The MOH cannot adequately staff and equip new laboratories. Hence, support should be provided only to those Units with the infrastructure to absorb and benefit from such assistance.

12. The MOH should revise their essential pharmaceutical medical supplies and equipment policy. This revision should reflect the relative importance of primary health care in the MOH health strategy for El Salvador. Therefore, in the project extension, AID should further reduce pharmaceutical purchases to a basic group of no more than 30 and that these be primarily directed to Community Health Workers, health Posts and health

Units. A multidisciplinary group should review the essential drugs list to conform to a (proposed and adopted) health and pharmaceutical policy that truly emphasizes primary health care.

13. The MOH should reorganize the Technical Unit for Drugs and Medical Supplies (UTMIM) and strengthen it to meet its stated objectives in the technical areas of drug evaluation, drug epidemiology and drug information. MOH should place much more emphasis on organizing regional therapeutic committees as support for the UTMIM. The UTMIM/MOH should enlist the collaboration of pharmacologists and other related disciplines to upgrade its technical capabilities.

F. Lessons Learned

Many lessons have been learned in the three years of this project: some encouraging, some sobering. The first lesson is one which frequently has to be relearned. Change is difficult. Modifications generally take longer and are more complicated and difficult than originally conceived. Basic infrastructure, sufficient knowledge, skills and experience, and fundamental attitudes are always difficult to develop. Further, lack of close supervision and follow-up are the primary reasons for project failures, and the APSISA project has so far managed to avoid that problem and should continue to include follow-up measures in its plans.

Outside or exogenous factors must always be taken into consideration. For example, the internal conflict and other events outside the project have delayed implementation of this and other projects.

An emphasis on sustainability should be maintained to the degree possible, but cannot be a determining factor for the continuation of AID assistance, given the precarious financial condition of the MOH and the uncertain prospects for economic recovery in the short term. Dependency has been created due to a number of factors and in the short term must be continued to avoid losing the gains made.

Too much turnover of MOH personnel goes against the success of the Project and MOH goals. This is something which somehow has to be controlled. Valuable persons should be protected or guaranteed to be in their positions for reasonable periods.

The well-designed Technical Assistance has been particularly important in achieving project success and is a model of how TA should be conducted. Carefully chosen Long-Term TA can have positive impact on projects. They can be the primary mechanism for insuring implementation of project elements, that counterpart

personnel learn new skills, knowledge and develop proper attitudes, and that the funding agency has clear leverage to insure that covenants and agreements are kept. This project has been exemplary in its use of TA.

Information is power in that when regional level personnel conduct research and gather information, or when they work with a computer which helps them organize information, they find they do not have to depend so much on the central level. With information they can make more of their own decisions and take action at their level so they are accomplishing decentralization through information development.

Systematic and coherent planning is difficult to organize and institutionalize in the MOH. There is no culture of strategic planning. This leads to separate, uncoordinated sources of income and expenditures, programs and goals, types of personnel and information systems, all providing a situation of considerable disarticulation which reduces the MOH capacity to establish priorities, develop policies, create programs and deploy resources in a rational manner. This certainly is the main weakness of the MOH, its Achilles tendon.

II. PROJECT BACKGROUND

A. General Situation in El Salvador

The Government of El Salvador continues to have economic problems and the overall deficit is still growing slightly. GOES attention has been focused on several long-standing problems considered more serious than health (the war, the economy, human rights abuses, etc).

The Ministry of Public Health (and most of GOES) operating budget essentially pays personnel costs; the remainder of program needs including operations come from donors (See Annex E, Background Information on the Ministry of Health, for detailed information on budgets). The MOH has been operating under a budget freeze, strict personnel ceilings and frozen salary levels. The MOH has experienced high turnover of key personnel as a result of budget/personnel/salary/freezes, and as a result of change in the governing party.

AID is presently supplying approximately 70% of the MOH's pharmaceutical purchases. The MOH also routinely receives large quantities of donated pharmaceuticals. As a result, estimates are that AID presently provides approximately one-third of all MOH pharmaceuticals.

B. The VISISA Project

The VISISA Project began in 1983 against a background of poor economy and civil conflict which affected the health sector through increases in trauma cases, decreases in funding and real per capita expenditures, increases in physical infrastructure, lack of trained personnel, and a certain stagnation in health status indicators. The Project was created to prevent the collapse of the MOH's health programs. Its goal was survival and not innovation.

Although authorized in 1983, the project did not begin to have impact until 1986. There was a major underestimation of technical assistance requirements, and serious procurement problems which required that AID personnel devote large amounts of time to this area. Delays in implementation were partially due to the unfavorable political conditions, and the management weaknesses of the Ministry of Health. These problems were further complicated by the earthquake of October 16, 1986.

Without the multi-level aid of VISISA, the level of health care would most likely have suffered considerably in 1985 and 1986. The creation of the Technical Unit for Drugs and Medical Supplies (UTMIN) and the APSISA Steering Committee during VISISA were major elements which affected the subsequent success of APSISA.

At the end of the VISISA Project, the final evaluation team felt that the MOH leadership had not been adequately involved in planning and decision making. They also documented the severe shortage of mid-level trained personnel, which adversely affected the implementation of programs. Further, they noted that VISISA had not been able to give its resources as much to primary care as planned, having had to provide considerable support to hospitals, with the smaller primary health care facilities benefiting only marginally from the increased availability of drugs.

The VISISA additions to MOH physical infrastructure, the materials, vehicles, surgical and x-ray equipment, pharmaceuticals, and the support for the malaria program all had impact on strengthening the health system.

The recommendations at the end of VISISA included making more efforts to build the capacity of the MOH to make effective management decisions, changing from resource transfer to true health sector development, training more mid-level technicians and managers, and coordinating and developing continuity in technical assistance efforts.

C. The APSISA Project

Initial efforts to orient the project towards its goals included the development of annual action plans with the MOH and trimester group evaluations, as a permanent aspect of the project. No doubt that these are useful and important contributors to establishing objectives and flow of activities.

The Project encountered strong resistance to implementation of controls during the first 2 years.

A dramatic change in receptiveness by current MOH officials offer unprecedented possibilities for achieving Project Goals

(also a major change in PAHO attitude toward the Project).

D. Constraints to Project Implementation

1. General

The Project has encountered all of the usual obstacles to implementation and several unusual ones: war, difficulty in recruitment of Technical Assistance, country travel restrictions, and the major offensive of November, 1989. Most of the AID Mission and the majority of the TA staff were evacuated in November, 1989 and returned in mid-January of 1990.

2. Ministry of Health Constraints.

The organizational nature of the Ministry of Health is the source of certain constraints. The MOH is divided into two general categories: Central Office and the Regional Health Services which constitute the centralized agencies, and the other half of the Ministry, the autonomous, or decentralized agencies, primarily the 14 hospitals. The autonomous agencies independently plan their own activities, submit and execute their budgets, compile and submit their own program statistics. Hospitals receive 50 percent of the MOH's total operations expenditures. One of the APSISA EOPS indicators calls for a "20 percent increase in of MOH operational budget allocated for regional health services" (i.e., facilities other than hospitals and outreach programs). The hospitals' share of total MOH operations expenditures (55%) suggests the EOPS indicator is not attainable.

The split between the hospitals and the regional health services has remained constant over the decade of the 1980s, with 4 of the 8 years having precisely the same split, 61.6 versus 38.4 percent, respectively. In the last two years the regional health services' share has edged up slightly.

The autonomy of the hospitals leaves the MOH Central Office with control of slightly less than half of the Ministry's total resources. Further, the Central Office's control and authority is being increasingly compromised by appropriations to other than MOH organizational entities, which increased by more than 40 percent (in nominal terms) throughout the past decade. Monies labeled MOH funds pass through the Ministry earmarked for other organizations working in the public health sector, but over which the MOH has no control. By 1988, these "pass-throughs" constituted 17 percent of the regional health services' total expenditures and 5 percent of total MOH operating expenditures.

A major factor impeding improvement of the Ministry's performance is that the development and oversight of the investment and the operating budgets are distinct, administratively isolated activities carried out by separate

organizational entities. Also, the MOH's approach to planning and budgeting is historical-budget based resource allocation. The MOH's total budgeted monies are allocated across the different Ministry programs on the basis of the relative shares they received the previous year. Increases in the total MOH budget result in proportional increases in the budget share of the different Ministry programs, and decreases in the budget result in proportional reductions in program budgets. This approach, is status quo oriented, and largely inert. New initiatives, perceived by existing personnel primarily as threats to their own programs and positions, are not encouraged. One manifestation of this is that the MOH's finance/budget department is little more than an accounting department.

If the economic slide continues, building maintenance and repair are most likely to go first, followed by equipment repair. If the budget continues to fall, the only remaining budgetary categories are materials, supplies, and personnel. Materials and supplies probably will be the first to go. There is hope that the crisis will soon abate, and that the shortages will only be a temporary (and soon-to-end) inconvenience.

In the context of the conditions characterizing El Salvador's past decade--continuing war, a slowly growing GDP, and a persistent, long term growth in public health care facilities, continued adherence to historical-budget based resource allocation and planning mechanism has led the Ministry of Health into a cycle of persistent underfinancing of its recurrent costs. Only the dramatic increases in medical supplies provided by AID through the VISISA and especially the APSISA Project, has kept the MOH in medicines.

E. Relationships with Other Donors/Programs

AID has been the major donor agency in Health in El Salvador for many years. Relations with PAHO and WHO have varied over the last decade but are currently at an excellent point of optimum cooperation. Relations with donors are coordinated through the Ministry of Health.

III. PROJECT ACCOMPLISHMENTS

A. Logistics Support

1. Acquisition, Distribution and Management of Drugs and Medical Supplies.

APSISA continues to be the largest single source of pharmaceuticals for the MOH health care system (Data from MSCSI on amounts committed 1987-1990 from GOES, PL480-AID, APSISA).

Data obtained by project monitors and a sampling of 100% of hospitals and health Centers (small hospitals), and 20% of health Units and Posts suggest a steady improvement in availability, particularly of basic drugs at all levels. Over the past year (April 1989 to April 1990) the average availability of 60 basic drugs increased from 40% to 53% (+13%). If the trend continues, as a result of improvements in the procurement and distribution processes, 70% of the basic drugs will be available by April 1991.

There are, however, variations in drug availability among establishments. Anecdotal information indicates that shortages of key basic drugs still occur. For example, penicillin procaine has not been available in health Posts and Units for the past five months. Other antibiotics for use with children are also not currently available. Also, drugs not used at certain levels were overstocked, for example phenytoin in health Posts and health Units.

Physician prescribing habits and preferences have also influenced the overstocking of certain drugs. For example, penicillin G potassium was not distributed to or used by health Centers because of the belief that the potassium salt produced more pain than the sodium salt.

Donations also present a problem, particularly at regional and local levels (Units and Posts). At the Cojutepeque Health Center there were drugs such as the third generation cephalosporin (ceftriaxone), imipenem received as donations at a level where no adequate microbiological service is available. Other drugs considered inappropriate for this level were lovastatin (stored in insufficient amounts for even one treatment) and enalapril (an antihypertensive agent).

2. Conceptual framework and national essential pharmaceutical policy.

A conceptual framework for the pharmaceutical supply system has been formulated within the context of a comprehensive supply system. However, the MOH has not fully assimilated it. An explicit essential pharmaceutical policy concordant with a national health policy of primary health care has yet to be adopted by MOH authorities. The essential drug policy must be further revised by MOH authorities to provide an appropriate conceptual framework for the selection, logistics, and appropriate use of drugs.

3. Selection.

As part of a comprehensive supplies catalogue, several lists have been established for pharmaceuticals, medical and dental supplies. Work is currently underway to define the list of

clinical laboratory supplies. Lists for standards and instructions for updating codes for items in the pharmaceutical and medical supplies catalogue have recently been adopted.

The Essential Pharmaceutical List has been revised four times since 1986. The latest revision deleted 33 drugs and added two new ones. The list consists of 360 items. Further revision is required, to make it more suitable to priority needs and financial constraints. The conceptual framework for such a revision has been proposed, but remains to be assimilated and adopted by MOH authorities.

Efforts are underway to reactivate the National Therapeutic Committee which has not met in three years. Such a committee is essential as a permanent advisory body to the UTMIM (Technical Unit for Drugs and Medical Supplies), responsible for selection, estimating needs and monitoring the use of pharmaceutical and medical supplies. A multidisciplinary advisory group is essential to successful implementation of any new list, to gain credibility with physicians who have to comply with the Essential pharmaceutical List. The above mentioned revisions to the Essential pharmaceutical List were accomplished by Technical Assistance advisors and the head of the UTMIM with informal participation of selected clinicians. Regional supplies staff (medical advisors) also participated in selecting 60 essential pharmaceuticals for use in health Units and health Posts.

To promote the appropriate use of essential pharmaceuticals work is also underway (reported at 60% completion) of a uniform treatment manual for use in health Units and health Posts. The yet to be appointed Therapeutics Committee should review and approve its contents.

The work of the UTMIM has improved, mainly on administrative matters. The unit is in need of technical support staff. The drug information pharmacist left the unit and this activity has not been taken up by anyone on the staff. The head of the UTMIM is on leave without pay and the physician in charge of the technical section is currently the interim head of the unit. Current technical staff consists of the head-physician, a physician who reviews hospital requisitions at the Central Warehouse (El Matazano), and a pharmacist. Designed supervision schedules are not fully implemented, because of the workload at the central level.

A pilot program for reporting adverse drug reactions is being set up at two health Units (Barrios and Lourdes health Units) and one health Center (Cojutepeque). This is an initial step in the pharmacoepidemiological evaluation of essential pharmaceuticals.

4. Procurement.

APSISA has been the major contributor to MOH drug supply needs (approximately 70% of MOH purchases). However, the MOH also receives large quantities of donated pharmaceuticals. As a result, estimates are that AID presently provides approximately one-third of all MOH pharmaceuticals. Purchasing of pharmaceuticals has improved. With the availability of inventory data, adjustments have been made in purchase orders, with an improved "mix" of procured drugs. An analysis of pharmaceutical purchases for 1989 (PIO/C 705157 and 70192) revealed that project funds purchased only 21% of drugs selected for Primary Health Care (project priority). Subsequent purchases (PIO/C 186 and 101) have increased the number and proportion of essential drugs for health Post and health Unit levels (38% and 30%, respectively). The purchases still reflect the tendency of MOH authorities to ensure the availability of drugs needed at higher levels (hospitals and health Centers). These data suggest the need to reinforce compliance or implementation of procurement of priority drugs for health Units and health Posts rather than those requested by hospitals.

After analyzing the stages involved in the procurement process, procedural changes reduced lag time from 18-24 months to 10 months between initiation of procurement to receipt of commodities in the Central Warehouse. The programming stage was anticipated. The technical specifications of the contract/bid were standardized in compliance with the essential commodities lists. The legal and administrative requirements of the contract/bid were also standardized according to the mode of procurement. Use of microcomputers to prepare tenders, contracts and purchase orders ("boiler plate" documents) improved the process. Comparative charts for the analysis of offers were also prepared with the use of the microcomputer. Boiler plate preparation of tenders significantly reduced preparation time from one month to two or three days.

A computerized supplier register has been implemented at the Procurement Office. The program is also capable of recording price offers and awards and performance scores based on a point system (for quantity, quality and timeliness).

The creation of a Department of Programming, Control, Evaluation and Information in the Purchasing Office further improved the capability of the MOH to manage supplies.

5. Reception and Warehousing.

Reorganization of the flow of pharmaceuticals in the Central Warehouse has resulted in dramatic improvements in optimizing the reception process. The receipt, checking and transfer to the warehouses has been reduced from three months to only three days.

The majority of recommendations resulting from an audit by Price Waterhouse, which detected numerous administrative shortcomings have been implemented. Norms and procedures for the receipt of merchandise at the Central Warehouse have been adopted. Another manual on warehouse handling of pharmaceuticals is currently in process. A position profile manual has been developed for warehouse personnel. Future work involves implementing these norms and manuals in the regional warehouses.

6. Distribution.

Quarterly distribution schedules from the Central Warehouse (Matazano) to the regional warehouses and health Centers have been implemented as of the second quarter of this year.

Distribution still consists of allocations from the Central Warehouse. Although the shipments have improved in relation to pharmaceuticals distributed to the regions, the amounts are almost always insufficient.

To reduce waste due to expiration of unused pharmaceuticals, an instructional manual for the transfer and return of drugs and medical supplies has been prepared. Although these procedures have still to be adopted by the MOH and implemented in all regions, appropriate transfers have already occurred at the local level (some health Units, health Posts and health Centers).

7. Drug Quality Control Laboratory.

Although El Salvador has had some primarily regulatory drug control programs, there has been no effective in-country program for actually testing pharmaceutical products. The VISISA Project, in 1983, established the goal of providing the MOH with the capability to analyze the quality and efficacy of local drug products procured for use within the MOH health system. This pharmaceutical quality control system was also envisioned as a first step towards a comprehensive quality assurance program for the country. The VISISA Project financed \$90,000 for construction of the laboratory and \$270,000 for laboratory equipment. For several reasons, including lack of trained personnel, and the October, 1986 earthquake, construction was not begun until 1987.

The Drug Quality Control Laboratory began operations in 1988. The unprogrammed need to install water softeners (demineralizers) and voltage regulators slowed initial work. Some of the equipment is not yet installed and there has been difficulty in obtaining reference standards. Despite these difficulties, the laboratory has increased the number of inspections of organoleptic characteristics (650 to 968) and the number of physico-chemical analyses (143 to 278). The number of incomplete analyses has likewise diminished (187 to 116).

The number of analyses per day is remarkably low: only one. It is reported that only 10% of essential drugs are analyzed. There are long delays in completing the analyses and it may take as long as four months to issue the report.

Inspection to identify the more obvious deficiencies in drug product quality has been the most contributory activity in drug quality assurance. Seventy-six percent of rejections were due to problems detected by inspection alone. Overall, 5% of drug products received during the past 18 months were rejected. This low figure is due to the large amount of drugs procured through GSA. These drugs must comply with FDA drug product quality standards. Thus, most of the substandard drug products are those procured locally.

Difficulties in timely supply of reagents, standards and other supplies have been significant constraints to productivity. Staffing difficulties are also adversely affecting the functioning of the Drug Quality Control Laboratory. The head of the lab has just recently resigned. Part-time help has been available by using pharmacy graduates fulfilling required social service practice (nine for a three-month period). Project funds pay most of the technical staff.

Given budgetary constraints affecting staffing and the timely supply of reagents, standards and other supplies, improved effectiveness and efficiency may be obtained if the drug quality assurance activities are targeted mainly at those drug products manufactured outside the United States. Accordingly, the drug quality assurance program should reassess the scope of analytical work and establish a less ambitious program of analyses (types of tests undertaken). A study of the quality of drug products available on the local market may provide the needed technical and public health justification or identification of potential users of this service in El Salvador, as a means to attain sustainability.

8. Drug Management Information System.

A daily register of drug consumption has been implemented at the health Posts and health Units. The daily registers are aggregated and reported to the UTMIM for processing. At the regional offices, project established microcenters capture this data. However, until recently three of the regions (Eastern, Western and Paracentral) sent the reports to the UTMIM for processing. Because of heavy workload and difficulties in obtaining and maintaining qualified staff, there are delays in processing the monthly reports at the regional level microcomputer centers.

A pharmaceutical management information system has been installed at the central level, which contains the following

elements: aggregate monthly consumption, stock levels, distribution (per establishment per month). This is available at the UTMIM and the Computer Information Department.

Further work involves establishing reorder levels, automatic preparation of requisitions, tracking of deliveries and reporting of monetary value of the requisitions. The microcomputers needed to establish three additional work stations at the Procurement Department and for the regional microcenters have just recently arrived.

During 1991, parts of the pharmaceutical information management subsystem, particularly those related to inventory and consumption data, will be fully implemented in the regions.

B. Equipment and Facilities Management

1. Biomedical equipment

Biomedical equipment has been purchased and distributed. Monitoring of the distribution of 304 clinical laboratory equipment reveals that 82% were distributed to health Units and Centers and 18% to hospitals. Much of the equipment originally assigned to health Centers and Units was reassigned to other health Units and Centers. Most of the equipment distributed to hospitals was reassigned from health Units because of greater need for some of the equipment in hospitals than at peripheral levels. In other instances the original establishment had been equipped in the period between procurement and arrival of the particular equipment.

An inventory of biomedical equipment in health Posts and Units was completed after much delay. It is being validated. Results of the survey in hospitals and health Centers are not yet available. However, this is being done in collaboration with German Technical Assistance. Apparently, there is greater affinity between the MOH biomedical department officials and the German Technical Assistance advisors. The Dutch, who are also providing assistance in this area, have also met with problems in this area.

No system of preventive maintenance has yet been developed. However, 339 basic and biomedical equipment were repaired and roentgenographic equipment and 13 OHMEDA vaporizers received preventive maintenance through AID financed service contracts with the private sector.

Maintenance technicians (255) received training in basic and specialized areas, such as basic electricity, mechanics, electronics, refrigeration, motor control and protection, X-ray equipment, emergency power plants, welding, BPR ventilators,

water treatment, and dental equipment.

Thirty technical manuals were translated from English to Spanish to overcome language constraints to equipment maintenance and repair.

This is an area of apparent limited receptiveness to technical assistance offered thus far. Most of the accomplishments have been in the acquisition of new equipment. There is no evidence of progress in system development through this project.

2. Water supply and drainage system

The water supply and drainage system in health Posts and Units of the five health regions was surveyed. No significant achievements occurred in developing a preventive maintenance program for water pumps, cisterns and tanks. These activities are scheduled for 1990.

Training of regional maintenance personnel and health inspectors in health Posts and Units has been scheduled for this year.

3. Vehicle Inventory and Fleet Management

This area has made effective use of carefully planned short term technical assistance. Technical assistance is scheduled for intermittent three-month periods. Continuity in advisor, albeit on short term assignments, is an important factor for success.

Acquisition and arrival of 224 vehicles and 114 motorcycles have considerably improved the fleet. For the first time in MOH history, 103 old vehicles were sold at auction and removed from the GOES rolls. A second sale of 60 to 80 old vehicles is in process.

The proportion of down vehicles has not been significantly modified, partly due to the need to eliminate more old vehicles from the inventory. The performance of vehicles has steadily improved. Total annual use of transport provided by the MOH increased from less than 6 million km to more than 8 million. There also has been improvement in reducing Unit costs from Colones 0.49/km in 1987 to Colones 0.41/km in 1989.

Preventive maintenance schedules have been prepared for the new vehicles. Based on a review of maintenance records, a compliance rate of approximately 92% has been achieved in preventive maintenance country wide.

Expected additions (Spanish translations of technical and administrative reference works) to the small library at the

Central Maintenance Department have not yet been received.

Motorists have received training in road safety and interpersonal relations. Some of the clerical staff have received basic instruction in MS DOS, Lotus and WordPerfect software.

The radio network involving health Centers, hospitals, regional offices and central level facilities has been reinstalled. Financial support for this network came from AID's Office of Disaster Assistance. However, without adequate support for repairs and maintenance the system may soon break down.

There is need to increase administrative staff in the transportation department, particularly an assistant transport engineer. Difficulties in obtaining spare parts is also a significant constraint.

4. Facilities construction

Remodeling of the Matazano warehouse to improve ventilation and optimize use of available space and the construction of facilities for a diesel laboratory are underway.

The inauguration of a cafeteria in the Matazano complex improved conditions for personnel, particularly those in the vehicle repair and maintenance department.

C. Improving Basic Health Services Delivery

1. Health Education

a. Description

The Health Education Unit is part of the Directorate of Technical Normative/Operative Services, the heart of the health services delivery system of the MOH. Together with the Epidemiology, Laboratory and Nursing Units, it provides support to the Directorate's two divisions in charge of public health services directed toward the environment and the individual.

The Unit currently has 50 professionals on staff, with 8 health educators at the central level and the rest divided among the five regional offices of the MOH. Different members of the staff are specialists in the production of various types of print and broadcast materials. One central-level health educator and others at the regional level are research specialists. The technical content of health education materials is developed in consultation with physicians in each specialty covered.

b. Project Activities

Health education is a key technical support service within the MOH. The initial project design included technical assistance for health education, as well as support for developing and producing materials.

APSISA assistance has concentrated on providing audio-visual equipment and producing and financing the dissemination of mass media educational materials, as well as supporting research on materials development and dissemination. The Project currently provides about 60% of the Health Education Unit's resources. The MOH covers salaries and some supplies, while UNICEF and PAHO cover training costs and the production of some educational materials.

The usual practice has been to contract production of broadcast materials, although Unit staff collaborate in design and development, since the Unit now lacks the necessary production equipment. Similarly, printing of most color materials is contracted out since the MOH print shop currently lacks adequate color printing capability. Most research studies are contracted, although some small studies are conducted at the Regional level using the Unit's regular funds.

In general terms, planned activities have been completed, although with some delays.

Equipment either already acquired or on order includes electric generators, an air compressor, cassette recorders, movie, slide and overhead projectors, televisions and videorecorders, cameras and megaphones. In 1990, as noted, the Unit will obtain specialized equipment for audio and video production with APSISA funds, so it can produce its own materials.

To date, the Unit has produced and transmitted with APSISA support 27 radio messages, broadcast in three campaigns in 1988, 1989 and 1990; and 9 TV spots, shown in 1989 and 1990. In 1990, radio messages were broadcast a total of 52,650 times; TV spots ran 1,344 times. These messages have covered immunization, breastfeeding, nutrition, child growth and development, diarrhea and oral rehydration therapy (ORT), sanitation, acute respiratory infections (ARI) and the role and activities of health promoters.

Of the budget for broadcast materials, about 65% goes for radio spots and 35% for TV, transmitted primarily in urban areas. Radio campaigns usually last for 3 to 6 months, with a different message broadcast each month, 15 times a day. The Project pays half the cost; the radio station donates an equivalent amount of spots. TV campaigns operate in a similar fashion. Broadcasters are selected on the basis of audience studies conducted by the

Unit or contracted out.

The Unit designed four ten-minute training videos on child survival topics (ARI, breastfeeding, growth and development, diarrhea/ORT) and a slide/audio (sonoviso) which were contracted out with APSISA funds.

Printed materials on intestinal parasites, hygiene, breastfeeding, diarrhea and ORT, immunizations and child survival have also been produced. The unit prepared and promoted five pamphlets, in editions between 25,000 and 50,000 each (200,000 copies of the pamphlet on parasites). Four large poster-books have been produced, in editions of 1,500 each.

APSISA has also supported research studies to support development of appropriate health education materials. These have included a health knowledge/attitude/practice (KAP) and audience survey to determine media use and an ethnographic study on ARI to investigate community beliefs and language used to describe problems. In early 1990 a small study in the Western Region assessed the appropriateness and utility of health education materials. As a result, some materials are being redesigned. Another study is currently underway on the impact of the mass media campaigns for 1990, which will form the basis for the materials to be produced this year. A study of the use in schools of the audio-visual materials on child survival is underway, which will serve as a basis for expanding health education in the schools.

The major discrepancies between planned and actual activities involved a training course and production workshop, both planned for 1988. The training program was not held because of internal MOH accounting constraints leading to a subsequent suspension of training activities. Training is now being carried out with UNICEF support. UNICEF also supported a workshop on materials production, so the workshop originally planned using APSISA funds was not required.

c. Impact of APSISA Assistance to Health Education

As noted, APSISA provides a very large share of the Unit's resources. Without the support it offers, the health education staff would lack equipment with which to work and funds for the production of materials. The Director says her staff is well trained and qualified, and by the end of the Project the Unit should have all the necessary equipment with which to carry out its work. However, she said that the regular MOH budget could not cover costs for developing new print and broadcast materials.

The equipment provided by APSISA has increased health education outreach, not only through the MOH, but organizations and schools. Slide and overhead projectors are with in use by the

Central and Regional health educators and others. Equipment acquired by the Unit combines other resources. For example, once the Regions have the VCRs the program is awaiting (acquired through the Reproductive Health project), health establishments will run educational videos produced with APSISA assistance in their waiting rooms.

The planned acquisition of production equipment may reduce costs, but recurrent cost implications should be analyzed and decisions made based on the actual cost-benefit of production by the Unit compared with contracting the work out.

APSISA funds have supported most of the broadcast and print materials developed by the Health Education Unit since 1987. In addition to the broadcast campaigns, printed materials have been distributed to the health establishments and, to a lesser extent, to the health promoters. Each establishment receives and uses two or three poster sets, which are also lent to the promoters when they need them. The establishments receive pamphlets and are supposed to loan them to the promoters. However, resources are currently inadequate to give each promoter a poster set or adequate supply of pamphlets.

The training videos will be available for outreach programs by health establishments, promoters, schools or other community organizations upon receipt of the VCRs.

Research assistance has clearly been important in assuring relevance and usefulness of health education materials.

d. Issues

Some issues are raised by the types of materials currently under production. The production of educational materials should be planned in close coordination with primary health priorities and with the end users, the CHP promoters and health establishment staff, based on adequate research and field-testing. The Unit's efforts in this direction should be reinforced.

A major shortcoming is the lack of pictorial printed materials appropriate for illiterates, who form a large part of the rural population, especially among women. The Unit has one person at the Central level with some training in this area and is planning to develop some materials with UNICEF funding. If necessary, APSISA may need to complement this effort. Another problem is the large and cumbersome size of posters, difficult for use by the health promoters, who must walk to their communities. A more manageable format would assure that promoters have better access to these materials, as well as a better supply of all types of educational materials.

The Health Education Unit should develop a training module to teach health promoters to develop simple educational materials using local resources, as a supplement to scarce centrally produced materials and as a way to introduce greater creativity and participation into their health education activities.

APSISA assistance has clearly benefitted the Health Education Unit, which otherwise would be able to do very little because of the lack of equipment and resources. By the end of the Project the equipment provided will permit the program to continue its activities, but the availability of adequate resources to cover operating costs, replacement parts and production of new materials is very much in doubt without continued external assistance.

2. Treatment Norms and Training for Health Service Providers

2.a. Emergency Medical Training

This training element was present in the VISISA project and carried over to APSISA. The original idea was to improve trauma procedures, conflict related injuries, etc. In 1985 a survey showed that trauma incidence was high and frequently related to home accidents rather than injuries due to civil unrest. The Project included an objective to provide emergency medical training for 26 managers.

The first aspect of this objectives is that it took months to find who was responsible for this area in the MOH. Even to date that person has not been designated.

In order to lend support for training in the area of emergency medical services management, and to upgrade in-service training programs for personnel working in emergency medical facilities, APSISA conducted a through management and training needs assessments with help of personnel from the Regional Offices looking at existing training, individual needs for training, administrative capabilities, etc.

The study found that there is an erroneous concept of trauma cases and that what was most needed is knowledge and skills to run an emergency room, as well as how to care for emergency cases. Factors stemming from the working environment and the socio-political context have a negative impact on health worker performance as well as attitudes and interpersonal relations.

Having identified requirements, it was important to determine where training could be held. Training will begin in August, 1990 with two MOH physicians going to the University of Puerto Rico.

2.b. Training in General

The original plan called for the T.A. to work closely with the Ministry of Health's Training School and with persons who have training responsibilities at the central and regional levels. The scope of work of this TA person was well-conceived, but met with major problems because of lack of adequate response from the MOH (for example, the Formation and Training of Human Resources Department had six Section Chiefs in two years).

Four areas could have received attention: administration, the health training school, the nursing school (for auxiliary nurses), and continuing education. Four activities were undertaken: restructuring of the Department of Formation and Training of Human Resources, analysis of the nursing curriculum, evaluation of the results of the nursing curriculum, and TA in training for the training school.

The training school has the function of conducting logistics for training: obtaining hotels or other meeting areas, arranging materials, passing out evaluation forms, etc. It has no real program nor control over types or numbers of courses, which are generated through other departments which also finance the courses. The Training School doesn't have the capacity to conduct training activities.

An excellent study was done of the quality of attention given in basic nursing to improve the services and to guide the revision of the curriculum for auxiliary nurses. The study came to the conclusion that service is unacceptable more than half the time. Steps suggested to remediate this problem include: reorienting the services provided, revising and evaluating in-service education of nurses, improving supervision, and beginning periodic research in the field of nursing.

The MOH is not taking advantage of the TA and other help being offered here, notwithstanding how important human resource development is in the Ministry. The Human Resource Department should be reorganized, in terms of function and purposes but those are not clearly stated at this time. Technical assistance has attempted to provide help in this area, but with little success to date.

3. Outreach Services: Community Health and Malaria

a. Community Health Program

1) Description

The Community Health Program (CHP) has been developed to extend service coverage to rural and periurban areas. It focuses

on health promotion and education, preventive health and minor curative care provided by Health Promoters (paid staff of the MOH).

The Community Health Department was created by the MOH in January 1989 from three separate rural outreach programs, all of which had paid community health workers. The oldest of these, the Rural Health Aide (Ayudante Rural de Salud or ARS) program, began in 1976 with AID support. In 1986, a new rural health initiative, PROSAR (Programa de Salud Rural) began in the Eastern Region with German funding. Its workers were known as Community Health Aides (Ayudantes Comunitarios de Salud or ACS). Project HOPE, the third program, existed in 60 marginal urban communities. When German funding for the ACS project ended in 1987, the MOH requested APSISA support for it. An evaluative study of the ARS and ACS programs was a precondition of AID. A primary recommendation of this study was consideration of these programs which led to the creation of the CHP. Since the HOPE project was ending the consolidated program incorporated its promoters at the same time.

The program now has 579 promoters working in all five regions, covering an estimated 800,000 people and about one-third of El Salvador's cantones. Sixty-four specific supervisors, 5 regional supervisors, a part-time coordinating team of 5 drawn from regional office staff (plus the full-time regional supervisor) in each of the 5 regions and a small central staff of 7 persons support the promoters. The program is also in the process of developing a system of volunteer collaborators selected and trained by the promoters to assist with specific tasks, with a target number of three per promoter.

2) Project Activities

APSISA assistance to the CHP has been mainly through PL480 counterpart funds. Initially, assistance to the health promoter program was principally through the training, logistics, research and information system components described in other sections of this report. These activities strengthened the entire health services delivery system, including primary health care establishments--Centers, Units and Posts--as well as the promoter programs. After the creation of the CHP, APSISA assistance became more integrated and programmatic, incorporating specific technical assistance to help develop a coherent set of norms and systems to effectively unify and strengthen the consolidated program.

In addition to technical assistance and support for training, research and development of basic systems, APSISA covers salaries of a portion of the promoters with PL480 funds while they are gradually being absorbed by the MOH, at a rate of 70 per year. APSISA currently funds 219 of the 579 promoters.

The Project has also provided motorcycles for a portion of the supervisors.

Annual goals have become much more specific and activities, as reflected in annual APSISA plans and internal evaluation reports, have increased significantly as the CHP has developed.

In 1988 program activities mentioned in the annual report included training for 220 promoters, acquisition of 17 motorcycles, and health diagnoses in 200 communities (for which information was collected but not analyzed within that year). In addition, promoters participated, along with the health establishments, in fully meeting APSISA goals for distribution of ORS packets and immunizations. ARS promoters goals were largely met and many activities substantially surpassed. Therefore, the precipitous drop in consultation figures for ARS noted in an appendix table appears to be due to a statistical abnormality or variation in the type of information collected, rather than an actual drop in activities.

In addition, the research study on organization and efficiency of the ARS and ACS promoter programs was conducted.

In 1989, plans called for the completion of health diagnoses in all covered communities and development of an information system for the CHP. These activities are underway and the goals partially accomplished. A key research study was conducted on the knowledge and skills of promoters. Promoters made 516,755 home visits during 1989 (96% of the number planned) and provided 274,881 curative interventions (63% of the goal). Except for immunization and birth control pill distribution, goals were met or exceeded. Activities in 1989 slowed considerably while the MOH deliberated a reorganization plan. After discarding this idea, the pace of program activities increased rapidly.

In 1990, a two-week training course for all supervisors was held. Intensive refresher training courses for all promoters and supervisors have been held in each region, based on the 1989 research study on knowledge and practice. Drafts of manuals on organization/procedures and supervision/evaluation for the program have been completed. New manuals for promoters and volunteer collaborators are in preparation which will define their functions and treatment norms, as are job descriptions for all personnel. Operational research to develop an improved information system for the CHP is in process. Work is also proceeding to improve the supply system to promoters. An ethnographic study on community health is planned for later this year. For the first half of 1990, goals for home visits have been fully met (265,601 visits made), while the goal for curative care has lagged (58%). Other specific goals for educational activities, distribution of ORS and condoms, immunizations and latrine installations have been largely met or

exceeded.

The only areas in which promoters' achievement for the first half of 1990 is low in relation to goals is in referrals (68%), curative care and distribution of birth control pills (43%). The explanation for failure to meet curative care goals is probably largely due to a lack of medicines. Referrals are still problematic; promoters interviewed complained that their referrals are not always respected and that people they refer often have to wait too long, which affects their willingness to refer people. There is some evidence that this problem is diminishing as the promoters become more firmly integrated into the health establishment system. Contraceptive distribution is another problem area due to religious or other objections by clients, and sometimes promoters as well. The program is trying to develop a new strategy to increase acceptance of family planning.

3) Impact of APSISA Assistance on the CHP

The strongest impact of APSISA assistance is the consolidation of the program, recommended in the above-mentioned research study, together with the strong support APSISA has provided for its development. APSISA, through the PL480 counterpart funding, is currently providing the principal support for the program, aside from salaries covered by the MOH. As noted, APSISA funds are also covering some promoter salaries pending their absorption by the MOH.

The creation of the of Community Health Department has been very important in giving the program its own identity and solidifying support for it. Previously, the ARS program had been successively under three different MOH offices, while the ACS program was under still another.

The technical assistance the CHP has received has been very important in helping the program gradually begin to develop unified and coherent norms and systems, including job descriptions, manuals, training programs, information and evaluation systems and greater planning capabilities.

The CHP has now developed two annual plans (1989 and 1990) and is beginning to develop and strengthen local programming, to allow for input from both the promoters and supervisors and health establishment staff, particularly in evaluating performance and determining priorities. This effort is still incipient, however, although there are considerable regional variations. Goals are still set largely at the regional level, with no direct input from promoters.

Research has been used very effectively to identify problem areas and training needs, and to help develop a more effective information system to facilitate planning and management.

Support for training has been especially important. This year all the program's supervisors received the first course ever offered specifically on supervisory functions. Similarly, the first extensive in-service training for promoters and supervisors was held, to remedy deficiencies identified by research and provide personnel from the three different programs with a unified concept of their roles and functions. This course also includes a component for supervised field practice to improve skills, and thus the quality of service. In addition, several short training/orientation sessions have been held in the regions on specific topics, including bringing together CHP and health establishment staff to further their integration and to help eliminate referral problems.

The motorcycles provided have also been important in improving supervision. The specific supervisors who have motorcycles can now visit the 10 or 12 promoters they supervise more frequently and spend more time working with them.

The figures on goal fulfillment for home visits and specific activities detailed in the preceding section indicate that planned outreach is indeed occurring. Immunization coverage for 1990, for example, is complete in the CHP communities. There are problem areas. Improvements in the logistics and information systems should help resolve problems related to lack of medicines and supplies.

There is also considerable anecdotal evidence from the promoters and supervisors interviewed, as well as some health Unit staff, on the impact the promoters have had on their communities. For example, one promoter reported that when he began work, only 10% of families in his community had latrines, while now they all do. Increased use of chlorine to purify water was also mentioned. Promoters and others also mentioned that they were instrumental in promoting other types of community improvements, such as water systems and road improvements, through community participation. We visited one gravity-flow water system constructed entirely by the community and the health promoter, with no outside help.

The health committees, mothers' and youth clubs which promoters have organized further to provide evidence of community participation and support for health improvements. These volunteer groups often assist with vaccination campaigns and other tasks. The program is now trying to systematize this volunteer support. Based on the results of a meeting planned for July, 1990 to bring together promoters and volunteers from various programs to discuss appropriate volunteer roles, a training program and manual will be prepared to help promoters select and train volunteers and thus further extend CHP outreach and effectiveness.

4) Issues and Conclusions

The principal problems mentioned by the promoters interviewed as obstacles in their work were the lack of adequate and timely supply of medicines and supplies; inadequate attention to their referrals by the health establishments; and conflicting demands on their time and unrealistic goals. These problems are micro-level reflections of several larger issues which face the CHP as it continues to develop.

In the Community Health Program, the most basic issue is the existence of high level policy support within the MOH. While the program clearly enjoys such support now, the history of turnover and changes in policy direction among key MOH officials is alarming. Thus it is important to consolidate the program as swiftly as possible while such support exists and while the program has an excellent and energetic director.

The need to strengthen decentralized local planning and programming is also evident, to identify and meet real community needs, secure the supplies dictated by these needs and formulate realistic goals for promoter activities with their full participation. To do this, an effective information system which emphasizes both quantity and quality of services provided and problems encountered is essential, as well as a more effective logistics system.

Related to this is the issue of integration of the CHP with the system of primary health care establishments. This process has begun by assigning promoters to establishments and giving the establishments a role in overseeing promoter activities, supplying them and providing some informal in-service training on the day each month promoters serve in their assigned health establishment. However, this integration requires strengthening a continuous program of training for both the promoters and the health establishment staff. The annual turnover of doctors and nurses doing their year of social service, and the limitations on the time and capabilities of auxiliary nurses to assume a larger role in working with promoters are key factors .

Finally, the issue of how to strengthen the program and extend it is key. One way to strengthen the CHP is to tie it in with other projects which can make use of the promoters' presence in the community. This is now being done with the water/sanitation project AID is funding through ANDA, which uses the CHP to promote water and latrine construction and in turn contributes to his/her development and credibility. It may also be possible for the promoters to take on greater responsibility for family planning activities, but in order for them to be effective, given the problems they have already encountered in this area, new strategies will have to be developed and tested and adequate supplies assured. Extension of the program is

contingent on both the program's own consolidation and ability to support an increased number of promoters and supervisors and the MOH's ability to absorb increased costs of salaries and supplies.

In conclusion, the CHP has made real progress in the short time since its consolidation. It is headed in the right direction, but still needs considerable technical and financial support to enable it to consolidate fully. Only then will it be organizationally prepared to expand its coverage, if resources are available to support expansion.

b. Malaria Program

1) Description

An organized malaria program has existed in El Salvador since the 1950's, when the World Health Organization began promoting malaria eradication campaigns. Since 1980 the malaria program has adopted a strategy of integrated control based on the epidemiological stratification of the problem, since El Salvador's geographic and climatological conditions and cross-border transmission from neighboring countries make malaria a permanent risk factor--90% of El Salvador's territory is apt for malaria transmission, and 90% of its population is always at some level of risk.

The program is vertically organized as a department within the environmental health division under the Directorate of Technical Normative/Operative Services of the MOH. However, administrative duties of the program depend directly on MOH's central administration. The department currently has about 500 employees, including central staff, regional managers and supervisors, sprayers, microscopists and epidemiological auxiliaries, who support the network of 2,700 volunteer collaborators (VCs). Most of the paid workers carry out multiple functions. The department has had the same number of personnel for several years due to MOH budget restrictions. However, it has achieved a degree of efficiency that has enabled it to continue to lower malaria incidence in spite of these limitations, assisted by the resources and Technical Assistance it has received through AID.

2) Project Activities

APSISA has continued support for the malaria program begun under the VISISA Project, its immediate predecessor. Like VISISA, APSISA is providing technical assistance, insecticides, vehicles, motorcycles, microscopes and other equipment. The GOES is now providing antimalarial drugs. Another improvement under APSISA is the use of counterpart PL480 funds for construction of major drainage projects, in addition to small breeding site reduction projects carried out with community labor to turn the

program in the near future less dependent on insecticide usage.

Training has been carried out in coordination with the regional AID/PAHO vector biology project, together with direct course development and training by the long-term technical advisor. The AID/PAHO project has also supported research for the program. In 1989 training was provided for 308 persons: 92 sprayers learned safe methods of using insecticides; 34 microscope operators and 37 laboratory persons learned correct methods, and 145 doctors, nurses and regional personnel learned about methods for controlling malaria. In 1990, 92 more sprayers, 120 epidemiology helpers and 25 entomology helpers received training.

The focus of APSISA assistance is on making the program more efficient and effective and lowering costs for imported inputs through careful use of combined control measures within stratified areas of priority based upon epidemiological information and source reduction, to make it more feasible for the GOES to eventually sustain the program.

The malaria program has been APSISA's greatest success in terms of meeting planned goals and achieving substantive impact, though it too has had problems due to lack of timely supplies and increased labor problems because of government salary levels.

APSISA annual reports indicate that in 1987 the malaria program met or exceeded the stated goals for that year and achieved a reduction in malaria incidence of 46% over the 1986 level.

In spite of some delay in receiving supplies, 1988 goals for spraying, larvacide application, blood smears and treatment were satisfactorily met. APSISA also provided thirty-three motorcycles to the epidemiological auxiliaries in 1988 to help improve assistance for the VC's network. Supported project training for microscopists, epidemiological auxiliaries and CVs was conducted with the support of the regional project. In addition, 75% of the work on the large Ticuiziapa drainage project was completed and contracting development of the plans for two similar projects began.

More problems were encountered in 1989 due to delays in receiving the necessary insecticide, reducing goal compliance for the third quarter to levels between 15 and 60%. Treatment was also reduced by about half during this period because of lack of timely delivery of drugs. During this period, technical assistance helped follow up on development of a computerized information system for the program, and development of the final plans for the two large drainage projects proceeded.

During the first quarter of 1990, goals for spraying and

larvicide were satisfactorily met, considering that the period of major incidence falls between June and November. For the first time in the life of the project, all insecticides needed to cover activities planned during the year, were in place by February. In addition, 9 small drainage projects were built with community participation and 54 previously constructed projects were maintained. Blood smears and treatment proceeded in accordance with demand. The information system design was completed and tested, but additional equipment, personnel and training will be necessary to put it into effect. After considerable delay caused by a contracting problem, involving the Ticuiziapa drainage project this was resolved and final plans for the additional large drainage projects are now being finalized preparatory to bidding the construction contract later this year.

3) Impact of APSISA Assistance

The basic design and strategy of the malaria program predates APSISA assistance and, indeed, the VISISA project as well. However, the assistance provided has been crucial in the implementation of that strategy as well as for the program's effectiveness in reducing malaria incidence, which has been declining since the crisis of 1980, and by 1989 had decreased 90% compared with the 1980 level (see Figure 1). This phenomenon has also been responsible for reducing the annual parasitic incidence (API) from 20 to 1.8 per 1000 inhabitants during the same period. But, perhaps the most striking achievement is that seen for the P. falciparum cases, considered to be the most dangerous of all malaria species. Among the rest of Central America, El Salvador has traditionally been the country with the highest number of annual cases, with 16,000 reported during 1980. There were only 40 cases in 1989! This is a 99% reduction. As a direct consequence, malaria, which had occupied the fourth place in the ten leading communicable diseases, fell to seventh place in 1989.

This accomplishment is the result of the epidemiological stratification strategy, decentralized diagnosis and more timely treatment of cases and control actions. While APSISA can hardly claim all the credit, its assistance has helped the program refine and employ these strategies effectively in several ways, briefly noted below.

- o Supplies - The insecticides provided through APSISA have kept the program going and contributed to the notable reduction in malaria incidence. Improvements in the logistics system have also helped, although there are still some problems with drugs, supplied by the MOH. A large part of this problem is due to the local manufacturer's problem in securing raw materials and filling orders.

Malaria, El Salvador, evolution since 1980

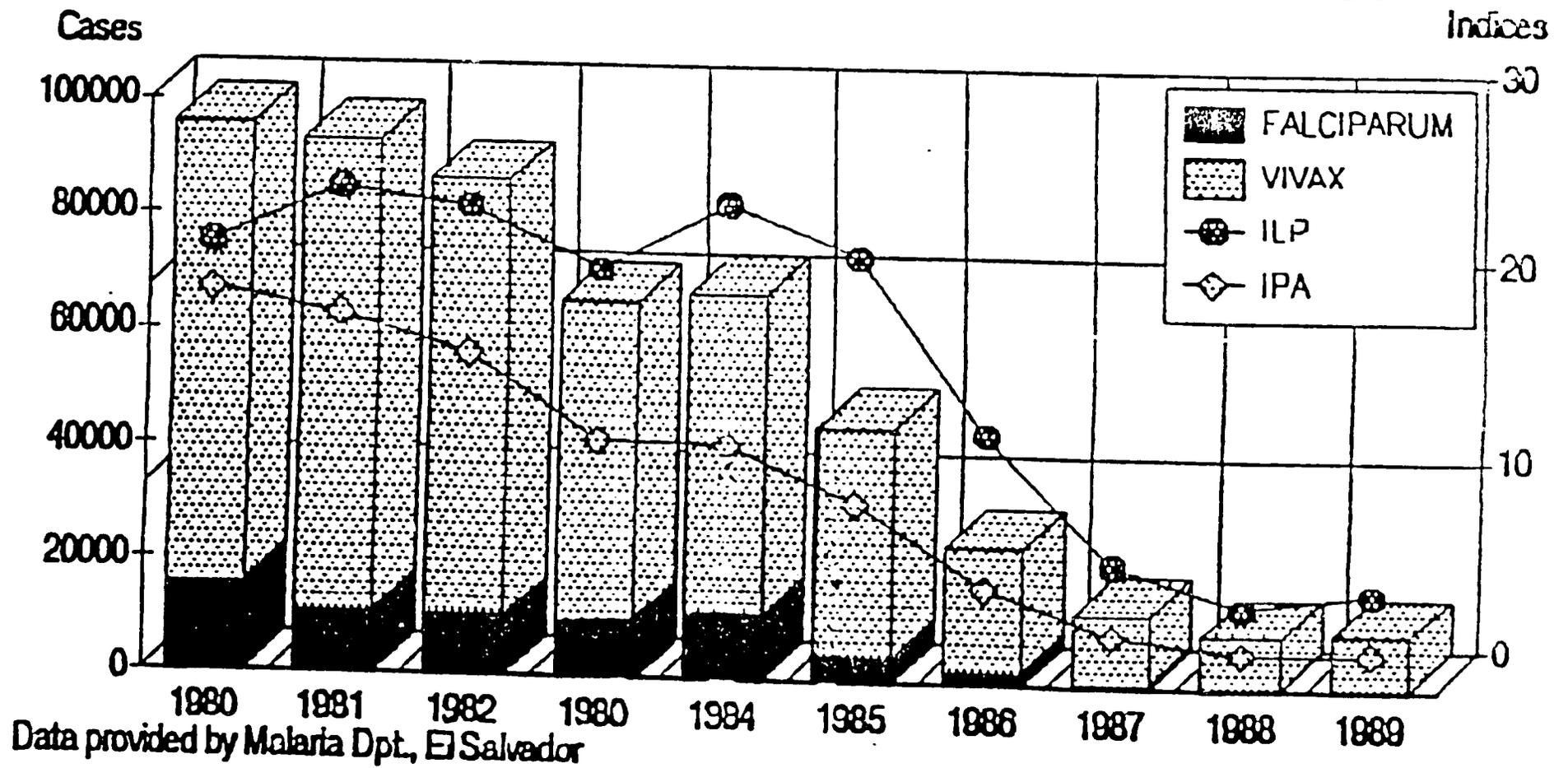


FIGURE No. 1

- o Equipment - The availability of vehicles, motorcycles and microscopes for multiple laboratories has facilitated decentralized diagnosis and decision-making and has significantly reduced the time lapsed between taking a blood smear, making a positive diagnosis and beginning treatment--from a month or more to an average 8 days.
- o Planning - Technical assistance and training have helped refine and rationalize the system and develop the ability to use information from the VCs and, to a much lesser extent, the health establishments, for planning supply requisitions, spraying schedules and other interventions. This has resulted in a decrease in use of both insecticides and drugs, now rationally used based on the real epidemiological situation. Improvements in the information system have also led to better evaluative statistics, case control and more effective follow-up. Finally, the experience with large drainage projects has developed the capacity to plan, contract and oversee such projects.

In short, APSISA assistance has gone beyond simply meeting input needs and has provided integrated support to strengthen the overall program.

4) Issues and Conclusions

The largest issue facing the malaria program is its pending integration with the regional health services delivery system. While the international trend is away from vertical and toward integrated programs, it must be carefully planned so as not to endanger the program's effectiveness and preserve its bottom-up information flow from the all-important VC's network.

Integration will also require a strong training component to prepare regional health services personnel to manage malaria control activities, to train medical and laboratory staff in malaria procedures and to prepare existing program staff to adjust to an integrated program.

Finally, the issue of securing and financing adequate, timely supplies particularly drugs has not yet been resolved. Although the level of use may decline further, there will always be a certain level of demand for drugs and insecticides given El Salvador's location and conditions.

The immediate surge in incidence as a result of interruption of antimalarial activities in November 1989 due to the FLMN offensive is a clear illustration of the need for constant vigilance and control. Until the MOH is better able to take on the burden of these activities, or other donors come on line, it

is important that support to this essential program continue in order to maintain its gains.

D. Strengthening Policy and Program Planning and Management

1. Management Information System

a. Information Requirements and Sub-systems.

The Information Unit and the Statistics Unit of the MCH's Planning Department have long shared primary responsibilities for the Ministry's information system.

There are two basic types of information subsystems within the MOH. Health and medical care service-related sub-systems include:

- o Maternal-Child Health program,
- o epidemiological surveillance program (the focus of which is the monitoring of infectious diseases)
- o epidemiology unit (concerned more generally with morbidity conditions)
- o the vaccination program
- o the Community Health program (including midwives and health promoters)
- o dental services program
- o medical care utilization statistics (including consultations by type of provider and facility type, laboratory examination and type, and hospitalization)
- o the nutrition program, and
- o environmental sanitation activities.

Administration-related sub-systems include:

- o Pharmaceutical supply management
- o Vehicle Tracking & Maintenance
- o Bio-medical equipment inventory
- o Vaccination Coverage
- o Personnel
- o Financial accounting system
- o Local procurement

The MOH now has the responsibility for several of these systems, including the epidemiological surveillance program, the epidemiology unit, the Community Health program, the medical care utilization statistics, the pharmaceutical supply management, vehicle tracking & maintenance, financial accounting system, and local procurement programs.

This section will focus primarily on the health and medical care services-related systems, and particularly the Statistics Unit and the Information Unit. Transforming all of these systems into electronic databases has been a monumental challenge. Although there has been considerable progress to date, there is still a long way to go. Many activities have taken longer than originally planned because the process of developing an electronic information system involves many sequential steps. There have been delays in achieving some goals and generating some outputs. The most difficult and time-consuming of these tasks are now largely completed. The established groundwork is sound, and the consensus and team-building aspects of the work with MOH counterparts, crucial to ensuring technology transfer and sustainability, as well as the eventual utilization of the systems once they are implemented, was done circumspectly. Most of the remaining steps to operationalize and finetune the systems will proceed at an accelerated pace. This is an important consideration and justification for extending the project. To date, 17 of the 20 microcenters are operational at various levels of their intended eventual functional level. (Portions of the Procurement Department's system have become operational this year.)

b. Inventorying MOH Information Systems and Requirements.

The first steps which the Project took in the MIS area were to inventory the number of different systems, describe the purpose of each, identify reporting forms, document the flow of information, and the use of the information, including any reports regularly prepared or published using the data. In its initial review of the different existing systems, APSISA identified 342 different reporting forms in use in the MOH. The number and types of forms developed over time had evolved and changed in response to changing internal policies, changing donor interests and needs, and new donor initiatives. The purpose for maintaining this information was strictly for accountability purposes (though only at the most global, national, political level). Only a modicum of managerial decision making was based on the data.

c. The Information Unit's Evolution: The Visisa Legacy

Development of the MOH's health and medical care information system started under the VISISA Project. The system's development suffered serious delays under that effort, in large part because of the conflictive technical assistance advice received concerning the preferred hardware configuration for such a system. Visisa Advisors suggested both a mainframe-based system and a PC network. The Information Unit began to develop along mainframe lines, which came to constitute background problems requiring adjustment by APSISA advisors.

In addition, the Information Unit had to alter its fundamental role. The Unit now embraces the microcenter/PC network approach. Among the first products developed by the Unit, with the assistance of APSISA, are manuals to document administrative and operations norms for the microcenters. Another important accomplishment has been the signing of a computer maintenance agreement with two private sector firms.

The Information Unit has responsibility for providing primary support and backup to the all of the MOH's 17 microcenters. Key among these responsibilities is the design and programming of subprograms for the microcenters, the training of new microcenter computer personnel, the provision of supplies (primarily diskettes and computer paper), routine maintenance, assistance in disk management and general evaluation and troubleshooting, as needed. To date, the Unit has not established a regular schedule of visits to Centers to identify problem areas, training needs and to undertake a general evaluation. The Unit should develop a backup and provide service for the microcenters, to accelerate the processes of institutionalization. Such developments are crucial for ensuring the long term sustainability of the microcenters beyond the APSISA Project's completion date.

The Information Unit's training consists of a two week course in the fundamentals of MS-DOS, WordPerfect, and Lotus 1-2-3. Additional courses would be useful. Staff persons of microcenters teach one another, an exchange which often is the most important source for learning how to become proficient in their computer-related tasks. A training needs survey should be conducted. The Information Unit could begin to coordinate training with the Evaluation and Research Unit, to encourage learning the tools of conducting quantitative research.

APSISA has had significant success in promoting the coordination of research activities with other donor agencies (including PAHO, UNICEF, and INCAP) as well as with several Salvadoran Universities. Research studies have been numerous, practical, well designed, well implemented and well publicized. This area has been one of the greatest strengths of the Project, and these efforts should continue and be expanded. The dissemination of research methods is closely akin to the that of applied health planning techniques and modern managerial methods, and both of these are important technical areas which need strengthening within the Ministry.

d. Reducing Redundant Information Flows and Improving Data Quality.

Traditionally, all of the health establishments (including the autonomous hospitals) send service provision statistics once a month to the Regional Office and to the Statistics Unit of the

Central Office, using two standardized forms. One form is for Health Posts and Units. A second is for Centers and hospitals. In addition, each establishment traditionally sends a quarterly report to the Regional Office and to the Statistics Unit. It has been years since the Statistics Unit actually made use of these monthly reports; it has relied exclusively on the quarterly reports.

The APSISA information system diagnosis and needs assessment identified this activity as a waste of resources. It encouraged the Ministry to reform the facility reporting system. Since February 1990, the health establishments have continued to send monthly reports to the Regional Offices, but now send only quarterly reports to the Statistics Unit. This has resulted in considerable savings in staff time and office supplies. The Statistics Unit receives 4,080 fewer Activity Reports (roughly 50,000 fewer pages of data) annually. Several Statistics Unit staff persons are now coding diagnosis information into ICD-9 categories, a new activity for the Unit.

The Statistics Unit now aggregates the data it receives from the establishments and checks these totals with those developed by the Regional Offices from the monthly reports. In essence, this change in the division of labor between the Regional Offices and the Statistics Unit constitutes the introduction of a type of quality control. The quality of data has improved as a result of the standardization of reporting forms and the use of computer data entry systems (Foxbase) with system-specific, automatic edit and data cleaning checks and data entry control rules.

e. The Development of the First Morbidity Database in 11 years.

Although the Information Unit has long had the responsibility for entering morbidity data into electronic files, it has not done so since 1981. The Statistics Unit's Computer Center assumed responsibility. APSISA proposed to take a nationally representative sample of each of the different types of facilities to reduce the time and cost of developing the database. The effort took considerably longer than anticipated, primarily because a large proportion of the data for the first year was of unacceptably low quality, and required considerable recoding. The size of the sample was reduced. After more than 15 months the project was completed, producing a series of 10 reports on the 1987 ambulatory visit.

Results were explained to the Directors of the Regional Offices in San Salvador. APSISA has assisted with the production of an electronic database containing hospital admissions and discharges for 1988. It is now three-quarters of the way through the development of a 1989 file. These files allow identification of the preferable mix of beds (i.e., one more closely reflecting demand). They can also develop referral networks for particular

types of health problems. Health services research throughout the world has demonstrated that establishing referral networks for particular types of illness, especially those which are relatively uncommon, are effective means by which to improve treatment outcomes and reduce costs. These files also identify efficient and inefficient hospitals by occupancy rates, lengths of stay by diagnosis, etc.) which might then be case studied to identify, model and replicate other institutions as exemplary management practices.

f. Initial Efforts to Develop Regional Office Commitment to their Computer Centers.

Recently the Regional Office Directors and Administrators convened to discuss the next steps in implementing computerized information systems in their offices. One of the primary goals of the meeting was to underscore the importance of developing institutional commitment at the Regional Office level by assuring the Directors and Administrators that these systems will streamline their data-related workload and provide them with important programming and planning information.

g. Working Committees and Project Performance and Sustainability.

To promote communication, integration and coordination within the MIS area, the Technical Advisory Committee on Management Information Systems was developed in September 1988. The Director of Planning heads this committee. The chief of the Information Unit holds the second position of authority. Other members of the Committee include the long term APSISA information systems consultants, a PAHO representative, and a representative of the GTZ (the German International Development Agency). For the first 13 months, the Committee met twice a month, but since October 1989 it has met regularly only once every two months, or when any member of the Committee feels the need to convoke an extraordinary session.

This Committee has played an important role in improving working relations and coordination among the many important actors in the field of information systems. The APSISA Project and AID, have worked hard to develop a close working relationship with MOH personnel, as well as with other donors and domestic foundations working in the health sector in El Salvador. This has been an important strategic approach because it promotes open communication which stimulates mutual understanding of goals and objectives, and helps to obviate the development of misinformation and misunderstanding. Also it provides a forum for consensus building and the development of close working relationships based on mutual trust. AID and APSISA people have combined this open communication committee approach with a willingness to be flexible, and to explore alternative approaches

to reaching the same end.

This approach has earned AID and APSISA greater respect from other actors in the public health field of El Salvador, and a closer working relationship and better understanding of the workings of the MOH and other donors working in El Salvador. An important determinant of sustainability is the development and maintenance of a working relationship based on open communication and mutual respect.

The benefits accruing from the development and reliance upon working committees includes sacrifices. Not all agreements have had ideal results. For example, after designing and installing the system in Financial Accounting it was more than a year later before PAHO advisors returned to evaluate the system, or provide aid in troubleshooting quirks in the new system. Some of the Financial Accounting Department staff felt abandoned and frustrated. There were several things that minor efforts of TA could have done to resolve problems and make life considerably more pleasant for Department staff. In June, 1990 two PAHO advisors are helping the Financial Accounting Department to extend the computerized financial system to include General Fund appropriations and expenditures for the hospitals.

Financial Accounting has no control over the hospitals or their budgets. Under the present system, this data would facilitate of the annual budget preparation document for submission to the Treasury. Developing a more comprehensive picture of the financing of the Centralized Agencies' activities should have higher priority. As discussed elsewhere in this report at present there is no single unified budget for the MOH, and no individual or unit within the MOH which tracks the Ministry's four different financial systems. Developing such a system is an essential first step in attempting to begin to understand resource allocation and use patterns within the Ministry and to begin to plan the use of MOH resources. This is clearly a much higher priority than extending the present Financial Accounting system to include only the general funds of the autonomous hospitals. A more structured relationship between APSISA and PAHO recognizing shared responsibilities and involvement in each step would help. AID and APSISA garnered benefits by eliminating duplication of effort, and by the developing healthy, open, on-going, professional discussions of the key issues confronting El Salvador's troubled health sector. AID and APSISA's more cooperative approach has made the U.S. effort much more effective and the project much more sustainable.

h. Extenuating Circumstances, Events and Problems.

A number of extenuating circumstances or events in the APSISA Project contributed to the delays of some products. A

long-term information system technical advisor was changed in August 1989, while another did not arrive in country until April 1988, six months after the unofficial start date of the project. Since the start of the Project, five different persons have served as Chief of the Statistics Unit, the APSISA long-term information system technical advisor's primary MOH counterpart.

The November (1989) Offensive, disrupted the work of both long term and short term information system specialist consultants. All APSISA TA left the country for approximately six weeks.

There is a serious severe shortage of programmers within the MOH's Information Unit. APSISA has contracted four programmers to cover this area, but that which reduces the likelihood that the technology is being fully transferred. This problems occurs because pay levels of computer operators in the MOH are very low. Although retention after training has not been a major problem to date, its development is highly probable unless steps are taken to obviate it. First, a position should be developed for computer operators with a salary that approximates that of the private sector (and is tied to experience and skill level). Second, positions of many of the current MOH computer operators should be reclassified.

Four persons staff the Computer Center of the Statistics Unit. The three staff persons each earn 945 colones per month. The Chief earns 1,430 colones per month. A person with comparable skills to those staff persons might earn 2,500 colones per month in the private sector.

2. Health Planning

While there has been progress in the installation of computers and systems, personnel training and extensive orientation concerning policy and planning, it is not easy to establish the degree to which the Ministry of Health has been able to demonstrate improved planning and management capabilities.

Planning is not well-conceptualized. The MOH does not really do it. MOH is the only Ministry without a well-organized and complete annual plan, which leaves it in a weak position in relation to other Ministries when negotiating for scarce government resources. The Ministry is basically a disarticulated system. Planning tends to confuse means and ends. The Planning Unit should establish goals and objectives, identify policies and propose them to the Minister, and should be able to translate those policies into the efficient use of resources, to give glue to the system, order, and form. Instead, diverse international organizations including PAHO, WHO, AID, UNICEF, etc., are involved in planning, often related to their own interests about

the resources they provide without managing to articulate a global vision of MOH requirements.

The planning office does not currently include clear specifications of results required in its plans. Planning focuses on processes (as does the budget process). Each health area is an end in itself, not a contributor to improved health in the country. Emphasis is on doing, rather than on producing results. Since planning is process-oriented, evaluation also focuses not on achievements but on costs involved and processes used.

One example of the lack of coordination in planning is UTMIN, which takes care of medicines and related, but has practically no tie to the planning department.

For Primary Health Care local level analysis is very important for developing a major plan. It is necessary to know who and how many staff are in the Posts and Centers, how many patients come each day and week, what is wrong with them, at what times do they need attention and services, which ones, etc. This information is the base for establishing the human resources and materials required to operate the Units.

There are reasons to believe that the APSISA Project may be making important inroads into the planning (and decentralization) process through an unexpected approach. Technical assistance staff and others have suggested that the development of information systems, particularly the Management Information System and its Morbi-Mortality and Epidemiology Components, have made information available at the regional and sometimes local levels so that health workers learn that they can make decisions without always asking the Central MOH what to do. As more and more information goes into their hands, they are able to take more initiative, develop more self-confidence about their decision making capabilities, and operate in more effective and efficient manners.

Planning is an urgent area which still requires much attention, and probably some kind of radical change in the approach. Current planning efforts of technical assistance have been in helping with the local programming model (before the government change) and developing and disseminating the Service Demand Study, including the definition of future actions. The Demand Study is good example of the kind of information which can then lead to useful planning and the TA efforts here are laudable.

Planning requires the specification of goals, objectives, coverage, programs and processes for insuring achievement. No program should be an end in and of itself. Local programming should be to improve the MOH's ability to achieve its objectives.

First the objectives must be clearly stated.

APSISA has provided excellent technical assistance to the Planning Unit of the MOH throughout the Project through the Chief's of Party and through short-term personnel of the highest quality. The project provided an outstanding methodological plan for producing a National Health Plan, prepared by one of the best health planners in Latin America. The plan is clear, carefully organized, and could easily have served as the basis of further planning in the MOH. Unfortunately, it was shelved.

The Project could put more emphasis on needs-based planning using the morbidity and mortality data as the basis on which to develop a simple and pragmatic system by which to estimate drug and medical supply inputs requirements.

APSISA should continue to provide technical assistance to this critical area. It should be firmer and more aggressive in its suggestion, doing so through the participative procedure. No actions which have begun should be dropped. Planning should include regional and local level involvement at all stages.

The development of a culture of planning will require medium to long-term training in planning for some high and mid-level MOH staff. Technical assistance must become directly involved in the planning process, with their MOH counterparts, inducing a planning process, helping in all stages, including defining the model for supervision and evaluation so that results are the primary focus of all the planning process. Emphasis should be given on developing skills, knowledge and attitudes about systematic planning in the MOH personnel. This is not something that can be done in ninety days, but will require several years.

3. Research and Policy

APSISA has shown major capability to design and carry out practical, problem-oriented research studies. Twenty-four studies have been completed and four are in process on subjects in Acute Respiratory Infections, Child Survival Diarrhea and Vaccinations, and General Health issues. The quality of the reports is excellent.

Research has had a wide range of participants including the Universities (particularly UCA), the ISSS, MOH, SDA through FESAL's, etc. Of particular importance has been the participation of health workers at the regional and local levels.

Despite all this progress, the MOH is not putting much resources into this area, it is being held together by APSISA, but its effects are so important at the regional levels that it is worth continuing.

Recognizing that the MOH would be unable to assign people and resources, APSISA TA cleverly involved the people at the regional levels in doing research that they wanted, to answer questions which they felt would help them to do their work better. As they were trained, and did the research and got used to handling information, they become more effective at what they are doing.

These efforts should be increasingly designed with input at the regional office and local effort to provide at once a vehicle for technology transfer and to convince local decision makers of the practical value of the newly developed information systems in improving the operations of the systems they control. This must be a focus in the next months, and throughout the remainder of this project if the important and high quality managerial tools which have been the heart of this project to date, are to be institutionalized, and if the project is to assist the Ministry in what must be next phase of the project, which is certain to be much more difficult.

4. Financing

A. The Ministry Of Health's Budget: 1975-1990

A number of different indicators of the financial well-being of the Ministry of Health, demonstrate that it has been suffering a protracted economic crisis throughout the past decade, and the prospects for change are not bright.

1. The Falling MOH Share of Central Government Expenditures

The Ministry of Health's share of total Central Government expenditures has fallen steadily over the 1975-1990 era. In the beginning of the period, during the 1976-1980 era, its annual average was 10.4 percent. Between 1981 and 1985, the share fell by more than 20 percent to an annual average of 8.2 percent. In the last four years, from 1986 to 1989, it slipped an additional 10 percent to average 7.4 percent of total central government expenditures. The 1986-1989 annual average was about 29 percent less than that of the 1976-1980 era (see Exhibit 1).

2. The Shrinking Public Sector.

The share of total central government expenditures is the most commonly used measure of the financial well-being of a Ministry of Health. The size of the public sector in El Salvador has steadily declined since 1984 (see Exhibit 2). It fell to 12.1 percent of the Gross Domestic Product (GDP) last year (1989). Analysis by five year spans, shows the public sector peaked during the middle period, 1981-1985, when it reached an annual average of 20.4 percent of GDP. In the earlier era, 1976-1980, it averaged 17.3, and after the temporary surge of the

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EXHIBIT I
EVOLUTION OF THE MOH SHARE OF THE
TOTAL CENTRAL GOVERNMENT BUDGET ALLOCATION
AND EXPENDITURES

YEAR	SHARE OF EXPENDITURES
1976	10.7%
1977	10.2%
1978	10.7%
1979	9.8%
1980	10.8%
1981	8.7%
1982	8.5%
1983	9.2%
1984	7.8%
1985	7.5%
1986	6.2%
1987	7.3%
1988	8.1%
1989	7.9%

SOURCE: Informe Complementario Constitucional sobre la
Hacienda Publica, Ejercicio Fiscal, various years.

Note: Includes operations and capital expenditures.

EXH-1.WK1

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EXHIBIT 2
EVOLUTION OF THE SIZE OF THE PUBLIC SECTOR

YEAR	GOVERNMENT EXPENDITURES* AS A PERCENT OF GDP
1976	18.8
1977	17.3
1978	17.2
1979	16.5
1980	17.5
1981	22.2
1982	21.7
1983	18.2
1984	23.4
1985	16.5
1986	18.9
1987	15.0
1988	13.1
1989	12.1

NOTE: Includes earmarked expenditures ("compromisos")

SOURCE: Informe Complementario Constitucional, various years

Annual Average Percents:

1976 - 1980: 17.3

1981 - 1985: 20.4

1986 - 1989: 14.8

EXH-2.MK1

A

early '80s, it has contracted in the last half of the decade to average 14.8 percent per year.

3. MOH Expenditures as percent of GDP Fall by Half since 1980

El Salvador's GDP growth rate has not been rapid, particularly if one takes population considerations into account (see Exhibit 3). MOH expenditures as a percent of GDP followed an increasing trend until 1981, and in the 8 years since have followed a downward trajectory with the exception of 1983. The Ministry's 1989 expenditures as a percent of GDP was a mere 44 percent of the share in 1981. The average annual changes in the 1985-1989 era was a fall of 12.1 percent, contrasting sharply with the average annual increase of 2.5 percent in the immediately preceding, 1980-1984, period (see Exhibit 4 for more detailed, year-by-year percentages, and multi-year average levels and average rates of growth.)

4. Large Growth in Nominal MOH Expenditures

Over the 15 year period, the annual rate of growth averaged 10.4 percent. Growth was most rapid in the 1975 to 1979 period, when it averaged nearly 14 percent per annum, falling to about half that level in the 1980-1984 epoch, only to pick up again in the 1985-1988 to just less than 11 percent per year (see Exhibit 5).

5. Historically Lower Levels of Real MOH Expenditures.

At first glance, MOH expenditure growth appears to conflict with the less optimistic picture sketched by the other financial indicators. Using the public administration deflator implicit in unpublished documents of the Central Bank the nominal MOH expenditures data converted into constant value colones presented in Exhibit 6 to show the impact of inflation. The picture which emerges is far more consistent with the discouraging scenario captured by the other financial indicators.

Exhibit 6 shows that since 1981, the level of real MOH expenditures has fallen from what had been its traditional magnitude and range. From 1975 to 1981, the annual level of MOH expenditures averaged 61,947 million in colones. Since then, it has fallen by 16 percent, to average 52,318 in the 1981-1989 periods. Inspection of Exhibit 6 suggests three distinct periods. The earliest was characterized by positive growth (a robust 4.1 percent per year on average). The 1980 to 1984 era was markedly different; characterized by severe financial dislocation during which the average annual growth rate became (-7.2), as MOH real expenditures contracted sharply for half a

EXHIBIT 3

GROSS DOMESTIC PRODUCT (GDP)

YEAR	NOMINAL GDP (CURRENT COLONES)	REAL GDP (1962/ COLONES)
1975	4,477.70	3,122.80
1976	5,705.90	3,247.80
1977	7,167.10	3,443.70
1978	7,692.20	3,664.80
1979	8,687.10	3,681.70
1980	8,916.60	3,289.30
1981	8,646.40	3,816.80
1982	8,966.20	2,847.70
1983	10,151.20	2,878.40
1984	11,657.20	2,935.60
1985	14,328.80	2,933.60
1986	19,762.90	3,812.50
1987	23,148.60	3,893.50
1988	27,365.80	3,143.80
1989	32,267.80	3,173.60
1990	38,885.80	3,239.80

EXH-3.MK1

EXHIBIT 4
EVOLUTION OF MCM EXPENDITURES
AS A PERCENT OF GROSS NATIONAL PRODUCT

YEAR	PERCENT	PERCENT CHANGE FROM PREVIOUS YEAR
1975	1.88%	---
1976	1.75%	-2.8
1977	1.79%	2.3
1978	1.93%	7.8
1979	1.71%	-11.4
1980	2.09%	22.2
1981	2.17%	3.8
1982	2.01%	-7.4
1983	1.76%	-12.4
1984	1.87%	6.3
1985	1.41%	-24.6
1986	1.17%	-17.0
1987	1.89%	+ 6.8
1988	1.86%	- 2.8
1989	0.96%	-9.4

ANNUAL AVERAGE PERCENTS:	1975 - 1979: 1.80	AVERAGE OF ANNUAL CHANGES:	1975 - 1979: 0.65
	1980 - 1984: 1.98		1980 - 1984: 2.50
	1985 - 1988: 1.14		1985 - 1988: (-12.12)

SOURCE: Informe Complementario Constitucional,
Ministerio de Hacienda, various years,

NOTE: Includes both operating and capital expenditures

EXH-4.WK1

EXHIBIT 5
NON GENERAL BUDGET-FUNDED NOMINAL EXPENDITURES AND
ANNUAL GROWTH RATES (IN THOUSANDS OF CURRENT COLONES)

YEAR	NOMINAL EXPENDITURES	ANNUAL GROWTH RATES
1975	86,465.40	
1976	110,829.20	28.20
1977	127,868.80	14.60
1978	143,278.00	12.80
1979	142,838.50	-0.80
1980	178,435.70	25.60
1981	167,025.90	-6.40
1982	165,677.10	-0.80
1983	170,395.90	2.80
1984	191,551.20	12.40
1985	176,522.70	-7.80
1986	232,354.50	31.60
1987	252,692.90	8.80
1988	289,477.20	14.60
1989	300,377.60	6.50
1990		

Average Annual Rates of Growth:

1975-1979: 13.70
 1980-1984: 6.70
 1985-1989: 10.70
 1975-1989: 10.12

NOTE: Expenditures are "total utilizado", which is the sum of actual Expenditures ("gastos") and earmarked commitments ("compromisos")
SOURCE: Informe Complementario Constitucional, Ministerio de Hacienda, various years.

EXHIBIT 6
MCH GENERAL BUDGET-FUNDED REAL EXPENDITURES
AND ANNUAL GROWTH RATES

YEAR	REAL EXPENDITURES	ANNUAL GROWTH RATES
1975	54,933.50	---
1976	62,580.00	13.9
1977	64,172.10	2.5
1978	63,878.20	-0.5
1979	60,233.40	-5.7
1980	66,580.50	10.5
1981	61,249.00	-8.0
1982	56,916.90	-7.1
1983	52,180.80	-8.4
1984	53,912.50	3.5
1985	45,332.00	-15.9
1986	50,566.80	11.5
1987	51,225.80	1.3
1988	56,318.50	9.9
1989	52,164.40	-7.4
1990		

Average Annual Rates of Growth:	Annual Average Levels of Real Expenditures:	Rates of Growth:
1975-1980: 4.1	1975-1980: 62,863	---
1981-1985: -7.2	1981-1985: 53,984	-13.1
1986-1989: 3.8	1986-1989: 52,569	- 2.5

NOTE: Deflected using the Public Administration
Deflator presented in Annex I.

decade. Since 1985, growth has been more erratic ranging from 11.5 to -7.4 per cent per year, averaging 3.8 percent per annum.

The average level of MOH real expenditures from 1975 through 1980 was 62,063 million per year. That fell by 13 percent in the middle period, 1981-1985. Although the average level of real MOH expenditures has fallen in the post-1985 era, it has largely stabilized when compared to its precipitous slide in the previous period.

The average annual level of real expenditures of the MOH in 1986-1989 was 15.3 less than that of 1975-1980. The prospects of recovering previous levels of real expenditures are not good in the immediate future. The economy has showed signs of continuing its slow rate of recovery, and real per capita increases are expected to continue. According to an August 1989 World Bank forecast, under the most optimistic scenario, El Salvador will achieve a real growth rate of approximately 4 percent by 1992 and would maintain that rate throughout the remainder of the century. Even if this level of growth in occurs throughout the remainder of the decade, real incomes in El Salvador at the dawn of the next century will remain below the pre-1979 levels.

Furthermore, the public and foreign debt will continue to limit the size of the public sector, which, as we have already seen, has fallen markedly throughout the past decade. The size of the public sector is not likely to increase appreciably. With an end to the civil war (which consumes 5 percent of GDP and 25 percent of Central Government expenditures), the size of the Ministry of Health's budget in the short term will fall. The Treasury has issued budget preparation guidelines to the Ministry of Health for 1991 which request precisely the same amount of Central Government, general support for 1991 that it made in 1990, in nominal terms. Inflation continues around 15 percent in 1990. A constant nominal colon budget will mean that the real value of MOH expenditures will contract in 1991. The severity of the contraction could be substantial (as much as 10-15 percent).

In the medium term, the MOH's real expenditure level will stabilize, and probably increase slightly thereafter until the end of the 1990s. The MOH is not likely to find any relief from its long term financial crunch. The Ministry must view the near-term future strategically as a period of consolidation. New initiatives which generate additional recurrent costs will only serve to exacerbate the Ministry's financial plight, reduce the availability of medicines and supplies, and return it to the epoch of the mid-1980s when its very credibility was in question. New infrastructure projects, in particular, with their derivative demand for increased MOH staff and supplies, must be avoided. If the decentralization is pursued, it should develop as a strategy for improving the effectiveness and the efficiency of MOH service delivery through improvements in the organization of resources,

and in the generation and use of high quality information in resource allocation and managerial decision-making. The Ministry should resist structural changes such as those embodied in the two versions of districtization proposed by officials in the MOH Planning Department, which generate additional recurrent costs.

The tenuous financial position of the MOH at present and in the near future is reflected in the recurrent cost crisis which continues to make itself felt despite the large in-kind assistance of AID and other members of the international donor community. El Salvador's Ministry of Health strategy throughout the next five years must be to focus on improving the efficiency with which the Ministry uses its resources and attempting to develop alternative sources of financing such as user fees and other cost recovery mechanisms, while continuing to protect financially the substantial proportion of Salvadorans who are impoverished and medically indigent.

5. Policy Dialogue

The APSISA Project has made some progress in policy development in the MOH through continuing dialogue and the general impact of project efforts. It has not been easy for the MOH to shift its policies more in the direction of primary health care. The reasons are that curative care needs are obvious and immediate and because the health system is built around the autonomous hospitals which still consume over fifty percent of the budget. Through, inter alia, technical assistance, Steering Committee meetings, preparation/review of annual plans, and quarterly evaluations, progress has been made. Pharmaceutical stocks are increasing in the Units and Posts, primary health care consultations are increasing, and budget allocations for regional health services have increased. Possibly the most evident indicator of progress in policy dialogue has been the creation of and consequent level of support to the Community Health Department. This has greatly strengthened the MOH's primary health care efforts. Certainly policy dialogue must continue, and even be more strongly emphasized to insure sustained progress.

IV. DEVELOPMENT IMPACT OF PROJECT

A. Progress in Relation to Logical Framework and EOPS

Program or Sector Goal:

To assist the MOH to improve the access to, and availability of, basic health care services and reduce child and infant mortality.

Measures of Achievement:

Infant mortality reduced to 40/1000.
 80% children under 1 fully vaccinated.
 85% children under 1 vaccinated for measles.
 Malaria rate reduced to 5/1000 pop.
 Death rate/10,000 from diarrhea reduced to 1.5.
 Larger % of poor population has access to primary care providers.

Project Purpose:

To support and strengthen the MOH to deliver and support basic health care services, including preventive and primary care services important to the MOH child survival program.

End of Project Status (EOPS)

1. 90% of open MOH care facilities have at least minimum stock levels (appropriate to the level of facility) of selected* drugs and medical supplies.

Status: 53% (MSCI Monitors Report, 5/31/90)

2. 90% of MOH bio-medical equipment (including cold chain equipment functioning).

Status: 80% (Project Status Report, 10/1/89-3/31/90)

3. 25% increase in the number of consultations given at the primary level (Units, Posts, and by community workers);

Status: 6.1% increase 1986-1988 (Project Status Report, 10/1/89-3/31/90).

4. 20% increase in amount of MOH operational budget allocated for regional health services (i.e., facilities other than hospitals and outreach programs).

Status: 13% increase from 1989 to 1990; based on a sample of 60 basic drugs (MSCI data).

5. Improved MOH policy, program planning and management capabilities.

Status: Insufficient progress has been made in this area.

Outputs:

1. Improved drug acquisition, distribution, and management systems.

1a. MIS drug supply and management sub-system established and operational, with computers in use by all regional warehouses.

Status: Partially established at the Central level, not all information from the regions have been captured.

1b. 20% increase in drugs (from the basic pharmaceutical list) dispensed by health Units, Posts, and outreach workers.

Status: inventory recently completed, subsystem not yet established.

2. Improved bio-medical equipment maintenance system.

2a. MIS bio-med sub-system established and operational, including inventory.

Status: inventory recently completed, subsystem not yet established.

2b. Standardization policy adopted.

Status: not yet formulated

2c. Two additional regional bio-med shops opened and operating.

Status: sites identified, one committed.

2d. In-service trg. for 60 bio-med tech.

Status: 267 biomed technicians trained

2e. Bio-med maintenance teams have completed regularly scheduled preventive maintenance visits to all open facilities.

Status: no preventive maintenance program yet established, on trial basis for three equipment units.

Status: no preventive maintenance program yet established; on trial basis for three equipment units.

- 3. Improved use and cost control systems operationalized for vehicle management.

3a. Cost control and use monitoring procedures instituted.

Status: Accomplished.

3b. Maintenance schedule established and followed for all MOH vehicles.

Status: achieved (MSCI data).

3c. Seventy maintenance technicians trained.

Status: 52 technicians trained

- 4. Primary care facilities have adequate water and waste disposal systems.

4a. 90% of primary care facilities have adequate, functioning water and waste disposal systems.

Status: inventory completed in 1990.

4b. Routine maintenance procedures developed and functioning.

Status: not yet.

- 5. Lab facilities improved/built and functioning in all open health Units.

5a. 6 laboratories built.

Status: New laboratories not built because staffing by MOH not possible.

5b. 30 Unit laboratories renovated.

Status: laboratories in all regions have received new equipment.

5c. All open Units have functioning labs.

Status: inventory completed.

- 6. Improved surveillance of malaria incidence for case detection and targeting of residual spraying.

6a. Blood slide collection from health facilities increased

Status: 6% of total number of slides collected by health facilities.

6b. Residual spraying operations cover at least 90% of number of houses programmed for each of the three cycles.

Status: 81% of spraying coverage reported for 1988 and 1989.

Most important, malaria has been reduced to 1.8 cases per 1000 inhabitants during 1988 and 1989 (see Sector Goals, above, page 60).

7. Facilities management manuals, including treatments norms and prescription guidelines, developed for each facility level and distributed.

7a. Manuals developed for all facility levels, which include revised MOH formulary, standardized treatment and prescription guidelines, facility-specific drug and supply lists, inventory control guidelines (including recorder points and minimum stock levels), and record-keeping and reporting procedures.

Status: work in progress for standardized treatment and prescription guidelines and facility-specific drug and supply lists. Other elements: not yet.

8. Competency-based training program established for basic health service (BHS) providers and supervisors.

8a. 2 additional trainers trained in competency-based training methodology.

Status: On-Job-Training through Needs Assessment study; Training of Trainers scheduled for August, 1990.

8b. 12 MOH trg. staff trained in curriculum development and evaluation of trg.

Status: Two training sessions were held. The first trained 45 persons in September of 1988. The second, trained 35 persons in June of 1990.

8c. 26 emergency medical services mgrs. trained.

Status: Needs Assessment Completed. Training to begin in August of 1990.

9. Computerized MIS with six sub-systems operational.

9a. 45 new microcomputers operational.

Status: 27 new microcomputers operational.

9b. Software developed/adapted for six sub-systems.

10. MOH staff trained in use of microcomputers and MIS systems use

10a. 79 MOH personnel trained in operation and/or programming.

Status: 287 persons trained

11. MOH capability to conduct applied health services studies established.

11a. Regional applied health services research committees established.

Status: Accomplished.

11b. 20 applied health services studies completed.

Status: 24 reports completed and 4 are in process.

12. Policy and program planning skills upgraded of key decision-makers and supervisors.

12a. 61 participants complete training in health program planning, administration, and applied research.

Status: 82 persons have received training. 65 have received training in applied research (50 from regions, and 15 from central level).

B. MOH Institution Building

1. Logistic Support

Logistical support (acquisition, distribution and management of drugs, medical supplies, equipment, and facilities) has been improved. Commodities support has been a very important contribution to health care delivery.

2. Improved MOH Capability for Management of Pharmaceutical, Medical Supplies

Tools for improved drugs and medical supplies management have been provided. Hardware has been procured for microcomputer

centers at the central level (UTMIM, Procurement and Information Units) and the five regions. Software for inventory management is also currently available at the regional level. Procurement and warehousing subsystems are currently established at the central level.

The restructuring of the procurement process is expected to reduce procurement time from 24 months to 6 months by 1991. The organizational structure, job profiles and institutionalization of these elements will be accomplished through manuals adopted by the MOH authorities. Similarly the reorganization of the central warehouse and definition of job profiles is an important contribution of the project.

Other than transfer of new resources (biomedical equipment) and establishment of the bio-medical inventory, there is no evidence of impact of technical assistance in biomedical maintenance.

3. The Community Health Program.

APSISA support for the Community Health program was key in the creation of the Community Health Department, which has greatly strengthened the program's institutional identity and status, and therefore has tended to reinforce primary health care as a priority area. Greater integration of the CHP with the regional health establishments is also an important achievement, which needs continuing reinforcement.

Similarly, strengthening the institutional capacity of the malaria program and laying a carefully planned foundation for the eventual integration of malaria into the health services delivery system has contributed to overall institutional development.

C. Constraints

One significant constraint to project implementation is the numerous changes in MOH positions of authority. These have occurred not only as a result of the change in government in June 1989, but have continued throughout the year. This situation is illustrated in Table 1. Valuable time is lost in becoming acquainted with the project goals and activities.

As the Table illustrates, numerous changes have occurred within the APSISA project both at the technical assistance and MOH levels. Despite these changes, the project has achieved results, particularly in the past 18 months.

As a result of the interim nature of some of the appointments, there has been significant lack of decision making. Those not fully appointed to a post do not take too many difficult decisions.

Table 1. CHANGES IN PROJECT MANAGEMENT, TA AND MOH COUNTERPARTS

	1988	1989	1990
APSISA			
MSCI LT TA	+Log adv	+Log adv +Proc adv +MIS adv	
Clapp & Mayne LT TA			COP
MOH Project coordinator		1	
MOH			
Minister		1	
Vice-Minister	1	1	1
Director General		1	1
Administrative Director		1	
UTMIM	2	2	1
Procurement		1	1
Statistics (5)			
Epidemiology (3)			
Training School (Capacitacion) (4)			
Nurse Unit (1)			
Central Warehouse	1	1	

There has been loss of trained staff to better paying jobs, particularly to the ISSS (Salvadorean Social Security Institute).

Other constraints relate to difficulties in the MOH Personnel and Accounting subsystems. For example, lack of civil service stability, adequate wage scales, a system for promotions, raises, etc. In the financial aspects, lack of resources, lack of adherence to original budget allocations/commitments, lack of definition of operational budgets per establishment, expenditure item, excessive centralization in the administration, predominance of a priori control, etc.

Lack of adequate physical resources for effective supplies management has also been an important constraint. For example, small hot warehouses, lack of means to raise and handle the merchandise, insufficient number of transport vehicles, deficient office furniture and equipment, calculators, etc.

There have been unexpected delays in the procurement and arrival of computer equipment for developing and for implementing programs.

Slow response at the local level to provide required information, has improved with support from the new Director General and repeated visits for training and motivation.

Despite the large amounts expended on pharmaceuticals, available funds were insufficient to meet real MOH requirements.

The Lack of structured and up-to-date information on donations has also constrained project implementation.

V. CONCLUSIONS AND RECOMMENDATIONS

A. General Conclusions

The project definitely has contributed to the improved delivery of basic health care and child survival services. The project can claim some credit for the reduction in infant/child/maternal mortality, the reduction of the third level of malnutrition, and credit for significant reduction in malaria incidence. Primary level consultations are increasing as is the operational budget allocated to regional health services.

The APSISA Project has considerably strengthened the Community Health program and progress is continuing in developing a unified and integrated set of policies, procedures and operating systems. This program is starting to perform well and currently has both high-level support and excellent direction. This impetus must continue in order to strengthen primary care.

APSISA has contributed to the development of the MOH infrastructure and its materials have contributed to the improvement of services delivered by the health care system and the commodities have maintained the functioning of the MOH. The extensive work in the development of operating systems, manuals, guidelines, research studies, quality of care studies, etc., represent positive developmental efforts which will help to improve the health system.

In general, the planned activities took place as scheduled. As a result of delays in project initiation, most of the accomplishments occurred in the past 12 months. Fifty-three percent of open facilities have minimum stock levels of drugs. Extensive training has been provided, eight administrative management sub-systems have been developed and more than half of them have been transferred to MOH control.

Control of malaria requires constant vigilance and supervision. The large gains made by the malaria program will quickly disappear if there are breaks in the supply of inputs. Serious efforts made to reduce costs through strict stratification and control measures and both large and small scale source reduction, have reached a level beyond which reductions can go no further. There is no short-term prospect for the MOH to fully assume program costs. Other donors are being approached, but as yet there is no commitment of

sufficiently extensive support to maintain the program as it is currently functioning.

APSISA assistance has strengthened the Health Education Unit and its level of activity. The materials produced are essential to the effective functioning of the primary health care program carried out by both the CHP and the health establishments, though some changes in emphasis and types of materials produced are advisable. Most operating resources for production of materials come from APSISA, and there is no chance in the short term that the MOH will be able to cover these costs.

A major conclusion is that AID/HPN has developed highly effective team efforts involving MOH, AID and the technical assistance personnel, increasing participation in project activities and developing an important climate of mutual respect and understanding with all agencies and personnel involved. This development, suggested as a major problem during the VISISA project, is one of the most important factors for achieving project success.

Personnel problems in the MOH, including frequent turnover of key persons, inadequate training for critical positions, inappropriate assignments, and low levels of remuneration have reduced the ability to optimally institutionalize the projects efforts and products, and will require continued or increased attention in the future.

B. Major Recommendations

1. AID should extend the LOP at least two and preferably three years. The budget should be increased accordingly. Because of delays in starting project activities and the series of negative events outside the project's control, the project has been functioning effectively for only one and one-half to two years. Notwithstanding these delays, it has achieved considerable success.

2. AID should focus the majority of future assistance to maternal health and child survival interventions targeted to high risk groups. Emphasis should be on service delivery at the lowest three levels of the health care system. To improve these efforts, AID should stimulate the MOH to increase attention to systematic strategic planning.

3. AID should continue to provide the majority of current technical assistance to the project through the present EOP date of September 30, 1991. Beyond that date TA should be reduced to meet specific needs of the MOH. Assistance should continue in acquisitions and logistics, management information systems, malaria prevention, research and community health development and particularly, planning. Technical assistance in health

education, training and bio-medical equipment maintenance may benefit by changing from long-term to short-term consultancies.

4. AID should continue support to the Community Health Program. Support should give priority to developing decentralized local planning and programming, logistics improvements, training and more effective integration of the CHP into the health establishment system through closer and more organized connections to health Posts and Centers. When the program has consolidated its internal systems, the number of promoters should be increased. Opportunities to strengthen the CHP through tie-ins with other projects, such as the new water/sanitation project (0320) should continue. Greater use of the CHP in family planning should be considered, including development of more effective strategies, improved training and effective logistics to maintain adequate and timely supplies. AID support must continue until other funding can be secured in order to avoid endangering the investment and achievements. Support should have a programmatic focus, using technical assistance as well as material inputs, to refine its systems and help the program prepare for its eventual integration into the health services system. Careful planning and a strong training component will be required to carry out this process successfully.

5. AID should continue support for health education as a basic support system for primary health care. The type of materials produced should be planned to meet primary health priorities and the needs of the CHP promoters and health establishment staff, based on research, and adequately field-tested. The type and format of materials should be appropriate, including development of materials for illiterates and training in the creation of supplementary local materials.

6. The project extension should emphasize functional rather than structural decentralization to avoid recurrent personnel costs. This emphasis should be placed at the core of the planning process. Development of decentralization should happen within the context of a profound analysis of the objectives, programs and mechanisms of the Ministry of Health. AID should continue support of those areas of the MOH that are key to program, planning, administration and that have successfully used T.A. and are showing improvement. AID support to decentralization should focus on training, systems development/implementation, and direct allocation of GOES resources (personnel, material budget). AID should consider limited support for warehouse modification and repair. AID should encourage efforts to support privatization (sale or rent) of select MOH urban facilities to private parties.

7. Family Planning should receive more emphasis in the Project Extension. Despite APSISA's ties with the Community

Health Department, that department is not working closely with the MCH/FP Department of the MOH. The two departments are working on complementary parts of the MOH integrated MCH/FP strategy and should therefore share similar MIS reporting systems for service statistics and commodity distribution. Due to the close out of the Population Dynamics Project (519-0210), the AID should fund MCH/FP activities as well as CHD activities in family planning through an APSISA Project Amendment. This amendment would establish a standard reporting and commodity tracking system for this program.

8. AID should continue to encourage and support MOH efforts to improve coordination in health sector, especially with PAHO and other donors and PVO's.

9. AID and MOH should continue efforts at human resource development in the project. TA efforts should increase attention to developing knowledge, skills, attitudes and a culture of planned change within the MOH. The MOH should place considerable emphasis on staff development and improved coherence of staff utilization at all levels.

10. AID should phase out support for the Drug Quality Control Laboratory over an 18 month period. Given current problems of staffing, timely procurement of standards and reagents, resulting in low productivity and grave questions of sustainability, a less ambitious quality assurance program may be more realistic and appropriate. Thus, the MOH should analyze the impact of drug quality control and the potential market for such services in both the private and public sectors. It should seek other sources of financing mechanisms for cost recovery to prepare for the end of project support.

11. The MOH and AID should reassess the feasibility of setting up six new health Unit clinical laboratories, considering current difficulties in supplying reagents, equipment maintenance, and staffing. The MOH cannot adequately staff and equip new laboratories so support should be provided only to those with the infrastructure to absorb and benefit from such assistance.

12. MOH should revise their essential pharmaceuticals and medical supplies and equipment policy. This revision should reflect the relative importance of primary health care in the MOH health strategy for El Salvador. Therefore, in the project extension, AID should further reduce pharmaceutical purchases to a basic group of no more than 30 primarily directed to Community Health Workers, health Posts and Units. A multidisciplinary group should review the essential drugs list to conform to a (proposed and adopted) health and pharmaceuticals policy that truly emphasizes primary health care.

13. The MOH should reorganize the UTMIM and strengthen it to meet its stated objectives in the technical areas of drug evaluation, drug epidemiology and drug information. The MOH should place much more emphasis on organizing regional therapeutic committees as support for the UTMIM. The UTMIM/MOH should enlist the collaboration of pharmacologists and other related disciplines to upgrade its technical capabilities.

V. LESSONS LEARNED

A. Issues.

Many lessons have been learned in the three years of this project: some encouraging, some sobering. The first lesson is one which frequently has to be relearned. Change is difficult. Modifications always take longer and are more complicated and difficult than originally conceived. This variation on Murphy's law is particularly true of development projects. Basic infrastructure, sufficient knowledge, skills and experience, and fundamental attitudes are always difficult to develop. Further, lack of close supervision and follow-up are the primary reasons for project failures, and the APSISA project has so far managed to avoid that problem and should continue to include follow-up measures in its plans.

Outside or exogenous factors must always be taken into consideration. For example, the internal conflict and other events outside the project have delayed implementation of this and other projects.

The natural tendency of the MOH is to view primary health care as desirable but additive to curative care, especially in well established tertiary care networks in urban areas. Given the opportunity, the MOH will almost always satisfy the latter group's needs first. To a definite extent this is because the curative needs are more obvious and visible, while preventive issues, in almost any area (even the care of one's automobile) are less obvious, and therefore less attended. Further, when a population lives under conditions of very low economic income, with pressing external problems, it is difficult to set aside resources for preventive measures. This issue suggests that APSISA's interventions are important and will not be easy to replace or make sustainable in the immediate future.

AID should maintain an emphasis on sustainability to the degree possible, but it cannot be a determining factor for the continuation of AID assistance, given the precarious financial condition of the MOH and the uncertain prospects for economic recovery in the short term. Some dependency exists due to several realities. Notwithstanding this, assistance must continue in the short term to consolidate gains and facilitate

institutionalization.

Too much turnover of MOH personnel goes against the success of the Project and MOH goals. This is something which somehow has to be controlled. Valuable persons should be protected or guaranteed to be in their positions for reasonable periods.

B. Techniques and Approaches.

Systematic and coherent planning is difficult to organize and institutionalize in the MOH. There is no culture of strategic planning. This leads to separate, uncoordinated sources of income and expenditures, programs and goals, types of personnel and information systems, all providing a situation of considerable disarticulation which reduces the MOH capacity to establish priorities, develop policies, create programs and deploy resources in a rational manner. This certainly is the main weakness of the MOH, its Achilles tendon.

The well-designed Technical Assistance has been particularly important in achieving project success and is a model of how TA should be conducted. Carefully chosen Long-Term TA can have positive impact on projects. They can be the primary mechanism for insuring implementation of project elements, that counterpart personnel learn new skills, knowledge and develop proper attitudes, and that the funding agency has clear leverage to insure that covenants and agreements are kept. This project has been exemplary in its use of TA.

There is considerable reason to believe that the use of third country nationals has been a major factor in the success of the TA provided in this project. The cultural sensitivity, the common language, the similarity of attitudes and outlooks, have facilitated communication, increased local acceptance of advice and in general have improved the effectiveness of the TA.

Related to this, it is crucial to coordinate with other donor agencies because there are cases where two or more agencies are providing the same type of technical assistance. Although it is logical that coordination of external assistance is the responsibility of the Ministry, experience suggests that it behooves the funding agencies to insure coordination, which recently has improved.

Pharmaceutical management including acquisition, logistics and distribution is feasible when careful planning is combined with appropriate bureaucratic elements. The existence of the UTMIM, and the role played by the Steering Committee have been important. The development of annual plans and the trimester group meetings to analyze progress have also been significant contributors to success in this area.

Development of management information systems and the applied research have been major contributors to project success. Information is power. When regional level people conduct research and gather information, or when they work with a computer which helps them to organize information, they find that they do not have to depend so much on the central level. With information they can make more of their own decisions and take action at their level so they are accomplishing decentralization through information development and applied research.

The creation of the Department of Community Health gave the program its own identity and strengthened the support it received within the MOH. Again, the development of annual plans and trimester reporting has contributed to success. Endeavors are required to increase participation of local supervisors and promoters to increase effectiveness of outreach efforts.

Annex A: Logical Framework

HEALTH SYSTEMS SUPPORT PROJECT (519-0308)

Total U.S. Funding: \$48 million
Life of Project: 3 years, FY 86-90

INITIATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	TERMS OF VERIFICATION	INITIAL ASSUMPTIONS
<u>Program or Sector Goal</u>	<u>Measures of Achievement</u>		
To assist the MHI to improve the access to, and availability of, basic health care services and reduce child and infant mortality.	<p>Infant mortality reduced to 40/1000.</p> <p>80% children under 1 fully vaccin.</p> <p>85% children under 1 vaccinated for measles.</p> <p>Malaria rate reduced to 5/1000 pop.</p> <p>Death rate/(10,000 from diarrhea reduced to 1.5.</p> <p>Larger % of poor population has access to primary care providers.</p>	MHI records and surveys, and Project evaluations and reports.	Efforts to expand MHI basic health services will not be offset by other factors such as increasing civil violence.
<u>Project Purpose</u>	<u>End of Project Status (EOPS)</u>		
To support and strengthen the MHI to deliver and support basic health care services, including preventive and primary care services important to the MHI child survival program.	<ol style="list-style-type: none"> 1. 90% of open MHI care facilities have at least minimum stock levels (appropriate to the level of facility) of selected* drugs and medical supplies. 2. 90% of MHI bio-medical equipment (including cold chain equipment) functioning. 3. 25% increase in the number of consultations given at the primary level (units, posts, and by community workers); 4. 20% increase in amount of MHI operational budget allocated for regional health services (i.e., facilities other than hospitals and outreach programs). 5. Improved MHI policy, program planning and management capabilities. 	MHI procurement, distribution, and inventory records; spot checks; patient records from units, posts, and community workers; MHI records; and independent review and analysis of the MHI planning, budgeting, and programming systems.	<p>Expansion and improvement of the primary care services continues to be a MHI priority.</p> <p>Physicians support MHI efforts to increase range of treatment which can be provided by lower level MHI personnel (e.g., auxiliaries).</p> <p>Economic conditions do not result in reduced MHI budgetary resources.</p> <p>MHI continues its commitment to improvements in management and decentralization.</p>
<p>*Drugs and services monitored will be selected on the basis of their importance in relation to key morbidities, such as dehydration from diarrhea, respiratory tract infections, and malaria.</p>			

INITIATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
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Inputs:

Magnitude:

1. Improved drug acquisition, distribution, and management systems.	<p>1a. MIS drug supply and management sub-system established and operational, with computers in use by all regional warehouses.</p> <p>1b. 20% increase in drugs (from the cuadro basico) dispensed by health units, posts, and outreach workers.</p>	MHI records and site visits.	MHI is able to change public perception as to availability of medicines at primary care facilities.
2. Improved bio-medical equipment maintenance system.	<p>2a. MIS bio-med sub-system established and operational, including inventory.</p> <p>2b. Standardization policy adopted.</p> <p>2c. Two additional regional bio-med stores opened and operating.</p> <p>2d. In-service trg. for 70 bio-med techs.</p> <p>2e. Bio-med maintenance teams have completed regularly scheduled preventive maintenance visits to all open facilities.</p> <p>2f. 100 health tech and lab personnel trained in prev. maintenance.</p>	MHI records and site visits.	MHI is able to retire its inventory of unusable equipment and to the extent possible to ensure equipment donations meet MHI specs.
3. Improved use and cost control systems operationalized for vehicle management.	<p>3a. Cost control and use monitoring procedures instituted.</p> <p>3b. Maintenance schedule established and followed for all MHI vehicles.</p> <p>3c. Seventy maintenance techs. trained.</p>	MHI reports.	
4. Primary care facilities have adequate water and waste disposal systems.	<p>4a. 90% of primary care facilities have adequate, functioning water and waste disposal systems.</p> <p>4b. Routine maintenance procedures developed and functioning.</p>	MHI reports and surveys.	
5. Lab facilities improved/built and functioning in all open health units.	<p>5a. 60 laboratories built</p> <p>5b. 30 unit laboratories renovated.</p> <p>5c. All open units have functioning labs.</p>	Site visits and MHI reports.	MHI can successfully negotiate with a firm.

6. Improved surveillance of malaria incidence for case detection and targetting of residual spraying.	6a. Blood slide collection from health facilities increased to 100% of total no. of slides collected 6b. Residual spraying operations cover at least 90% of no. of houses programmed for each of the three cycles.	MOH reports and surveys	
7. Facilities management manuals, including treatment norms and prescription guidelines, developed for each facility level and distributed.	7. Manuals developed for all facility levels, which include revised MOH formulary, standardized treatment and prescription guidelines, facility-specific drug and supply lists, inventory control guidelines (including reorder points and minimum stock levels), and record-keeping and reporting procedures.	Product availability.	
8. Competency-based training program established for basic health service (BHS) providers and supervisors.	8a. 2 additional trainers trained in competency-based training methodology. 8b. 12 MOH trg. staff trained in curricula development and evaluation of trg. 8c. 26 emergency medical services mgrs. trained.	MOH records.	
9. Computerized MIS with six sub-systems operational.	9a. 45 new microcomputers operational. 9b. Software developed/adapted for six sub-systems.	Site visits and MOH reports.	
10. MOH staff trained in use of micro-computers and MIS systems use.	10a. 79 MOH personnel trained in operation and/or programming.	MOH records.	Personnel trained on MIS can be retained by MOH.
11. MOH capability to conduct applied health services studies established.	11a. Regional applied health services research committees established. 11b. 20 applied health services studies completed.	MOH reports:	MOH managers are receptive to suggestions for program modification.
12. Policy and program planning skills upgraded of key decision-makers and supervisors.	12a. 61 participants complete training in health program planning, administration, and applied research.		

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
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A.I.D.

(1) COMMODITIES			
A. Pharmaceuticals and supplies	\$28,700.0		
B. Insecticides	2,300.0		
C. Equipment and materials	700.0		
D. Vehicles	4,588.0		
E. Computer Equipment	687.0		
(2) PERSONEL	550.0		
(3) CHILD SURVIVAL PROMOTION/HEALTH EDUCATION	950.0		
(4) PARTICIPANT TRAINING	300.0		
(5) TECHNICAL ASSISTANCE			
Long term	3,825.0		
Short term	2,030.0		
Training Program Support	850.0		
(6) EVALUATION	230.0		
(7) CONTINGENCY	2,290.0		
TOTAL A.I.D. INPUTS	\$48,000.0		

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
GES			
(1) Pharmaceuticals and supplies	\$25,000		
(2) Infrastructure construction/ refurbishment	1,675		
(3) Personnel	2,930		
(4) Child Survival Promotion/ Health Education	425		
(5) Participant Training (Salaries)	41		
(6) Training Program Support	110		
(7) Program Logistic Support	<u>1,405</u>		
Total GES Inputs	<u>\$31,586</u>		

Annex B.

Scope of Work

1. Background

The goal of this Project is to assist the Ministry of Health to improve access to, and availability of, basic health care support and strengthen the capability of the Ministry of Health (MOH) to deliver and support basic health care services, including preventive and primary care services important to the MOH child Survival Program.

This 48 million dollar five year Grant provides commodities, financial and technical assistance to the Ministry of Health. The Project of three components, as follows:

- Logistical support: Acquisition, Distribution and Management of Drugs, Medical Supplies, Equipment and Facilities.
- Improving Basic Health Services Delivery, and,
- Strengthening Policy and Program Planning and Management.

The specific End of Project (EOP) outputs of the Project as established in the Logical framework of the Project Paper, include:

1. 90% of open MOH care facilities have meet a least minimum stock levels (appropriate to the level of facility) of equipment) functioning.
2. 90% of MOH bio-medical equipment (including cold chain equipment) functioning.
3. 25% increase in the number of consultations given at the primary level (Units, Posts, and by community workers);
4. 20% increase in amount of MOH operational budget allocated for regional health services (i.e., facilities other than hospitals and outreach programs).
5. Improve MOH policy, program planning and management capabilities.

The Project Grant Agreement was assigned on August 29, 1986, but actually began full implementation in August, 1987.

2. Purpose of the Evaluation

The purpose of the evaluation is to measure progress in the delivery of commodities and planned improvements in the acquisition and management of drugs and medical supplies; to compare efficiency of the maintenance systems for equipment and facilities before and during the Project implementation; to measure progress in implementing malaria control activities; and to compare the status of the establishment of the MIS with the Project Plan. This evaluation will be used as the basis for a joint GOES/AID review of Project activities and economic conditions relevant to continuing commodity support requirements of the MOH and the programming of planned future year obligations under the Project.

3. Activity to be Evaluated

This will be the first evaluation of the Health Systems Support (APSISA) Project No. 519-0308, as described in Article C Section C of Annex I of the Grant Agreement.

4. Objective

4.1. General Objective: To measure progress in the delivery of commodities and planned improvements in the Acquisition of drugs and medical supplies; in the extension of health services to rural areas; in the implementation of malaria control activities; in the establishment of MIS; to compare the efficiency of maintenance systems for equipment and facilities before and during Project implementation; and to determine changes, if any, which should be made in the Project.

4.2. Specific Objectives: This evaluation will determine the level and scope of project impact on the capability and performance of the Ministry of Health to support health services. In order to do this, a three person evaluation team will review and assess the following major factors:

1) Project accomplishments, problems/constraints and lessons learned in the general sense;

2) Key MOH service systems impacted by this project (e.g. Health Supplies Systems, Management Information Systems, Malaria Control Supplies System, Drug Quality Control System, Public Health Care Delivery Systems) vis a vis project output indicators;

3) Extent to which systems improvements have been implemented and institutionalized in the MOH.

4) Project achievements in improving health services delivery, and;

5) Project related achievements in strengthening Policy and Program Planning and Management.

Based on the information provided above, the team will make recommendations for improving implementation during the remainder of this Project.

5. Statement of Work

5.1. Specific Tasks

1) To what extent has the APSISA Project increased the ability of the MOH supply adequate levels of drugs and medical supplies to health facilities? Consider the following:

- Selection of appropriate drugs and supplies
- Determination of drug quantities required
- Warehousing and distribution system.
- Drug procurement system
- Drug quality control procedures

2) What progress has been made in the development of computer sub-systems in procurement, supply management, health statistics and maintenance; training in computer use; and installation of computer hardware?

3) How has the Project improved the MOH Malaria Program? What Project activities have impacted on the changing incidence of Malaria?

4) How has the Project improved basic health services delivery?

5) How has the Project strengthened Policy and Program Planning and Management?

6) Based on this evaluation, what specific recommendations (not more than ten) can be made improving implementation of the APSISA Project?

5.2. Methodology

The evaluation methodology should include, but not be limited to:

- A. Interviews with MOH, USAID (HPN), MSCI and Clapp & Mayne personnel involved in the Project.

- B. Site visits to MOH facilities and projects (e.g. Malaria, Community Health), subject to approval by the USAID.
- C. Review of the following basic reports (minimum)
 - HPN APSISA Project files
 - HPN Project reports
 - MSCI and Clapp & Mayne monthly and annual reports
 - Applied Health Service Studies (completed under Project)
 - Facilities Management Manuals (completed under Project)
 - Review of Project Procurement documentation.

5.3. Level of Effort

It is envisioned that the scope of work contained could be accomplished in a 4 week period by a three person team. While the work of the team has been broken down into suggested specific scopes of work for the individual members, the general intent is to bring together a group of technical specialists which, in the aggregate, has the balance of academic background, specific work experience and technical expertise needed to understand the work and to produce a quality document. In this connection, it is paramount that the individual consultants work as a team so that the end product is a natural, well coordinated discussion work. A six day work week is authorized.

5.4. Qualifications of Personnel

The contractor shall provide a three person team with qualifications described below or those acceptable to USAID/El Salvador:

1. Team leader - Master in Public Health or equivalent with at least 5 years experience in Latin America in evaluating, designing, or implementing health projects. Fluent Spanish (FS-3 or equivalent). The team Leader will be responsible for coordinating the evaluation and specifically, for evaluating Project achievements in Basic Health Services Delivery; Training; Health Education; Research; Policy and Program Planning and Management and preparation of the draft/final evaluation report. He/she is also responsible for coordinating/editing the written inputs of the other team members.

2. Logistics-Master in Social Sciences or equivalent with extensive experience in Latin America (preferably El Salvador) pharmaceutical procurement and medical supply systems. This consultant will be responsible for evaluating project progress in

the delivery of commodities and planned improvements in the acquisition of drugs and medical supplies, as well as progress in the quality control lab.

3. Systems Analyst/Health Finance-Master in Social Sciences or equivalent with extensive experience in Latin America (preferably El Salvador) in designing, evaluating, or implementing management information systems. This consultant will be responsible for evaluating progress in MIS equipment purchases and installations; the implementation of MIS sub-systems; progress in the bio-medical maintenance program and Transportation Division; and achievements of the MOH Malaria Program.

All of the above consultants should be in very good physical and mental condition which will allow him/her to carry out his/her work under El Salvador's present political conditions.

6. Reporting Requirements

The contractor shall provide the USAID with following reports:

1. Within three days of arrival, the team submit for USAID approval a working outline of the evaluation.
2. The team provide USAID a list of proposed site visits at least 48 hours of making a trip.
3. At least 5 working before leaving El Salvador, the Chief of Party will provide the USAID with copy of the draft report in English and Spanish which shall contain the same sections outlined at the beginning of the consultancy. This draft will be reviewed by the USAID and MOH and returned to the chief of party with corresponding comments/recommendations:
4. The contractor shall incorporate the comments and recommendations suggested by the USAID into the Final report. A final draft report will be delivered in English and Spanish to the USAID immediately before departure. This final draft report shall contain the same sections to be included in the final evaluation report as outlined below.
5. Within three weeks after leaving the country, the contractor shall send to the USAID ten copies of the final report: five in English and five in Spanish. The evaluation report will include the following sections:
(A) an Executive Summary, including purpose of the evaluation, methodology used, findings, conclusions and

recommendations. It will also include comments on impact and lessons learned. It should be complete enough so that the reader can understand the evaluation without having to self-contained document. The summary should be a self-contained document.

(B) A copy of the scope of work under which the evaluation was carried out. The methodology used will be explicitly outlined and each scope will contain the requirement to assess how (and how successful) the project or program being evaluated fits into the Mission's overall strategy. Any deviation from the scope will be explained.

(C) A listing of the evaluation team, their field of expertise and the role they played on the team.

(D) A clear presentation of the evaluation recommendations, in a separate section of the report if convenient, so that the reader can easily locate them.

(E) The Project's lessons learned should be clearly factors that proved critical to project success or failure, bureaucratic preconditions within the host country and AID. These should also include a discussion of the techniques or approaches which proved most effective or had to be changed and why. Lessons relating to replicability and sustainability will be discussed.

(F) A paginated Table of Contents.

Annex C: The Evaluation Team

Clifton B. Chadwick, Ph.D., Team Leader

Dr. Chadwick is a psychologist, with twenty-five years of experience in project design and evaluation for USAID, The World Bank Group, the Organization of American States, UNESCO, UNICEF, UNDP and many private organizations and universities in education, health and population issues. He has been the editor of a major Spanish-language journal and is currently a member of Editorial Boards of several journals. Dr. Chadwick has written more than one hundred articles and thirteen books published in seven languages. His teaching experience is extensive. Recently, Dr. Chadwick was the Team Leader for the preparation of the El Salvador Family Health Service Delivery Project Paper. He has worked in almost all countries in Latin America and the Caribbean, as well as in Africa and Asia. He is completely fluent in Spanish.

Dr. Chadwick has been responsible for the overall document, as well as planning, research and education.

John Fiedler, Ph.D., Economist

Dr. Fiedler is an economist and international health analyst with over fifteen years of diversified experience in designing, evaluating and implementing management information systems. Dr. Fiedler has worked extensively in Latin America and the United States in the areas of epidemiology, health planning, health/medical economics, financial and statistical analysis and education programs evaluation. He has designed multisectorial projects in malaria, evaluated self-financing primary health projects, and prepared economic analyses and cost-effectiveness studies of various health interventions. He has consulted in Guatemala, Honduras, El Salvador, Ecuador and Bolivia. He has an FSI rating of 3 in Spanish.

Dr. Fiedler has been responsible for management information systems, financial systems, decentralization issues, and personnel issues.

Patricia Martin, M.S. in Public Administration.

Ms. Martin has broad experience in community health issues, with over twelve years in project and program analysis and evaluation, identification and design, management and training, technical writing, field and secondary research, in primary health care including nutrition, child survival, sanitation and family planning, community participation and development, social analysis, women in development, microenterprise, education and

housing/community improvement. Among her many accomplishments, she wrote the social soundness analysis for the AID Project Paper for marginal urban settlements in El Salvador. Ms. Martin has worked in Bolivia, Belize, Costa Rica, Haiti, El Salvador, Egypt and other countries for USAID, The World Bank Group, PAHO, and private organizations. Ms. Martin is completely fluent in Spanish.

Ms. Martin has been responsible for Community Health, Health Education and related issues.

David Lee, M.D., Pharmacologist

Dr. Lee holds a degree in Medicine from the Facultad de Medicina, University of Panamá, and has postgraduate training in Clinical Pharmacology at Karolinska Institutet Huddinge University Hospital (Sweden). He has diversified experience in logistics, pharmaceutical supply management, procurement, warehousing and distribution of pharmaceuticals in Central, Latin America and the Caribbean and has expertise in the public health sector collaborating with government agencies and private sector institutions, particularly PAHO and the World Health Organization. He has published several articles on clinical pharmacology and drug utilization and distribution. Spanish is Dr. Lee's native language, and he speaks fluent English, French, and Cantonese.

Dr. Lee has been responsible for Acquisition, Logistics, Distribution, Quality Control, and related issues.

Annex D.

Evaluation Methodology

The methodology for this document was specified in the Scope of Work, as follows:

The evaluation methodology should include, but not be limited to:

- A. Interviews with MOH, USAID (HPN), MSCI and Clapp & Mayne personnel involved in the Project.
- B. Site visits to MOH facilities and projects (e.g. Malaria, Community Health), subject to approval by the USAID.
- C. Review of the following basic reports (minimum)
 - HPN APSISA Project files
 - HPN Project reports
 - MSCI and Clapp & Mayne monthly and annual reports
 - Applied Health Service Studies (completed under Project)
 - Facilities Management Manuals (completed under Project)
 - Review of Project Procurement documentation.

The Project Evaluation Team labored from June 11 to June 30, 1990 in gathering and analyzing data relevant to the objectives of the APSISA Project and particularly the logical framework. More than one hundred persons were interviewed and more than twenty site visits were made (see Annex E). About ninety documents were analyzed (see Annex F).

In each interview, site visit or bibliographic analysis, Evaluation Team members used lists of specific information which they wished to obtain in relation to Project goals, objectives and EOP status. Further, the Team members made specific efforts to gather related information, particularly of a qualitative nature, to improve the validity and robustness of the information gathered.

As information was gathered, Team members shared their findings to facilitate the assurance of validity and to generate new ideas from the interchanges. As Project relevant data was accumulated, Team members cross-checked its validity with MOH personnel, technical assistance staff and AID Project monitors. All data presented has been cross-checked several times. Draft versions of material prepared for this report were read by relevant Project personnel for further inputs and suggestions. The entire document was reviewed three times by AID/HPN staff.

Annex E:

Persons Interviewed by the Evaluation Team

AID

Mr. Richard Thornton, Director, Health, Population and Nutrition
 Mr. Kevin Armstrong, Deputy Director, Health, Population and Nutrition
 Mrs. Sandy Del Prado, AID APSISA Project Manager
 Mr. Jack Dale, AID Assistant APSISA Project Manager
 Mrs. Beverly Latham, Project Officer
 Ms. Debbie Kennedy, Director, Projects Office
 Dr. Francisco Molina, Planning Office
 Mr. Fred Thill, Procurement Specialist, APSISA Project

Clapp and Mayne (APSISA Project Technical Assistance)

Dr. Eusebio del Cid, Chief of Party
 Dr. Ingrid Hernandez-Matheson, Health Advisor
 Dr. Federico K. Rocuts, Research Advisor
 Dr. Reynaldo Grueso, ex-Chief of Party
 Mr. Ramón Ríos-Yambo, MIS Advisor
 Dr. Luis Carlos Gómez, Short-term Research Advisor

MSCI (APSISA Project Technical Assistance)

Dr. Rafael A. Cedillos, Chief of Party
 Lic. Arturo Waldron T., Logistics Advisor
 Ing. Carlos Castaño, Procurement Advisor
 Arq. José Luis Azócar, Logistics Assistant Advisor
 Ing. Armando Santamaría, Warehouse Advisor
 Ing. Gustavo Soriano, MIS Advisor
 Ing. Ruben Worrell, Bio-Medical Equipment Advisor
 Dr. Mauricio Saurbrey, Malaria Advisor
 Ing. Henry Weiss, Transportation Advisor
 Dr. Albin Chaves Matamoros, Short-term Pharmacological Advisor
 Lic. Jorge Mazzini, Monitor
 Lic. María Luisa Pacheco, Monitor
 Lic. Silvia de Castaneda, Monitor
 Lic. Mauricio Merino, Monitor
 Lic. Mauricio Guevara, Monitor

Ministry of Health, San Salvador

Dr. Gustavo Argueta, Vice Minister
 Dr. Jose Federico Hernandez Pimentel, Director General
 Members of the APSISA Steering Committee (observed steering committee)
 Lic. Judith de Lopez, Administrative Director and APSISA Coordinator
 Lic. Mercedes de Irigoyen, Administrative Assistant, APSISA
 Dr. Sonia de Melchor, Director, Community Health Department
 Dr. Angel Guerra, Chief, Malaria Department
 Dr. Mario Montes, Malaria Department
 Mr. Jesus Guevara, Chief of Field Operations, Malaria Department

- Dr. Delmy de Hernandez, Director, Health Education Unit
 Dr. Julián Rodríguez, Director, Planning Department
 Dr. Otto Rosales (Interim chief, UTMIM)
 Sr. Alejandro Jacobo (Interim chief, Proveeduría)
 Ing. Fermin Lopez (Maintenance Dept)
 Ing. Mauricio Consuegra (Maintenance Dept)
 Dr. Luis Navas (Chief of Central Laboratory)
 Lic. Wilfredo Santillana (Administrator, Occidental Region)
 Lic. Aracely S. de Menjivar (Chief of Supplies, Occidental Region)
 Dr. Humberto Alcides Urbina (Director, Central Region)
 Lic. Hector Raúl Echeverría (Administrator, Central Region)
 Lic. Elizabeth P. de Merino (Chief of Supplies)
 Dr. Fabio Molina Vaquerano (Director, Paracentral Region)
 Sr. Jorge Isidro Burgos (Chief of Supplies, Paracentral Region)
 Lic. Antonio Romero, Head, Clinical Laboratory (Paracentral Region)
 Ms. Marta María Coreas, Chief of Personnel (Paracentral Region)
 Mr. Mauricio Anaya, Cómputos (Paracentral Region)
 Mrs. Dolores de Barías, Computos (Paracentral Region)
 Mrs. Yanira Liseth Rivas de Alfaro, In charge of Pharmacy and Warehouse (San Rafael Cedros Health Unit)
 Mr. Juan Antonio Henríquez Cañenguez, In charge of warehouse (Cojutepeque Health Center)
 Mr. Mario Perfecto, Warehouse assistant (Cojutepeque Health Center)
 Lic. Wilfredo Santillana, Administrator (Western Region)
 Mr. Felix Mendoza, Warehouse keeper (Western Region)
 Mr. Douglas, Cómputos (Western Region)
 Dr. Margarita de Guevara, Medical Director (Chalchuapa Health Center)
 Mr. Julio César Arena, Warehouse keeper (Chalchuapa Health Center)

Ministry of Health, Regional Offices and Establishments

- Dr. Jaime Napoleón Cárcamo, Regional Director, Western Region
 Miss Magdalena Cañas, Nurse Supervisor, Western Region
 Mr. Esteban Retana, Chief, Statistics, Western Region
 Mr. Juan Antonio de León, Regional Supervisor for Promoters, Western Region
 Mr. Francisco Estrada, Regional Chief, Malaria, Zone I, Western Region
 Mr. Carmen Vásquez Orellana, Chief, Department of Malaria, Western Region
 Mr. Carlos Antonio Rodas G., Epidemiological Auxiliary, Malaria, and a volunteer collaborator, Canton Ayutica, Western Region
 Dr. Atilio Arturo Lopex A., Medical Coordinator, CHP, Central Region
 Mrs. Gisela Cente de Guerrero, Nurse, Central Region
 Mrs. Martha de Quintanilla, Statistician, Central Region
 Mr. Rodolfo Antonio Deras, Regional Supervisor of Promoters,

Central Region

- Mr. Carlos René Araujo, Inspector, Central Region
 Mr. Paulino Serrano, Health Educator, Central Region
 Health Unit Staff (doctor, auxiliary nurse, collector, secretary and promoters), Candelaria la Frontera, Western Region
- Specific supervisor and promoter, CHP, Canton Ayuta, Caserio Pinal Granada, Western Region
 - Group interview of 10 promoters, CHP, Central Region
 - Group interview of 5 specific supervisors, CHP, Central Region
 - Interview with Regional Coordinator and Regional Supervisor, CHP, Eastern Region
 - Interviews with Mr. Andres Elias Najarro, Regional Malaria Chief, Zone II; Mr. Isabel Mejia Henríquez, Field Chief, La Libertad Department; and Mr. Jose Antonio Tórriz Anzora, Epidemiological Auxiliary, Canton Cangrejera.

Pan-American Health Organization

Dr. Luis Octavio Angel, Representative in El Salvador

Financial Accounting Department

Sra. Dina Mata de Leiva, Director

Other staff, including microcomputer center staff

Lic. Eduardo Peña, Economist, Commercial Section, State Dept.

Institutional Development Unit, Planning Department

Lic. David Castro, Financial Expert

Lic. Regina Guzmán de Molina, Chief

Lic. Mercedes Oviedo, Personnel Expert.

Statistics Unit Planning Department

Dr. Alfredo Galán Avalos, interim chief

Ms. Miriam Rivera, Chief of the Computer Center.

Banco Central de Reserva de El Salvador.

Lic. Salvador Oswald Brand, Monetary Group.

FUSADES

Mrs. Sandra R. Vásquez de Barraza, Chief Social Studies Section,
 Department of Economic and Social Studies

Site Visits

- Lourdes Health Unit, La Libertad, Central Region
- Tepecoyo Health Post, La Libertad, Central Region
- Regional Warehouse, Santa Tecla, Central Region
- Santo Domingo Health Post, Paracentral Region
- San Rafael Cedros Health Post, Paracentral Region
- Cojutepeque Health Center, Paracentral Region
- Regional Warehouse, San Vicente, Paracentral Region
- El Congo Health Unit, Occidental Region

- Regional Warehouse Santa Ana, Occidental Region
- Chalchuapa Health Center, Occidental Region
- Central Warehouse, El Matazano, San Salvador
- Drug Quality Control Laboratory, El Matazano, San Salvador
- Central Maintenance Shop, El Matazano, San Salvador
- Central Maintenance Department, Plantel San Esteban, San Salvador
- Central Laboratory, San Salvador
- Visit to community-constructed water system, Canton La Criba, Caserio Candelaria la Frontera, Western Region
- Visit to Regional Hospital San Juan de Dios, Eastern Region
- Visit to Health Center, San Francisco Gotera, Eastern Region
- Visit to Canton El Triunfo, Caserio los Lopez, to interview a specific supervisor and a health promoter, Eastern Region
- Visit to Ticuiziapa source reduction project and Hacienda Cangrejera, La Libertad.
- Visit to Matazano central warehouse complex

Annex F: Bibliography

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S.S. Oct. - 1989.

Preparado por: Asistente Tecnico - ATS/MSCI
Mauricio Guevara, Jorge Manzini, Silvia Castaneda,
M.L. Pacheco, M.Merino

"Comentarios al Programa de Compras de UTMIM
1988, Medicamentos y su evolucion (incluye compras, PIO 89)
Por: Arturo Waldron (Asesor de Logistica, MSCI)
MSCI (enero 89)
APSISA/RPTE.6

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Bienio 1989/90
Por: Arturo Waldron.
MSCI - Enero 89
APSISA/RPTE.40

MSCI
Proyecto Apoyo a los Sistemas de Salud
Proyecto AID No. 519 - 0308
"Documento Tecnico del Subsistema Estimaciones de Consumos"
S.S. - Sept. 89
APSISA/RPTE.45

"Cuadro Basico de Odontologia"
Por Lic. Arturo Waldron (Asesor de Logistica MSCI)
Colaboracion de: Dr. Gregorio Adolfo Arevalo Molina
Dres. Jaime Ricardo y Otto Rosales
Lic. David Castro

"Cuadro Basico de Insumos Medico-Quirurgicos"
Por: Lic. Arturo Waldron
Colaboracion de : Dres. Jaime Ricardo y Otto Rosales
Lic. David Castro
MSCI - S.S. Abril 90
APSISA/RPTE.24

Proyecto de Apoyo a los Sistemas de Salud Apsisa A
Suministros del Ministerio de Salud Publica y Asistencia
Social (SIGSS) Por Lic. Arturo Waldron, Ing. Gustavo Soriano
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Por: Arturo Waldron
MSCI - S.S. Agosto 89
APSISA/RPTE.9

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(Periodo 87-91)
Por. Arturo Waldron
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"Perfil Metodológico para la Elaboración del Plan Nacional
de Salud 1990-1994"
El Salvador - Agosto 1989

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Diciembre 86

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S.S. Diciembre 89
Análisis de Actividades de Capacitación
86-89
Por: Estela Guzmán de Arevalo
Sra. Gloria de Hernández

"Calidad de Atención Básica de Enfermería"
Estudio de Valoración
Por: Lic. María del Tránsito Rosas de Ahues

Lic. Rina Yolanda Perez
 Sra. Maria del Carmen Bolaños
 Sra. Maria Esther de Hernandez
 Sra. Ana Maria Alfaro de Sanchez
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 Especificos de Salud Comunitaria"
 Lic. Jose Vicente Rodriguez A.
 Dr. Federico K. ROCUTZ
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 Direccion de Planificacion de Servicios de Salud
 Unidad de Programacion
 Proceso de Planificacion de la Salud a nivel Local
 Clapp and Mayne, Inc.

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 Consulta Externa de los Establecimientos del Ministerio
 de Salud Publica y Asistencia Social
 Año 1987

Epidemiologia y Prevencion de la Muerte Institucional
 en El Salvador - 1983-1987
 Dr. Jose Douglas Jarquin, Investigador Priincipal
 Dr. Federico K. Rocuts, Asesor en Investigacion
 S.S. , Enero 1989

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 (UNICEF) S.S. 1989

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Vol I. Encuesta de Hogares: Metodologia y Resultados
(REACH) Apendices.

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de Salud en Areas Rurales. Programa de Desarrollo y Apoyo
519-0178

Evaluacion de las Condiciones de Eficiencia en los Servicios
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Management Training. June 1986. (Barton R. Burkhalter)

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Annex G:

Background Information on the Ministry of Health

- I. Structural Impediments to Improving the MOH's Performance
 - 1. Organizational Fragmentation
 - A. Centralized vs Decentralized Agencies

The Ministry of Health is divided into two general categories of organizational entities. The Central Office and the Regional Health Services constitute the Centralized Agencies. The other half of the Ministry consists of the Autonomous, or Decentralized Agencies, which are finally dominated by the 14 hospitals. The Autonomous Agencies entities label is accurate. These organizations independently plan their own activities, submit and execute their budgets, compile and submit their own program statistics. They are dependencies of the MOH only in name. Historically, the hospitals began as independent entities outside of the MOH structure until the mid-1960s.

The effort to integrate the hospitals into the MOH was a shortlived one. In 1969, they again became completely independent organizations, only to be reemerged with the Ministry in the early 1970s. The hospitals' budgets and activities are not controlled at the MOH Central Office. Two documents regularly prepared by the State Secretariat include information about the hospitals, but the data are simply compiled and reported by the Central Office. No analysis is performed. The first document is the hospitals' annual budgetary requests, which contain: (1) budget requests for the coming year, (2) the final (as opposed to initial) budget appropriations of the current year, and (3) the actual expenditures of the previous year. This document submitted annually to the MOH's Financial Accounting Department as part of the budget exercise. The Autonomous Agencies' requests are added to those of the rest of the Ministry and the resulting document is submitted to the Ministry of Finance. The second document is the Summary of Hospital Activities, compiled and reported by the Statistics Unit on a quarterly and annual basis. The Summary is a 6-page document containing a detailed accounting of inpatient and outpatient service provision on a facility-specific basis. The Statistics Unit prepares an identical set of service indicators for the health Centers which also included in the Summary. The Summaries are the single most important set of data for monitoring service provision by the Centers and hospitals. An analysis of the efficiency of hospital and health Center services requires combining the budget for expenditures and cost data and the

Summaries for service delivery statistics. The Preproject Documents are internal working papers of the Treasury and the MOH. They are the only documents available with disaggregation of hospital expenditures and costs. Moreover, the only other document with other than a single lump sum for the hospitals' budget appropriations is the annual publication of the entire Central Government budget, the Budget Law. In all other documents, hospitals' entire budget appropriations and their expenditures are reported as a single lump sum figure. It is not possible to obtain current year information on the hospitals' budgetary expenditures (even on an aggregated, all-facilities basis) at the MOH Central Office. The unavailability of such basic information about the hospitals shows their independence. The marked degree of hospital autonomy constitutes a major impediment to MOH planning. Without control or even current, basic knowledge about the hospitals, the MOH Central Office, and its Planning Department, cannot plan the MOH's activities. The hospitals' share of MOH resources has been constant over of the past decade. Unfortunately, data available in the Treasury's annual publication is less than ideal for measuring the proportion of total MOH financial resources going to the hospitals.

A measure of all recurrent transfers to the hospitals, is the sum of actual expenditures and earmarks. These measures are presented in Exhibit 7 for 1985 through 1988. This indicator shows that hospitals receive 50 percent of the MOH's total operations expenditures. One of the APSISA EOPS indicators calls for a "20 percent increase in of MOH operational budget allocated for regional health services (i.e., facilities other than hospitals and outreach programs)". It is not clear if the 20 percent increase is to be in the share of the operational budget, the number of colones allocated, or the number of real colones allocated. If it is the former, no progress has been made in achieving it. A second measure includes only the actual expenditures of the hospitals, and not their earmarks. In prior to 1985 the hospitals received roughly half of the total departmental supplies. After 1985, the proportion going to hospitals slowly increased to reach about 75 percent in 1989 linear extrapolation of the rate of increase of hospitals' share of these expenditures, added to that of the hospitals' recurrent transfers reported in Exhibit 8, reveal the hospitals' share of total MOH operations expenditures to be slightly higher (55.0 vis-a-vis 50.1 percent, respectively). By this measure, the EOPS indicator still does not appear to be attainable. A third

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EXHIBIT 7
THE PROPORTION OF MCH GENERAL BUDGET FUNDED OPERATIONS
EXPENDITURES AND EARMARKS ("COMPRONISOS") MADE BY THE 14 HOSPITALS*

YEAR	TOTAL MCH OPERATIONS EXPENDITURES	TOTAL HOSPITAL EXPENDITURES AND SHARES
1985	164,445,382	79,879,388 (48.6%)
1986	216,959,245	103,682,988 (50.5%)
1987	233,729,626	118,783,575 (50.8%)
1988	243,317,597	122,598,270 (50.4%)
1989		

Note: Includes "Total Utilizado" for all "Transferencias Corrientes" and "Financiamiento"

EXH-7.WK1

EXHIBIT 8
 THE PROPORTION OF MOH GENERAL
 BUDGET-FUNDED OPERATIONS AND EXPENDITURES
 MADE BY HOSPITALS

YEAR	TOTAL MOH OPERATIONS EXPENDITURES	TOTAL HOSPITAL EXPENDITURES AND SHARES
1979	123,168,952	70,395,374 (57.2%)
1980	147,491,830	82,962,381 (56.2%)
1981	152,184,161	83,431,628 (54.8%)
1982	149,823,895	83,842,297 (55.4%)
1983	143,515,369	80,324,454 (56.0%)
1984	157,288,512	87,933,232 (55.9%)
1985	164,445,381	92,415,713 (56.2%)
1986	190,830,115	103,602,980 (57.7%)
1987	208,923,380	112,820,240 (54.0%)
1988	212,260,380	110,357,800 (52.0%)
1989		

* Hospital Expenditures are the sum of total transfers received from the MOH plus half of actual expenditures Budget Program Code 1.02 General Administrative Services' Subprogram 029 Departmental Supplies of Materials and Equipment in 1979 through 1985.
 1985 The proportion of Departmental Supplies going to hospitals increased by about 5% of the total each year, to reach 75% in 1989.

measure is to assess the changing share of the hospitals in total MOH operating expenditures is to apply the methodology to the regional health services (i.e., the Centers, Units and Posts). The aim is to disentangle growing service delivery expenditures from growing Central Office administrative expenditures. Exhibit 9 presents these results. The split between the hospitals and the regional health services has remained constant over the decade of the 1980s, with 4 of the 8 years have precisely the same division, 61.6 versus 38.4 percent, respectively. In the last two years the regional health services' share has edged up slightly.

The change in the nominal expenditure level of the regional health services between 1987 and 1988, was 6.4 percent. If this pace is maintained, the EOPS indicator of a 20 percent increase in the operational budget expended on regional health services, will be achieved. Whether or not this will have been because of the impact APSISA on MOH resource allocation decision-making and planning, however, is not clear.

B. Growth in Non-Hospital Transfers to Non-MOH Entities

The degree of Central Office control over the Ministry's budget and activities is far from complete. The autonomy of the hospitals leaves the MOH Central Office with control of slightly less than half of the Ministry's total resources. Further, the Central Office's control and authority is being increasingly compromised by another development. Appropriations to other-than MOH organizational entities increased by more than 40 percent (in nominal terms) throughout the past decade (see Exhibit 10). Monies labeled "MOH funds" pass through the Ministry earmarked for other organizations working in the public health sector, but over which the MOH has no control. By 1988, these "pass-throughs" constituted 17 percent of the regional health services' total expenditures and 5 percent of total MOH operating expenditures. The organizations receiving these funds include:

- The Narcisa Castillo Old Folks Home in Santa Ana (which receives about two-thirds of all these monies).
- The Salvadoran Red Cross.
- The Higher Council of Public Health
- The National Cancer League
- The Salvadoran Institute for Rehabilitation of Invalids
- The National Association of Nurses
- Seven different charity groups of St. Vincent de Paul, and,
- The Dr. Luis Vasquez National Medicine Prize.

EXHIBIT 9
 ACTUAL GENERAL BUDGET-FUNDED OPERATIONS EXPENDITURES:
 RELATIVE SHARES OF THE REGIONAL HEALTH
 SERVICES AND THE HOSPITALS*
 (In thousands of colones) (Relative share of their combined totals)

YEAR	THE REGIONAL HEALTH SERVICES (CENTERS, UNITS, POSTS)	THE 14 HOSPITALS
1981	43,883 (38.4%)	69,199.8 (61.6%)
1982	41,829.2 (38.4%)	67,299.1 (61.6%)
1983	41,863.2 (37.8%)	67,435.4 (62.2%)
1984	46,207.9 (48.8%)	69,288.8 (68.81%)
1985	49,743.9 (30.4%)	79,879.1 (61.6%)
1986*	68,914.2 (36.7%)	108,888.2 (63.3%)
1987	67,728.2 (38.4%)	108,423.4 (61.6%)
1988	72,844.5 (39.5%)	118,357.8 (68.51%)

Regional Health Services Expenditures are the "total utilizado" reported in Budget Program Code 1.86, which is the sum of "Gastos" and "compromisos". Servicios Operativos de Salud's Budget Subprogram Code 019. Servicios Regionales de Salud and hospitals' are the sum of Budget Code 201's 14 individual hospital "total utilizado" entries as reported in the annually published table "Estado de Gastos por Clases Generales del Presupuesto General de (año), Resumen por Categoría de Programas, Unidades Primarias de Organización y Detalle de Programas", of the Ministry of Finance's Informe Complementario Constitucional Ejercicio Fiscal.

* Note: On October 18, 1986 a severe earthquake ravaged San Salvador

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EXHIBIT 10
 THE DILUTION OF MOH FINANCIAL RESOURCES:
 GROWTH IN NON-HOSPITAL
 GENERAL BUDGET-FINANCED MOH TRANSFERS TO NON-MOH ORGANIZATIONS

	NON-HOSPITAL NON-MOH TRANSFERS TO ORGANIZATIONS	AS A PERCENT OF REGIONAL HEALTH SERVICES TOTAL EXPENDITURES
1981	5,155,400	12%
1982	4,978,400	12%
1983	5,077,000	12%
1984	11,454,200	25%
1985	7,841,300	14%
1986	8,794,800	14%
1987	10,363,300	15%
1988	12,240,600	17%

Note: These are "total utilizado" which includes expenditures and earmarked commitments ("compromisos")

Source: Computed from the Informe Complementario Constitucional various years.

EXH-10.WK1

This is not a negligible proportion. The MOH has again begun to increase the number of its employees (by 5.3 percent from 1985 through 1989), thereby reducing the availability of financial resources with which to purchase supplies, and the long term falling levels of Central Government allocations to the MOH, together mean that the marginal contributions to these agencies are important. The scarcity of inputs throughout the past decade has been a contributory factor in the falling quality of MOH care, and the depressed levels of service provision/utilization of MOH especially those of the Units and Posts relative to their pre-1979 levels.

This growing diversion of earmarked MOH funds has further diluted the Ministry's ability to plan the public health sector, reduced the Ministry's own resource base, and distorted public perceptions of the effective funding level of the MOH. The growing share of MOH resources transferred to non-MOH facilities, is important with negative repercussions for the quality of MOH service delivery and planning.

B. Investment vs Operations Budgets: Recurrent Cost Implications

A second source of organizational fragmentation which constitutes another impediment to both effective planning and to improving the Ministry's performance is that the development and oversight of the investment and the operating budgets are distinct, administratively isolated activities carried out by separate organizational entities. The Health Engineering Division, is responsible for conceptualizing, evaluating, securing funding for, and implementing new investment projects. It exists and operates independent of the sections charged with the operating budget, the Institutional Development Unit within the Planning Department and the Financial Accounting Division. While the Institutional Development Unit also works on some project development activities, neither of the planning Units has been concerned with recurrent costs.

This is illustrated by the Planning Department's proposed districtization project. Section III below, presents an analysis of the recurrent costs the two proposed schemes. The analysis suggests that the two approaches to districtization are far too expensive for the MOH to even consider undertaking. The institutional division of labor encouraged by the fragmented organizational structure of the Ministry encourages the lack of integration between the investment budget and the operating budget. The division of labor between the planning and the budgeting units compounds this and further reduces the possibility of oversight of recurrent costs. The budgeting unit maintains the budget data while the planning unit plans with piecemeal information about budgets and expenditures, and, little consideration for recurrent costs. No single organizational

entity is charged with developing, implementing or overseeing the entire MOH operating budget. The MOH operating budget is fragmented into more than 15 pieces, which cover the appropriations and expenditures of only the Central Government's General Funds. They do not include funds from donors nor monies generated through two distinct systems of user fees which are levied at MOH facilities. Also the Ministry's approach to planning and budgeting has long been historical-budget based resource allocation. This technique exacerbates the tendency toward persistent underfinancing--particularly in periods of economic decline. We turn to a discussion of each of these topics, starting with "planning."

The MOH's approach to planning and budgeting is historical-budget based resource allocation criteria. The MOH's total budgeted monies are allocated across the different Ministry programs on the basis of the relative shares they received the previous year. Increases in the total MOH budget result in proportion increases in the budget share of the different Ministry programs, and decreases in the budget result in proportion reductions in program budgets. This approach, is status quo oriented, and largely inert. New initiatives, perceived by existing personnel primarily as threats to their own programs and positions, are not encouraged. One manifestation of this is that the MOH's finance/budget department is little more than an accounting department.

The attractiveness of historical-budget based resource allocation is its simplicity. The extreme alternative is zero-based budgeting: starting from scratch each year and documenting the need for the program, justification for its requested monies and defending its performance record. Such efforts are resource-intensive. It is far easier to start with what you had last year, and go from there.

The historical-budget based approach is also attractive because it avoids (or at least minimizes) the direct political confrontations that the resource allocation decisions unavoidably involved in the development of annual budgets would otherwise make more blatant, explicit, and disruptive.

One of the implications of relying on such a resource allocation mechanism is that everything changes at about the same pace. While the entire MOH expenditure level varied a great deal over the eight-year period shown, one can see from the Exhibit 9, that the split between hospitals and the rest of the public care system remained constant. The approach, does not work in situations where the magnitude of the economic contraction is marked. The continued reliance on historical-budget-based resource allocation results in the agency becoming unable to do much of anything very well. Its ability to introduce initiatives is a function of the rate of increase in the budget. Correcting

this fragmented, organizational structure will require either (1) changing the institutional structure, or, (2) introducing the tools required to undertake planning (which is one of the major roles of the APSISA Project). These tools, which include financial, personnel, and service provision information systems are necessary, but not sufficient conditions for effectively implementing planning in the MOH. While APSISA provides the tools with which effective planning may begin, the project cannot insure they will be used effectively. Given the level of donor sponsored activities in El Salvador, adherence to historical budget-based planning, particularly in a time of sharply contracting domestic financing, constitutes abdication of control of the budget, and control of the direction and structural nature of the public health care delivery system. How does a public agency adhering to historical-budget based decision-making, deal with a falling budget? As the size of the budget starts to decline, the first of expenditure casualties are those that do not directly damage the organization or its personnel. Building construction is the first element sacrificed, followed shortly by acquisitions of new capital equipment. Exhibits 11 and 12 shows this coincides with the Salvadoran experience of the last 12 years.

If the economic slide continues, building maintenance and repair are the candidates slated to go first, followed by machinery and equipment repair. If the budget continues to fall, the only remaining budgetary categories are materials, supplies, and personnel. Probably materials and supplies will be the first to go. There is hope that the crisis will soon abate, and that the shortages will only be a temporary (and soon-to-end) inconvenience. Also there is a desire to avoid throwing people out of work, both because of the desire to eschew responsibility for imposing the personal hardship of unemployment on anyone, as well as for the less admirable reason that the number of people under the direction of a manager is the only measure of personal power within the agency (both the managers and their subordinates can, therefore, be counted on to fight). Third the time it takes to hire, orient, and train people to perform a job (and to work within a particular organization) constitutes an investment that is reasonable to try to protect. This has been the response of the Ministry of Health to its long-term budgetary crisis as is evident in Exhibit 13.

EXHIBIT 11
MINISTRY OF HEALTH EXPENDITURES
(IN CURRENT COLONES)

YEAR	TOTAL EXPENDITURES	OPERATING EXPENDITURES	CAPITAL EXPENDITURES
1975	96,465,425		
1976	110,223,320	84,251,800	26,577,420
1977	127,268,820	99,192,400	28,568,420
1978	143,279,820	120,755,300	34,523,520
1979	142,030,500	123,163,000	18,921,500
1980	178,435,720	147,431,100	30,944,620
1981	167,025,300	152,184,100	14,811,200
1982	165,677,180	149,823,100	15,854,080
1983	170,335,300	143,515,300	26,820,000
1984	191,551,200	157,288,500	34,262,700
1985	176,522,700	164,445,400	12,077,300
1986	232,354,485	216,959,245	15,335,240
1987	252,632,912	233,729,626	18,963,286
1988	289,477,236	243,317,597	46,159,639

Figures represent "total utilizado", which is the sum of actual Expenditures ("gastos") and earmarked commitments ("compromisos") Operating expenditures are the sum of operations expenditures ("funcionamiento") and recurrent transfers ("transferencias corrientes")

SOURCE: Informe Complementario Constitucional sobre la Hacienda Publica, Ejercicio Fiscal, various years.

EXH-11.WK1

EXHIBIT 12
THE SHARE OF OPERATING EXPENDITURES WITHIN THE
MCH EXECUTED BUDGETS

YEAR	SHARE OF OPERATING EXPENDITURES
1975	---
1976	76.0%
1977	77.3%
1978	75.9%
1979	86.7%
1980	82.7%
1981	91.1%
1982	98.4%
1983	84.2%
1984	82.1%
1985	93.2%
1986	93.4%
1987	95.1%
1988	94.0%
1989	

Source: Computed from Informe Complementario Constitucional y Informe sobre la Liquidacion del Presupuesto General y Situacion del Tesoro Publico y Patrimonial Fiscal, Direccion de Contabilidad Central, Ministerio de Hacienda , varios anos

EXH-12.WK1

EXHIBIT 13
 DISTRIBUTION OF THE MAJOR GENERAL BUDGET-SUPPORTED OPERATING
 EXPENDITURES OF MOH'S NON-HOSPITAL FUNCTIONS
 (IN THOUSANDS OF COLONES)

YEAR	PERSONNEL	MATERIALS, SUPPLIES MACHINERY & EQUIPMENT	THESE OPERATIONS EXPENDITURES AS A % OF TOTAL OPERATIONS EXPENDITURES
1977	24,936.98 (56%)	19,577 (44%)	98.6%
1978	30,216.98 (78%)	12,946.78 (32%)	98.2%
1979	36,444.70 (78%)	10,079 (22%)	98.2%
1980	46,184.70 (79%)	12,537 (21%)	98.3%
1981	47,422.50 (77%)	14,558 (23%)	98.8%
1982	47,268.60 (85%)	8,175.20 (15%)	98.3%
1983	49,164.40 (87%)	7,173.60 (13%)	98.6%
1984	55,879.70 (93%)	3,970.70 (7%)	98.6%
1985	59,772.10 (92%)	5,358.30 (8%)	97.5%
1986	72,172.60 (92%)	6,688.70 (8%)	98%
1987	79,353.70 (89.%)	9,465.20 (11%)	98.5%
1988	83,384.54 (95.%)	4,344.40 (5%)	97.8%

Source: Informe Complementario Constitucional, Ministerio de Hacienda, various years.

Note: The sues reported here and their corresponding proportions include only actual expenditures made with general government funds the year in which they were originally allocated. The sues reported here and their corresponding proportions do not include "compromisos" i.e., funds earmarked for subsequent spending-most of which are, but are necessarily all subsequently spent. The objects of "compromisos" expenditures are not which are subsequently made identified in the Informe Complementario Constitucional and therefore are not reported here.

The Ministry of Health has had donor agencies which have enabled it to deviate somewhat from this basic pattern. Donors have considerable leverage. Most important has been the InterAmerican Development Bank's Health Facilities Construction Project which spanned 12 years (1974-1986) and under which most of the considerable expansion of the Ministry's infrastructure occurred (see Exhibit 14). The final major episode in the expansion of infrastructure was the opening of 3 new health Centers in 1989. The continued expansion of infrastructure has made it necessary to expand personnel expenditures to staff these facilities, which has meant that all other categories have had to contract that much faster. As may be seen Exhibit 15, since 1977 the share of personnel expenditures has grown from 55 percent of the Centralized Agencies' expenditures to 93 percent in 1988. Expenditures on materials, supplies, machinery, and equipment have fallen from 45 percent to 7 percent over the same period.

In the context of the conditions characterizing El Salvador's past decade--continuing war, a slowly growing GDP, and a persistent, long term growth in public health care facilities, continued adherence to historical-budget based resource allocation and planning mechanism has load the Salvadoran Ministry of Health into a cycle of persistent underfinancing of its recurrent costs. Only the dramatic increases in medical supplies provided by AID through the VISISA and especially the APSISA Project, has kept the MOH in medicines.

C. MOH Financial Systems: Control, Management and Planning Implications.

The MOH has four different principal sources of financing, and a separate and distinct financial system and system of control and oversight for each. The sources are GOES General Budget Funds, Donor Funds, and two distinct user fee systems. No single MOH unit or MOH employee is charged with the responsibility to oversee and manage the Ministry's entire financial system. The financing realm provides yet another example of the Ministry's organizational fragmentation which constitutes a structural (and procedural) impediment to improving its performance. The accompanying table provides a schematic representation of the four MOH financial systems sources of funds, oversight and accountability. There is almost no overlap between the systems.

1. The GOES General Budget Funds.

This is the principal source of MOH funding. The budgetary preparation and disbursement process of these monies is described in part A of this Annex. This money is annually appropriated by the Legislative Assembly and disbursed and

**EXHIBIT 14
EVOLUTION OF THE ROM'S INFRASTRUCTURE**

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Hospitals	14	14	14	14	14	14	14	14	14(0)	14(0)	14	14(0)		14(0)	14(0)
Centers	0	0	0	0	9	11	12	12	12(0)	12(0)	12	12(0)		12(0)	15(0)
Units	72	94	85	103	100	107	97	90	90(0)	100(0)	100	105(1)		116(2)	110(1)
Posts	113	124	135	143	159	161	190	202	200(41)	215(46)	210	221(39)		217(37)	203(27)
Totals:	299	240	242	260	290	293	321	326	332(46)	341(46)	344	352(40)		359(34)	342(28)

Units: Includes: "Unidades de Salud", "Unidades Moviles Comunitarias"

Posts: Includes: "Puestos de Salud", "Puestos de Vacacion", "Puestos Comunitarios" and "Dispensarios de Salud".

Source: Salud Publica en Cifras and Reports, various years.

Note: For 1983, 1986, 1988, and 1989 the table includes information about facility closing Total Number of facilities (Number of facilities which were closed at the time the ROM Statistics compiled this information). The timing of these closings (i.e. the month in which, the table was compiled) varies by year. The duration of the closings is not indicated, although since the source of this data is the "Monthly Reports of the Health Facilities" submitted to the Health Department, it may be presumed to be at various one month.

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EXHIBIT 15
PERSONNEL EXPENDITURES AS A PERCENT OF NON
CENTRALIZED AGENCIES' OPERATING EXPENDITURES

1977	55.2
1978	68.2
1979	75.6
1980	77.7
1981	76.1
1982	83.6
1983	85.8
1984	91.7
1985	89.7
1987	88.8
1988	92.9

Note: Includes only "gastos", not "compromisos".

EXH-15.WK2

monitored by the Treasury. The Ministry of Health's Financial Accounting Department bears the responsibility for preparing all General Funds budget requests, for tracking and auditing all expenditures and earmarks of these monies, and for reporting this information to the Treasury person who is responsible for overseeing and monitoring the public health sector budget. In addition to the official responsibility of the Financial Accounting Department to manage and maintain oversight of these monies on an MOH-wide basis, there is an individual in the MOH Planning Department's Institutional Development Unit (UDI) who is fairly knowledgeable about the General Funds budget and budget processes.

2. Donor Funding/Extraordinary Budget Funds.

The considerable international assistance (both grants and loans) is managed by the Ministry of Planning (MIPLAN) Secretariat of Foreign Assistance, SETEFE. SETEFE communicates directly with the MOH Vertical Programs which receive such monies (such as the APSISA Project Office within the MOH). Neither the Financial Accounting Department nor the individual in UDI track these monies or is very knowledgeable about them.

3. User Fee Revenues from Health Board-Sponsored Services.

All four types of MOH facilities have local community health boards (patronatos) which collect user fees on outpatient consultations, injections, and some medicines. For the most part, the local board determines the disposition of the monies collected. The Regional Offices have implemented a system (on their own authority) to attempt to monitor these funds. The Regional Offices require that MOH health establishments obtain ante approval for expenditures exceeding a stipulated amount (which varies by Region). Four of the 5 Regional Offices also have systems which entitle them to between 5 and 7 percent of the health Units and Posts patronatos earnings generated (only) from their outpatient fee. In 1988, the last year for which there is complete data, the health boards of the Centers, Units and Posts earned 6.1 million colones. This is the equivalent of 7.2 percent of the total MOH general funds budget allocation spent or earmarked in 1989.

Information on the hospitals' health board incomes is unavailable outside of the hospitals and Regional Offices. A telephone interview with Central Regional Office staff revealed that the two regional hospitals in its domain last year reported incomes of 835,000 colones. A conservative estimate would put the patronato income for all 14 MOH hospitals at 7 or 8 million colones, roughly 6 percent of the total MOH transfers to them in 1989. This is less than the share of total costs covered by health board user fees in the Centers, Units and Posts. By implication, MOH clientele who use health Centers, Units and

Last year's total health-board generated income is estimated at a minimum of 13 or 14 million colons, or about 5.2 percent of the MOH's actual expenditures and earmarked commitments for operations and transfers to hospitals (i.e., exclusive of investment and transfers to non-hospital entities).

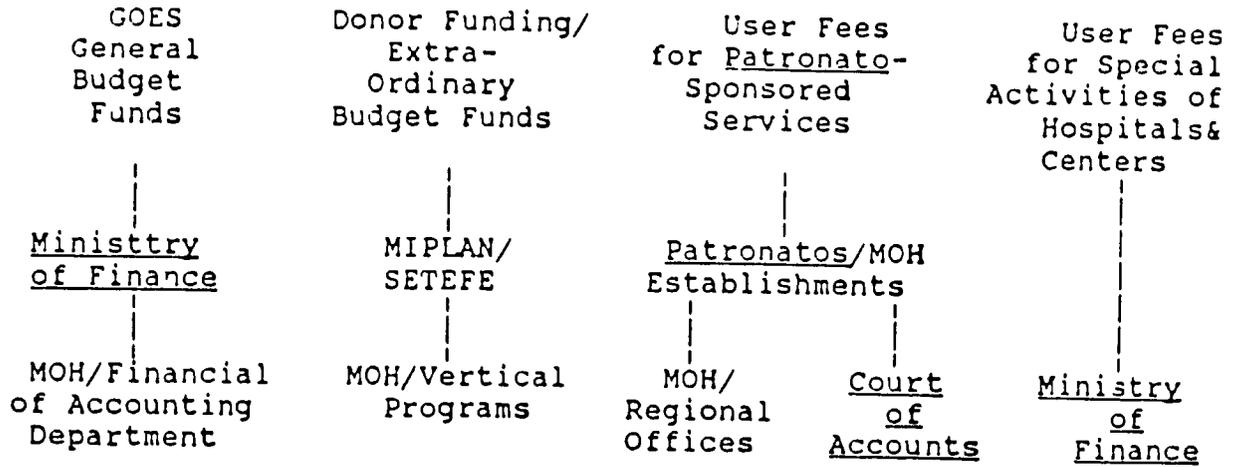
Health Board income and expenditures are reported haphazardly at best in the two annual publications of the MOH, the Memoria and Salud Publica en Cifras. The Financial Accounting Office does not keep records of these funds, nor does the individual in UDI.

4. User Fee Revenues from Special Activities

The MOH hospitals and Centers also have user fees for several other types of services. Financially the most important of these include charges for relatively higher quality room and board services, the sale of some medical and surgical supplies, the sale of medicines, and charges for laboratory examinations. In 1988 and 1989, the total income generated from the Special Activities averaged more than 3.3 million colons, annually 2.6 percent of the total transfers made to the 14 hospitals in 1989. No such data is available for the health Centers in any MOH Central Office documents. The hospitals' revenues from Special Activities and their estimated patronato incomes from 1989 is roughly 11 million colones or about 8.5 percent of the MOH transfer to the hospitals.

The hospitals and Centers to report income they generate through Special Activities directly to the Treasury. They do not report these monies to the Ministry of Health's Financial Accounting Department. The hospital earnings are available in the MOH Central Office, however, contained in each hospital's annual budget request.

MOH Financial Resources, Oversight and Accountability
by Source of Funding



Organizational fragmentation of budgeting and financing keeps the MOH from improving managerial capabilities. Financial crises can only be effectively dealt with from an organizational perspective if there is knowledge about the organizations' financial status. Even if managers of an organization are able to optimize the use of each of the existing financial sub-systems, this does not insure optimization of the Ministry's use of its total finances. Perhaps the significance of the potential deviation from system-wide optimal resource allocations can be better appreciated with the aid of an analogy based on household financing. Assume we have a family in which both the husband and the wife work. The MOH's current financial systems functions in a way that is analogous with our assumed family's female head planning, allocating and spending her income independent from her husband. If the female head of the family would allocate her resources without knowledge of or consideration for any other family income and the male head of the family would do likewise, it is not hard to imagine that the priorities of the household as reflected in the final mix of goods and services it actually purchases would probably look very different when compared with what the family would purchase if it pooled its resources and then planned, allocated and spent them. No doubt, this analogy to a household oversimplifies the much more difficult situation of the MOH. National and international politics, domestic health politics, and a multitude of limitations and restrictions imposed by legal, legislative, and administrative budgetary considerations and processes make the unification of the MOH's 4 financial systems extremely complex. Returning to the household analogy, Treasury and legislative and administrative budgetary codes and processes are like having a grandfather present in the house who is respected and whose will is honored, and who insists on spending and saving certain amounts on certain programs in certain ways, at certain times throughout the course of a year and a lifetime. Donors are like a rich uncle, who comes to provide assistance, but who insist on selecting the types of things on which "his" money can be spent. Then, so as to assure compliance with his desires he sends a bookkeeper/accountant to live with his nephew's or niece's family, and once he has made his commitment to help, is not interested in what is happening to other financial resources of the family. And then there's the additional overlay of the user fee systems. An immediate MOH priority must be to develop a single unified financial system so it can better understand how it is using all of its resources, and better understand what choices and options it has. This is basic to the Ministry's becoming better able to effectively plan the use of its limited resources.

D. User Fees, Privatization, Incentives and Financial Reform Issues

Although official MOH fee schedule does not exist, there are informal schedules of voluntary contributions for MOH-provided services. Salvadorans are paying user fees for the services they receive from the MOH. The community health boards (patronatos), established by law (in 1947), oversee and direct the control of these funds. Each health facility, each hospital, Center, Unit and Post--is by law, to have a board.

It is clear, however, that what has been decreed by law, and what is, are quite different. Many Units and Posts do not have Community Health Boards, or at least do not have a functioning board. In addition, it is evident that in many cases, the director of the local health facility enjoys considerable discretion in determining how to spend these monies. The board provides more of a clearinghouse and monitoring service in these instances. In other instances, however, especially common in the health Centers' and hospitals' boards, these require the Centers' and hospitals' directors to submit itemized budget requests and to justify them.

The monies raised from user fees increase by the proceeds of various fund-raising activities sponsored by, and philanthropic contributions made to the community health boards. From 1982 through 1985, user fee revenues on average constituted about 80 percent of the total of the board-directed funds. The other two sources make up the remaining 20 percent. In the last ten years the level of revenues generated from the voluntary user fee contribution has increased. In part, this has been due to increases in the level of the voluntary fee itself. In the early 1980s the contribution was one or two colones for an ambulatory consultation. Now it is more commonly reported to be 2 colones. Some patronatos charge as much as 4 colones.

The system is voluntary, though without question there is pressure to contribute. In health Units and Posts, it is usually the individual patient who makes the determination of whether or not he/she can pay. If the full recommended voluntary contribution cannot be made, individuals are encouraged to contribute what they can. Patients most commonly pay all or pay nothing. The proportion of clientele that pays varies, by facility and region. From interviews with health providers and clerks revealed that the proportion of free care provided to medical indigents ranges from 20 to 70 percent. (MOH Central Office staff have the perception that undue pressure is put on all recipients of MOH services by patronato representatives, and as a result 90+ percent of patients pay.)

In health Centers and hospitals, the voluntary fee collection system is more formal. Usually in these facilities a social worker determines who can and who can not pay. The usual procedure throughout the MOH system, is for a paid representative of the patronato to make a brief oral presentation in the waiting

room at the time the facility opens up. This is a convenient time to do so because it coincides with the "sign-up" list. Each day the number of persons seen by the doctor(s) is developed. The estimated number of patients who will be seen is the MOH norm (each physician is required to provide at least 5 consultations per hour) multiplied by the number of physician-hours for the day. Since MOH patients know they must get on this list or return for care another day (or forego care or seek it elsewhere) this is a convenient time (and efficient method) for presenting the rationale for the voluntary contribution. Charges are also levied for injections and medicines. Fees are not charged for several specific types of services, including maternal-child preventive care, and more generally preventive services and the treatment of communicable diseases. From a social perspective, these are desirable exclusions because of the positive externalities involved in providing these services. Income growth is a local response to the severe and protracted financial crisis the MOH has suffered over the past decade. As may be seen in Exhibit XX, there has been dramatic growth in the level of board incomes in the past decade and a half. It appears there have been three distinct periods of growth in these incomes. Between 1976 and 1979, patronato revenues average annually 1,516,246 colones. Between 1982 and 1985 they more than doubled, annually averaging 3,114,094 colones. The most recent period for which we have data is 1986-1988 during which they continued to grow impressively (by 64 percent over the 1982-1985 period) to annually average 5,095,146. Historically these monies pay for additional workers and drugs. From 1983 until at least 1986, however, a rapidly increasing proportion of the expenditures went to medicines. As the share expended on medicines expanded, both the absolute and relative number of additional workers hired with the patronato-directed funds fell; indicating the local provider perception of both the importance of medicines and the scarcity of MOH-provided medicines at the regional health services levels. From interviews with health Center directors in 1986 reveal that 80 percent of the board-directed funds were then being used to purchase medicines. Interviews conducted during this consultancy (1990) showed a return to the earlier expenditure patterns, as drug and medical supplies had improved substantially charges are

EXHIBIT II
 PATRONAGE FUNDS OF THE CENTRALIZED AGENCIES
 (HEALTH CENTERS, UNITS AND POSTS)
 (IN COLONES)

YEAR	TOTAL	OCCIDENTAL	CENTRAL*	METROPOLITANA	PARACENTRAL**	ORIENTAL
1976:						
Receipts	1,535,831	275,589	228,613	343,358	219,254	467,825
Outlays	1,524,857	278,355	238,587	344,818	284,852	467,925
1977:						
Receipts	1,453,848	143,878	286,156	389,388	258,934	457,388
Outlays	1,486,826	138,124	293,689	315,448	251,871	524,824
1978:						
Receipts	1,487,486	159,882	222,211	328,662	238,813	
Outlays	1,395,388	154,916	215,583	332,692	295,298	
1979:						
Receipts	1,667,986	354,843	318,981	388,911	148,289	568,961
Outlays	1,613,684	279,636	299,339	296,351	165,578	554,788
1982:						
Receipts	2,618,488	669,771	181,128	663,551	271,448	824,518
Outlays	2,577,893	638,146	163,357	647,228	253,852	864,178
1983:						
Receipts	3,351,688	824,631	178,488	882,757	298,783	1,247,386
Outlays	2,884,893	838,384	174,231	733,882	383,892	691,484
1984:						
Receipts	3,249,424	932,382	164,994	813,787	461,383	933,759
Outlays	3,133,888	944,613	176,274	758,331	421,436	878,966
1985:						
Receipts	3,244,865	933,758	154,493	911,895	64,582	893,884
Outlays	3,818,972	987,774	142,575	851,931	382,816	762,338
1986:						
Receipts	4,847,215	1,285,731	279,858	1,228,978	442,227	841,829
Outlays	3,989,288	1,187,638	275,256	1,255,112	441,272	749,588
1988:						
Receipts	6,143,876	1,975,695	584,918	1,568,139	727,373	1,374,959
Outlays	6,812,116	1,383,195	272,338	1,488,417	647,286	1,788,988
1989:						
						1,734,267
						1,845,433

made only for medicines which were purchased with board funds. This suggests that the APSISA Project's provision of medicines has reduced potential user fee revenues.

E. Health-Boards and Sustainability: The Case for Authorizing Charging for Apsisa-Provided Pharmaceutical and Medical Supplies

In the interests of consistency of policy and sustainability, the MOH and should be allowed to levy drug charges. Measures to continued protecting indigents should be continue. Local facilities can determine fees and alternative forms and standards. The new drug distribution system includes a request and delivery form provided to the specific facility receiving the shipment. This form contains unit price information on each item. Using this price information some type of standard percentage of full price charge could be levied by MOH providers. This could become an important source of revenues, and an important way for facility personnel (or their patronatos) to begin tracking their drug use and drug revenues which would improve their management and planning skills which will be important to advancing decentralization. It is recommended that such a scheme be further studied. A series of alternative possible scenarios should be developed itemizing the pros and cons of each and should be subject to discussions at various levels within the Central Office, Regional Offices, at the various facility levels and with some of the patronatos.

F. Boards Incentives and Sustainability: Are Financial Reforms Needed?

The health board system is a form of community financing and community participation. Some MOH Central Office officials view the boards jealously, describing them as select groups of local elite who have unjustly garnered power by usurping monies (the user fees) which these MOH officials believe should be the Ministry's. This is an attitude which, while not shared by a large number of MOH Central Office personnel, should be borne in mind in any efforts to alter the relationship between the MOH and the boards. During the past decade, as the level of resources managed has increased, the Regional Offices have asserted greater influence and control over them. The Regional Offices now provide pre-coded receipt forms to the health establishments; 2 colons forms for a consultation, 15 centavos forms for injections, etc. In addition, coding forms with a single line for recording individual patient, and his/her paying status, is used to cross-check the information provided by the pre-coded forms. The most significant responsibility of the Regional Offices' accounting offices is to audit these records. Except for the Metropolitan Region, each of the Regional Offices gets a 5 to 7 percent cut of total board revenues. Regional Offices also require that facilities and boards obtain approval before

making purchases in excess of stipulated amounts which vary by Region. The process of granting approval is regarded by facility level people as unnecessarily long (more than 9 months in one example shown to the team visiting a health Center). In the three facilities visited on a field trip, there was significant under-reporting of service provision. This may be one response designed to avoid having to report user fee revenues to the Regional Office so as to be able to maintain all of the fees, without having to be subject to Regional Office oversight in the use of the funds. If this is an accurate depiction, and if this practice is widespread, it undermines the quality of all of the statistics which are reported by facilities to the Regional and Central MOH Offices. The implications for introducing needs based planning and improving resource allocation processes in general are self-evident and alarming. This is a topic which must be further explored. The same basic disincentives exist for the hospitals and Centers with respect to their reporting revenues earned from Special Activities. Furthermore, in the case of the hospitals there is circumstantial evidence that the APSISA provision of medicines may be eroding incentives to charge for medicines and other Special Activities. The 1982-1985 annual average revenues from Special Activities of the 14 hospitals was 1.39 million colones. In the 1986-1989 period, that annual average shot up to 3.01 million colones, a 117 percent increase. However, in the final year of the later period (i.e., in 1989) Special Activities' revenues experienced their only fall throughout the course of the 1980s; they fell by a 7.8 percent. This is an area for further analysis and research.

It may be that APSISA has so effectively aided the MOH that it has reduced the user fee revenue-raising imperative that the Ministry (at the lowest organizational level--in the facilities) together with community organizations have done such a good job of responding to in the past decade.

II.

MOH PERSONNEL

A. The Three Types of MOH Employees

There are three different categories of MOH personnel according to the source of financing and the nature of their contractual arrangements. The majority of MOH personnel have traditionally been civil service employees, provided substantial security under the Salary Law, and are among the best paid of the three categories. In 1989, 85 percent of all MOH employees held Salary Law positions. This proportion has fallen from previous level which hovered around the 88 to 90 percent level. At the opposite extreme are the health board-funded positions. These persons work for the MOH without any security (i.e., with no contract), in low paying slots. Monthly salaries between 75 to 200 colones are reported to be the norm. According to anecdotal

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information, many of these persons have worked for the Ministry for 5 to 10 years. The third group of MOH employees occupy an intermediate position for both security and pay. Most of them work for the MOH with a one year contract. This section will focus on salaried employees, particularly physicians, nurses, auxiliary nurses, and to a lesser extent sanitary inspectors and Rural Health Promoter Supervisors.

B. Changes in the Numbers and Mix of MOH Medical Care Providers

As may be seen in Exhibit 16, the number of MOH employees grew rapidly in the first 4 years of the 1975-1989 period (see Exhibit 16). Starting in 1979, the rate of increase slowed for 3 years, then remained constant from 1981 through 1984. In four of the five last five years the number of the MOH's Salary Law positions has edged upward. The slow growth in the number of Salary Law employees since 1984 accumulated to an additional 779 positions (6.6 percent growth) by 1989. This contrasts sharply with the general impression that the MOH has enforced a strict hiring freeze since 1981. As discussed in an earlier section of this report, persistent growth in infrastructure (see Exhibit 14) appears to have been the critical determinant of this continued growth. Exhibit 16 also shows that the proportion of MOH employees who are physicians, nurses or nurse auxiliaries has fallen slightly over the past 15 years, by about 4 percent. The relative distribution of these three types has remain constant. One would anticipate that as the number of MOH health establishments and care providers increased the number of consultations would also increase. To measure accurately the number of consultations per provider requires control for the number hours worked because most of the physicians providing care were only 2, or less commonly, 4 hours per day. A growing number of nurses similarly are part-time employees. In addition, over the past 15 years there has been large growth in the number of physicians who work in MOH administration and do not provide medical services (e.g., as directors of health Centers or as regional office-based supervisors). These individual should be subtracted from the total number of care-providing physicians before this computing measure of productivity.

C. Falling Proportions of Ambulatory Care Provided by the Nursing Department at Hospitals and Centers, and Rising Proportions in Units and Posts

It is possible, however, to analyze changes in the proportions of ambulatory care provided by physicians, nurses and nurse auxiliaries (see Exhibit 17). The share of each of the provider types has annually fluctuated a fairly significant amount, but one can discern a long term tendency of declining share for physicians, a growing share for nurses and a faint upward trend for auxiliaries. In each of these provider types, 1982 demarcated a break with what had been a fairly constant pattern. 1983 marked the advent of a new, qualitatively different era. Exhibit 18 presents annual totals of ambulatory

share for physicians, a growing share for nurses and a faint upward trend for auxiliaries. In each of these provider types, 1982 demarcated a break with what had been a fairly constant pattern. 1983 marked the advent of a new, qualitatively different era. Exhibit 18 presents annual totals of ambulatory visits provided by physicians and the combination of nurses and nurse auxiliaries in MOH hospitals and health Centers from 1986

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EXHIBIT 16

REGIONAL POSITIONS 1975 - 1989

	1975	1976	1977	1978	1979	1980			
Doctors	1,807	1,897	1,215	1,325	1,327	1,562			
(% of the 3)	24%	27%	26%	26%	26%	29%			
Nurses	1,885	1,81	1,176	1,313	1,287	1,328			
(% of the 3)	24%	24%	25%	25%	25%	24%			
Aux. Nurses	2,178	2,816	2,265	2,513	2,496	2,584			
(% of the 3)	52%	49%	43%	49%	49%	47%			
Totals	4,19	4,123	4,656	5,151	5,13	5,474			
(% of total)	49.2%	45.5%	46.2%	47.8%	45.7%	46.7%			
Total Regional	8,517	9,852	10,871	10,778	11,22	11,717			
(% change)		(6.3%)	(11.3%)	(7.8%)	(4.1%)	(4.4%)			
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Doctors	1,537	1,541	1,541	1,523	1,531	1,572	1,572	1,567	1,689
(% of the 3)	28%	28%	28%	28%	29%	28%	29%	28%	28%
Nurses	1,341	1,295	1,281	1,261	1,179	1,274	1,287	1,387	1,369
(% of the 3)	24%	24%	24%	23%	22%	23%	22%	24%	24%
Aux. Nurses	2,617	2,636	2,635	2,635	2,588	2,674	2,621	2,686	2,751
(% of the 3)	48%	48%	48%	48%	49%	48%	49%	48%	48%
Totals	5,495	5,472	5,457	5,419	5,298	5,528	5,4	5,56	5,728
(% of total)	46.8%	46.8%	46.8%	45.8%	44.2%	45.2%	44.2%	44.8%	45.4%
Total Regional	11,934	11,891	11,867	11,827	11,376	12,288	12,288	12,417	12,686
(% change)	(1.9%)	(-0.4%)	(-0.2%)	(-0.3%)	(1.3%)	(1.9%)	(8%)	(1.7%)	(1.5%)
All MOH					13,553	13,832	13,832	14,114	14,747

* Does not include contracted labor or health board positions

Sources: Salud Publica en Cifras and Memorias, various years,
Computed from Cuadros Recursos de Personal

EXH-16.WK1

EXHIBIT 17

TOTAL MEDICAL CARE VISITS BY TYPE OF MEDICAL CARE PROVIDER*

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Doctor (% of total)	2,129,343 (79.6%)	2,470,927 (80.1%)	2,494,906 (74.8%)	2,853,442 (70.3%)	2,521,492 (72.5%)	2,860,890 (77.3%)	2,620,620 (76.3%)	2,680,791 (78.2%)	2,883,810 (74.2%)	2,710,604 (74.1%)	2,894,704 (72.0%)	3,055,855 (71.3%)	3,175,837 (73.2%)
Nurse (% of total)	342,210 (12.8%)	374,740 (12.8%)	459,912 (13.8%)	485,484 (12.8%)	484,802 (14.8%)	494,682 (13.4%)	360,241 (10.5%)	642,297 (17.2%)	682,804 (15.5%)	571,063 (15.6%)	684,234 (17.0%)	705,842 (16.5%)	751,789 (17.7%)
Nurse Auxiliary (% of total)	183,201 (6.9%)	142,911 (4.6%)	125,677 (4.1%)	141,770 (3.5%)	160,100 (4.6%)	157,854 (4.2%)	226,138 (6.6%)	231,181 (6.2%)	178,327 (4.6%)	163,877 (4.5%)	185,894 (4.6%)	197,340 (4.6%)	222,632 (5.5%)
ARS (% of total)	20,300 (0.7%)	76,696 (2.5%)	243,233 (7.3%)	425,839 (10.7%)	311,619 (8.9%)	180,480 (5.1%)	226,262 (6.6%)	229,375 (6.2%)	222,844 (5.7%)	211,366 (5.8%)	254,797 (6.3%)	329,146 (7.7%)	176,846 (4.2%)
Total	2,676,456	3,025,274	243,233	4,857,585	3,493,813	3,781,826	3,433,270	3,304,444	3,886,993	3,656,150 (100%)	4,019,229 (100%)	4,333,982 (100%)	4,268,284 (100%)
Percent Growth:													
a) With ARS:	18.8%	15.3%	0.1%	21.7%	-16.2%	6.8%	-7.2%	7.9%	4.9%	-5.9%	9.9%	6.6%	-0.4%
b) Excluding ARS:	17.9%	13.3%	2.7%	17.2%	-12.2%	10.4%	-8.7%	8.2%	5.5%	-6.8%	9.3%	5.1%	4.8%

* Includes Emergency visits/treatments.

NA: Not Available

Sources: Computed from "Cuadro: Cobertura de la Asistencia Ambulatoria", Salud Publica en Cifras, varios años, MSPAS

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EXHIBIT 18

Ambulatory Visits to Physicians and the
Nursing Department in Hospitals and Health Centers

(A) Annual Growth Rates by Provider-Type

Hospitals and Centers	1986	1987	1988	1989
Physicians (% growth)	1,599,631 ---	1,616,165 1.0%	1,784,461 5.5%	1,671,627 -1.9%
Nursing Department (% growth)	123,243 ---	114,176 -7.4%	93,733 -17.9%	68,588 -26.8%
Total	1,722,874	1,730,341	1,798,194	1,740,215
Annual Growth		0.4%	3.9%	-3.2%

(B) Percentage share by Provider-Type

Hospitals and Health Centers	1986	1987	1988	1989
Physician	1,599,631 (92.8%)	1,616,165 (93.4%)	1,784,461 (94.8%)	1,671,627 (96.1%)
Nursing Dept.	123,243 (7.2%)	114,176 (6.6%)	93,733 (5.2%)	68,588 (3.9%)
Total	1,722,874 (100%)	1,730,341 (100%)	1,798,194 (100%)	1,740,215 (100%)

Source: "Resumen de Actividades Hospitalarias", 1986-1989.

through 1989. Most strikingly evident from the table is that the amount of care provided by the Nursing Department contracted markedly each year and at a rapidly accelerating pace. The Nursing Department's total visits in 1989 were only 56 percent of the level they had reached 3 short years earlier. Since total visits increased over this period, physician provided care grew in absolute terms by enough to offset the rapidly declining Nursing Department totals. Exhibit 19 disaggregates the data contained in Exhibit 18 into the specific sites providing physician and Nursing Department care. Here we see that the Nursing Department provides more ambulatory care at health Centers as opposed to hospitals in both absolute and relative terms. Throughout this 4 year period, the health Centers' Nursing Departments provided about 40 percent more visits in comparison to hospitals. This proportionate difference remained constant throughout the period despite considerable changes in the total amount of Nursing Department-provided care. In relative terms, Nursing Department care in health Centers maintained a proportionate share of total care about 4 times greater than that of hospitals, though both declined by about half in proportion of total care accounted for at respective facility-types. The Nursing Departments of health Centers are quantitatively greater sources of care than those of hospitals. They provide more care and they account for a larger proportion of total care in the Centers compared with the hospitals. Nursing care in both institutions, however, appears to have been undergoing some type of fundamental change in the past 4 years, as both the total number of visits provided and the proportion of total care provided at both Centers and hospitals has fallen dramatically (by roughly one-half in both absolute and relative terms). Exhibit 20 extends this analysis to incorporate Nursing Department care at Units and Posts. Unfortunately, the Statistics Unit has yet to compile all of the 1989 data required on Nursing Department care. Complete data is available for only the first 3 years of the 4 year period analyzed up to this point. Last year's data is available only for the hospitals and health Centers, although the identified trends continue. The large share of visits provided by nurses and nurse auxiliaries at MOH facilities has traditionally occurred at the Units and Posts. Exhibit 20 shows that over the 3 year period studied, these 2 lowest tiers of MOH care accounted for nearly 88 percent of the total number of nurse and auxiliary provided care.

The erosion in Nursing Department care provided at both hospitals and health Centers has not occurred at the health Units and Posts. There has been a 20 percent surge in care provided by nurses and auxiliaries at the Units and Posts. The magnitude of the increase was enough as to offset the declines suffered at the Center and hospital level, leaving the total number of nurse and

EXHIBIT 19

THE CHANGING PROPORTION OF NURSE AND AUXILIARY PROVIDED
AMBULATORY CARE IN MCH HOSPITALS AND HEALTH CENTERS

HOSPITALS	1986	1987	1988	1989
Physician	1,232,216 (96.8%)	1,201,591 (96.8%)	1,262,432 (96.9%)	1,189,786 (97.8%)
Nursing Dept.	51,310 (4.8%)	40,228 (3.2%)	39,947 (3.1%)	26,463 (2.2%)
Total	1,281,526 (100.0%)	1,241,819 (100.0%)	1,320,379 (100.0%)	1,216,249 (100.0%)
HEALTH CENTERS				
Physician	369,415 (83.7%)	414,574 (84.9%)	444,029 (83.2%)	481,841 (92.0%)
Nursing Dept.	71,933 (16.3%)	73,948 (15.1%)	53,786 (10.8%)	42,125 (8.0%)
Total	441,348 (100.0%)	488,522 (100.0%)	497,815 (100.0%)	523,966 (100.0%)

Source: "Resumen de Actividades Hospitalarias," 1986-1989.

EXH-19.WKI

EXHIBIT 20

The Growing Concentration of Nursing Department-Provided
Ambulatory Care in Health Units and Posts.

Nursing Dept. Provided Visits in :	1986	1987	1988	1989
Hospitals :	51,318	48,228	39,947	24,463
% of total :	5.9%	4.5%	4.8%	NA
% annual growth in number at hospitals :	---	-21.6%	-8.7%	-38.8%
Health Centers :	71,933	73,948	53,786	42,125
% of total :	8.3%	8.2%	5.5%	NA
% of annual growth in number at centers :	---	2.8%	-27.3%	-21.7%
Units and Posts :	746,885	798,214	892,688	NA
% of total :	85.8%	87.3%	98.5%	
% of annual growth in number at units and posts :	---	5.5%	13.3%	
Total :	870,128	982,390	986,421	NA
% of total :	100%	100%	100%	
% of annual growth in total visits :	---	3.7%	9.3%	

NA: Not Available

Source: Computed from data contained in the "Resumen de
Actividades Hospitalarias" and Salud Publica en Cifras, various years.

EXH-20.MKI

auxiliary visits provided in 1988 at 13 percent higher than in 1986. What might account for these significant shifts? Planning Department personnel suggested that the trends probably reflect growth in the responsibilities of the Nursing Department. According to the World Health Organization (WHO), an efficient public health system with an appropriate division of labor between medical care provider types should have a physician-to-nurse ratio between 1-to-4 and 1-to-5. Exhibit 16 shows that, the physician-to-graduate nurse ration is El Salvador in 1989 was 1-to-0.85. To reach the WHO recommended mix, the MOH would need to hire roughly 6 times the present number of graduate nurses. If auxiliaries are included in the computations, the ratio improves but still is only 1-to-2.6. Implementing a policy designed to alter the MOH's ratio of physicians to nurses to achieve some ideal ratio is neither a desirable nor probably a feasible public policy goal. The mix of personnel, and the division of labor within the MOH's principal health care providers is inefficient. It costs the MOH more to hire and pay a physician than it does a nurse. With a physician:nurse ratio that deviates markedly from the ideal, possibly physicians are undertaking activities normally assigned to less expensive care providers. It might be useful to examine the division of labor between nurses and physicians, to improve the efficiency of care provision by altering the mix of MOH personnel by establishing a policy of preferential hiring of nurses vis-a-vis physicians, while simultaneously establishing norms regarding which type of MOH provider may provide specific types of procedures. The goal would be to move incrementally toward a more efficient (less expensive) mix of MOH personnel, while insuring quality of care is not compromised. In addition, it would be useful to study the distribution of different provider types cross facility types, to improve the mix of personnel on a facility-specific basis. Staffing levels and personnel mixes by facility-type should be studied, and service provision protocols specific to each type of principal MOH provider-type be established to delegate greater responsibilities to nurses and auxiliaries, while ensuring the quality of care.

D. Changes in MOH Monthly Salaries, 1975-1990: Wage Compression

Exhibit 21 presents the monthly salaries for five principal types of MOH Salary Law personnel from 1975 through 1990. The salaries are low, and the relative magnitudes of the different types of personnel salaries has changed over the course the 15 years. In 1975, doctors had the highest salary. Their remuneration for a quarter time position (2 hours per day) was surpassed by the full-time salary levels of the other positions starting in 1979, and by the beginning of this year (1990) the ratios of the

EXHIBIT 21

MEDICAL PERSONNEL MONTHLY SALARIES
(IN CURRENT COLONES)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Doctor (2 hrs/day)	440	480	540	520	520	540	540	540	540	540	570	570	594	610	610	660
Nurse	380	440	465	515	775	775	835	835	835	835	965	965	1230	1215	1215	1415
Nurse Auxiliary	250	290	325	265	325	325	650	650	650	650	780	780	920	1020	1030	1230
Sanitary Inspector	310	375	390	455	505	535	575	575	575	575	785	825	975	1075	1075	1275
ABS Supervisor						N/A	N/A	570	570	570	700	900	1050	900	900	1150

Source: Ley de Salarios, various years

GIN-21.NCI

1990

part-time physician to each of the other 4 positions was large and growing. In addition, over time the ratios of the salaries of each of the other employee types has grown progressively closer to one. Relative salary differences have been progressively reduced. There has been a significant amount of wage compression. Exhibit 22 presents measures of MOH wage compression for 4 different years in the past decade and a half, using physician's full-time salary as the numeraire. While in 1976, nurses earned only 23 percent of what a full-time physician earned, this has grown 53 percent of full-time physicians. The relative position of nurse auxiliaries improved even more. They went from earning a salary which was a mere 15 percent of a full-time physician in 1976 to earning nearly half (46 percent) that physician's salary in 1990. Sanitary inspectors and Community Health supervisors had similar gains. In the bottom half of Exhibit 22 the ratio of the lowest to the highest other-than-physician to physician salary ratios are presented for the same 4 years. This ratio increases monotonically over the 15 year period; i.e., the wage differentials of all 5 of these different MOH positions have been increasingly reduced since 1976. One would expect that those who have lost ground relative to their fellow workers (especially the physicians and, to a lesser extent the nurses) would resent the relative undermining of their monetary positions and stature, which may have reduced their level of motivation and productivity. This may be one reason for what appears to be the falling number of consultations per provider type characterizing the MOH in the course of the past decade.

E. The Dramatic Fall in Real MOH Salary Levels Since 1975

Decaying purchasing power has likely had a negative impact on the motivation and productivity of MOH personnel. Surely contributed to the high rate of turnover which has confounded and delayed many APSISA efforts. Exhibit 23 shows the salary data adjusted to control for inflation using the Consumer Price Index.

Inflation has devastated MOH salaries. Exhibit 24 presents annual changes in real remuneration levels for the same 5 MOH personnel types, year by year, and in several different periods. The results are shocking. Average real wages in El Salvador (in both the private and but the public sector) have fallen by roughly half since 1978-1979, the public sector has suffered the greatest reductions. This is evident in Exhibit 24. Between 1976 and 1990, MOH physicians suffered a 84 percent reduction in their real level of remuneration. Nurses and sanitary inspectors real salaries slipped by 64 percent. The nurse auxiliaries have fared the best with only a 52.5 reduction in their real wage level. The erosion of real income levels surely has had a

EXHIBIT 22
 NON HEALTH CARE PROVIDER'S WAGE COMPRESSION:
 NON-NON-PHYSICIAN PROVIDER'S SALARIES AS
 A PROPORTION OF PHYSICIAN SALARIES

	1976	1980	1985	1990
Nurse	0.23	0.36	0.42	0.53
Nurse Auxiliary	0.15	0.24	0.34	0.46
Sanitary Inspector	0.20	0.25	0.31	0.48
ARS Supervisor		0.26*	0.31	0.43

RATIO OF THE LOWEST TO THE HIGHEST PROPORTION.

1976	1980
$(0.15)/(0.23)=0.65$	$(0.24)/(0.36)=0.67$
1985	1990
$(0.31)/(0.42)=0.74$	$(0.43)/(0.53)=0.81$

* 1981 Observations

EXHIBIT 23
REGIONAL HEALTH SERVICES PERSONNEL REMUNERATION:
MONTHLY SALARIES
(IN 1970 COLONES)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Doctors (2 hrs/day)	613.4	626.6	584.1	536.1	478.4	423.2	368.9	338.1	291.7	261.2	225.8	178.8	142.6	123.9	105.3	97.6
Nurse	531.5	574.4	543.2	538.9	713	687.4	578.4	518.4	451.1	484	382.3	289.2	295.3	243.5	207	206.8
Nurse Auxiliary	349.7	378.6	379.7	376.3	483	411.4	358.6	397.3	351.2	314.5	309	233.8	223.3	206.5	175.5	179.7
Sanitary Inspector	433.6	489.6	455.6	469.1	464.6	419.3	365.4	348.4	307.9	275.8	277.3	247.3	234.1	215.5	183.2	179
ABS Supervisor (Inspector de Promotores de Salud)							N/A	348.4	307.9	275.9	277.3	269.8	252.1	238.5	195.9	197.3

• 1990 wage data has been deflated by the First Quarter 1990 Consumer Price Index
Source of the CPI is Direccion General de Estadística y Censos.
Source of the nominal wage data is the Ley de Salarios, various years
(which is published under separate cover as well as annually in December on
January lower case of the "Diario Oficial")

EIN-23.HK1

EXHIBIT 24
CHANGES FROM PREVIOUS YEAR IN REAL NON SALARIES

1975 - 1990 (IN PERCENTAGES)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1976-1980	1981-1985	1986-1990	1981-1990	1976-1990
Doctor (2 hrs/day)	1.8	-6.8	-8.2	-10.0	-11.5	-12.0	-10.5	-11.6	-10.5	-13.6	-24.4	-16.5	-12.1	-15.0	-7.3	-32.5	-38.8	-42.9	-73.5	84.4
Nurse	8.1	-5.4	-2.3	3.0	-14.0	-6.1	-10.5	-11.6	-10.4	-5.4	-24.4	2.1	-17.5	-15.0	-8.1	5.7	-33.8	-28.5	-63.7	44.8
Nurse Auxiliary	8.3	8.3	-8.9	20.4	-14.8	-12.8	10.2	-11.6	-10.4	-1.7	-24.3	-4.5	-7.5	-15.0	2.4	8.7	-13.8	-23.1	-49.9	-52.5
Sanitary Inspector	12.9	-6.9	3.8	-8.1	-9.8	-12.9	-4.7	-11.6	-10.4	8.5	-18.8	-5.3	-7.9	-15.0	-2.3	-14.4	-24.1	-27.6	-51.8	-63.4
Health Promoter ABS Supervisor	---	---	---	---	---	---	---	-11.6	-10.4	8.5	-2.7	-6.6	-8.6	-15.0	8.7	---	-28.4	-26.9	-43.4	---

* ABS Supervisor figure are actually based on the 1982 - 1985 period.
 ** ABS Supervisor figures are actually based on the 1982 - 1990 period.

EIN-24.MK1

1991

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negative effect on the quantity and quality of care provided by the MOH. The situation likely will not change much in the future. Given the current economic plight continued erosion in real MOH salaries is likely. Since the largest share of the MOH's budget is already consumed by personnel, the recurrent cost crisis will return with a vengeance. All the more reason that the MOH must be certain that any new initiatives it undertakes in the foreseeable future (throughout the remainder of the decade) do not include the hiring of additional personnel. The Ministry must look at the next decade as a period of consolidation. It spends more on personnel, it should improve salary levels rather than increase the number of its employees. The message, is still the same: hold the line on numbers of personnel and if salary increases are not feasible, take other measures to improve working conditions to improve staff morale and motivation. Enhancing staff morale and motivation must become a priority area and will aid in restoring the credibility of the MOH by contributing to improvements in productivity, as well as to encouraging the provision of higher quality of care by MOH employees.

F. Changing Patterns of MOH Care Provision by Type of Facility

Exhibit 25 contains a time series of ambulatory visits to physicians by type of facility. The 13 year series is into 3 periods, 1977-1980, 1981-1985 and 1986-1989. Over of these 3 periods, the average annual proportion of all ambulatory care visits made to hospitals grew from 38 in the first period, to 40 in the second, and then fell to 34.3 percent in the 1986-1989 era. The share of total ambulatory care visits to physicians at Centers grew throughout all three periods, both absolutely and relatively. Between 1977 to 1989, the number of visits more than doubled while the proportion provided at health Centers posted a 53 percent increase. Health Units and Posts on the other hand, suffered a ten percent drop in their share of total physician visits in the second period relative to the first. Starting in 1986 they have made a significant comeback in both relative and absolute terms, particularly in the last 3 years. Although they have not regained the share of physician visits they accounted for in the 1977-1980 period (54.3 versus 53.0 in 1977-1980 and 1986-1989, respectively) 2 of the past 3 years have posted all time high absolute numbers of visits. A parallel pattern emerges computing the average annual growth rates over these same 3 periods (see Exhibit 26). The number of physicians who provided visits at hospitals grew in the first two periods, but fell to offset the gains of the previous years. Nearly the same number

EXHIBIT 25

AMBULATORY VISITS TO PHYSICIAN BY TYPE OF FACILITY

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Hospitals	822,310 (39%)	834,360 (38%)	853,846 (36%)	855,420 (38%)	916,496 (36%)	914,670 (39%)	912,341 (41.5%)	949,342 (38.8%)	972,942 (42.8%)	1,230,216 (50.1%)	856,360 (33.1%)	898,593 (34.2%)	815,182 (33.8%)
Centers	165,960 (8%)	171,620 (8%)	197,595 (8%)	198,825 (9%)	207,784 (11%)	261,520 (11%)	241,488 (11.8%)	264,156 (10.9%)	258,567 (11.4%)	279,557 (11.4%)	309,468 (12.8%)	352,974 (13.4%)	347,574 (14.1%)
Units and Post	1,130,940 (54%)	1,283,186 (54%)	1,339,539 (56%)	1,189,384 (52%)	1,312,160 (52%)	1,157,180 (50%)	1,841,119 (47.4%)	1,232,848 (50.3%)	1,839,612 (45.8%)	1,260,285 (51.6%)	1,418,184 (54.9%)	1,375,582 (52.4%)	1,305,591 (52.3%)
Total	2,122,210 (100%)	2,218,170 (100%)	2,390,980 (100%)	2,234,837 (100%)	2,516,440 (100%)	2,332,318 (100%)	2,195,945 (100%)	2,449,614 (100%)	2,271,978 (100%)	2,455,735 (100%)	2,584,812 (100%)	2,627,145 (100%)	2,468,667 (100%)

1989
Hospitals -----
1,189,786

Centers 481,841

Units & Posts

Total

Average of Annual
Facility-type
Shares (Percentages)

1977-1980:
Hospitals 37.80
Centers 8.20
Post & Units 54.30

1981-1985:
Hospitals 37.80
Centers 11.80
Post & Units 49.10

1986-1988:
Hospitals 34.30
Centers 12.70
Post & Units 53.00

Does not include "urgencias"

SOURCE: Salud Publica en Cifras "Cuadro: Cobertura de la Asistencia "Ambulatoria", various years.

EIN-25.ME1

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EXHIBIT 26

ANNUAL GROWTH RATES OF AMBULATORY VISITS TO PHYSICIANS BY TYPE OF FACILITY

YEAR	HOSPITALS	CENTERS	UNITS & POSTS	TOTAL
1978	1.5	3.4	5.6	4.3
1979	2.3	15.1	11.3	7.8
1980	0.2	-3.8	-11.2	-6.5
1981	7.1	51.4	18.3	12.6
1982	-0.2	-9.1	-11.8	-7.3
1983	-0.3	-7.7	-10.0	-5.9
1984	4.1	9.4	18.3	11.6
1985	2.4	-2.1	-15.6	-7.3
1986	-6.6	8.1	22.0	8.1
1987	-5.7	10.7	11.8	5.2
1988	4.9	14.1	-3.0	1.7
1989	-9.3	-1.4	-7.3	-6.0

AVERAGE ANNUAL GROWTH RATES OF AMBULATORY VISITS TO PHYSICIANS BY TYPE OF FACILITY

	Hospitals	Centers	Units & Posts	Total
1977-1980:	1.3	4.9	1.9	1.9
1981-1985:	2.6	8.4	-1.8	8.7
1986-1989:	-4.2	7.9	5.9	2.3

EIH-26.WKA

of physician visits in hospitals in 1989 as were provided in 1977. Although the annual growth rate of physician consultations at health Centers fluctuated substantially over the 13 year and was negative in 5 of the 13 years, the average annual growth rates in each of the 3 periods was uniformly positive. Units and Posts together were the sites of an increasing number of physician visits from 1977-1980, but then fell throughout the second period at a pace nearly identical to the average annual growth rate of the first period. In the final era, significant gains were posted. In 1986, Units and Posts provided nearly 22 percent more physician visits than the previous year. The following year recorded another marked surge of 11.8, as they reached their all time high. In each of the two subsequent years that record was not sustained. Growth rates were negative in both years. The period ended in 1989 with a 7.3 percent drop from the previous year. Health Units and Posts have had annual fluctuations in the number of physician visits provided by more than 10 percent, in 9 of the 13 years under observation (see Exhibit 26). The reasons for the 22 percent surge in use in 1986, and the slippage in the last two years despite the fact that the absolute level of physician visits in both of these years was high by historical standards, question which must be addressed. Judging from this single indicator--the total number of ambulatory visits provided by MOH physicians--the greatest impacts of the war and the financial crisis are over. After posting a 1.9 percent average annual growth rate (at all types of facilities) between 1977 and 1980, the total number of physician consultations stagnated in the early 1980s, growing a mere 0.7 percent between 1980 and 1985, and finished out the decade with an average annual growth rate of 2.3 percent per year from 1985 through 1989. Meanwhile the MOH infrastructure grew by 41 percent in terms of the number of facilities of all types. This would suggest that the number of consultations per facility might not have been increasing.

G. Changes in the "Productivity" of Different MOH Facility Types: The APSISA-Aided, Recent Resurgence in use of the Units and Posts.

Exhibit 27 presents the number of doctor provided consultations per facility. The table suggests that the number of physician provided ambulatory visits per hospital can be divided into 3 different eras; 1977-1981, 1982-1986, 1987-1989. These same eras appear to delineate qualitatively different periods of physician provided ambulatory care per facility at the Units and Posts, as well. Whereas the average number of physician provided consultations at health Units and Posts fell in the 1982-1986 era in comparison with 1977-1981, just the opposite was the case was for the hospitals. Furthermore, as the

EXHIBIT 27
OUTPUT PER FACILITY TYPE:
THE NUMBER OF DOCTOR PROVIDED CONSULTATIONS PER FACILITY

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
HOSPITALS	58,737	60,240	60,909	61,182	63,464	65,325	65,167	67,818	69,424	64,896	61,169	64,185	58,222
CENTERS	28,745	21,453	21,955	17,275	23,982	21,794	28,117	28,813	21,547	23,796	25,789	29,415	23,198
UNITS AND POSTS	5,177	4,891	5,817	4,438	4,448	3,857	3,482	3,911	3,263	3,898	4,311	4,131	4,171

SOURCE: Computed from "Cumplimiento de Metas de los Programas de Salud" and the table "Evolution of the RCM's Infrastructure" presented earlier in this report.

ANNUAL AVERAGE NUMBER OF VISITS PER FACILITY

	Units & Posts	Hospitals	Centers	All facilities
1977-1981:	4.794	61,285	21,882	2,297,529
(% CHANGE)	---	---	---	---
1982-1986:	3.666	66,532	21,253	2,341,318
(% CHANGE)	(-24%)	(9%)	(1%)	(2%)
1987-1989:	4.126	61,192	26,134	2,559,941
(% CHANGE)	(13%)	(-8%)	(22%)	(9.3%)
1977-1981 relative to 1987-1989:	-14%	-8.2%	24.8%	11.4%

EXH-27-NR1

average number of physician visits per Unit and Post has increased in the last 3 years, from 1987 through 1989, it has fallen by a near equal amount at the hospitals. The annual average number of physician consultations at a single Unit or Post fell by 24 percent in the 1982-1986 vis-a-vis the 1977-1981 era, but the annual average total number of physician consultations at all Units and Posts together fell by only 14 percent. The construction of an additional 34 health Units and Posts over the course of these two periods helped to cushion the downswing. (Note: 34 is the difference between the annual average numbers of facilities operating in each of the two periods). In contrast, the number of hospitals did not change throughout either period. The annual average total number of physician consultations provided at all Units and Posts together fell in the 1982-1986 era 190,068 from its 1977-1981 level. On the other hand, the 14 hospitals' outpatient departments together annually provided on average an additional 73,164 in the later period in comparison with the earlier period. Thus the total annual average number of physician visits provided by MOH Units, Posts and hospitals fell in the 1982-1986 period relative to 1977-1981. The total MOH number of physician provided visits actually rose between these two periods, however, thanks to the health Centers. The annual average number of physician visits at the health Centers did not change markedly between these two periods, increasing by one percent (see Exhibit 27). Three new Centers were built and began operating in the final years of the 1977-1981 era, however. Since these new facilities added to the total number of physician consultations in only a few of the years of the first period, and in all the years of the second period, the growing infrastructure helped to attenuate what would otherwise have likely been a reduction in total MOH physician care provision. In addition, one would anticipate that it would take a year or two before a newly established health Center could reach its longer term average level of productivity because it takes time to develop operating routines and clientele. This effect, too, would lead one to surmise that with the passage of time, the level of productivity of the new health Centers would slowly increase. Both of these effects (new health Centers and "maturing" health Centers) probably helped to temper what would otherwise have been a fall in the annual average number of physician visits provided by the MOH. In the latest period, 1987-1989, the annual average number of physician visits at Posts and Units increased by 13 percent over its 1982-1986 level, though it still stood about 14 percent below its 1977-1981 level. Hospitals, in contrast slipped 8 percent in the third period relative to the second, and now annual provided on average slightly fewer physician ambulatory visits than in either of the other two visits (with the 1986-1989 annual average 0.2 percent below that of 1977-1982). Health Centers in contrast posted a sharp average annual 22 percent increase in ambulatory care provision per facility. The impact on the MOH total number of physician provided consultations of this marked increase in

health Centers average productivity was accentuated by the construction and opening of 3 new health Centers in mid-1988-1989. Hospitals' 1987-1989 ambulatory care output levels are depressed slightly below their 1977-1982 levels. Health Units and Posts' average productivity levels are still about 14 percent below their 1977-1982 levels despite an impressive recovery in the last 3 years. Yet, with the construction and opening of more Units and Posts (the average annual number increased by 46, or 16 percent, in 1987-1989 relative to 1977-1982) the average annual number of doctor visits provided at Units and Posts was nearly identical in 1987-1989 compared with 1977-1982; during the most recent period there has been an increase of less than 0.3 percent over the earliest era. Thus had the number of health Centers and their average productivity levels remained constant, the total number of physician provided ambulatory visits by the MOH system in 1987-1989 would have recovered to its 1977-1982 levels. Both the number of health Centers and their average productivity levels have increased in the last three years. As a result, the average annual number of physician provided consultations in 1987-1989 surpassed the 1977-1982 annual average by a respectable 11.4 percent. An important focus of research in the near term should be to identify what types of factors have contributed to the increased productivity of health Centers. Is the increase due to simple increases in the demand for services? Is it due to larger staffs? Greater efficiency in the organization of services? In the provision of services? Both statistical analyses of all of the health Centers and all of the hospitals, as well as case studies of specific facilities which have posted the most exemplary performances juxtaposed with those whose performances have lagged the most are in order.

In conclusion, there are indications that the MOH's lagging performance in service delivery and average facility productivity levels during the 1982-1986 period was an aberration. Starting in 1987 and continuing through 1989 it appears that most of the MOH's pre-1982 service delivery levels and patterns are being re-established. In particular, the pattern of MOH clientele substituting hospital-based physician visits for physician visits at health Units and Posts which rapidly evolved and quickly became pronounced during 1982-1986 is dissipating. Salvadorans are again turning for the bulk of their MOH physician-provided ambulatory care from health Units and Posts. Since the cost of providing a physician visit is less at a health Unit or a Post in comparison to at a hospital, this return to the earlier pattern is heartening from an efficiency perspective. The return to the former pattern, however, has only been partial. The health Centers have come to occupy a position of significantly greater importance in the MOH delivery system, and appear to have usurped part of the role and clientele of the Units and Posts. Some understanding may be gained from analyzing the household health interview survey and demand study developed in 1989-1990 by the

centrally funded AID REACH Project in collaboration with APSISA. Unfortunately, that study is cross-sectional and may not provide insight into the nature and causes of this evolving and very dynamic set of relationships. The teeter-tottering relationship between average service provision levels at hospitals vis-a-vis Units and Posts is not coincidental. Hospital outpatient departments were used as substitutes for physician provided care at Units and Posts in the 1982 through 1986 period, and that in the last 3 years, 1987-1989, MOH facility utilization patterns have largely "returned to normal;" that is, there has been a substitution back from the hospital outpatient departments to the Units and Posts. There is anecdotal evidence which supports the hypothesis that this systematic, facility-substituting behavior was occurring.

The 1982-1986 period the MOH was most severely constrained financially and unable to purchase anything even approaching near adequate drug and medical supplies. Moreover, the way in which the MOH logistic systems functioned throughout that period was to allocate most supplies first to the hospitals: the hospitals were top priority. In addition, since some excess supplies were shipped out of San Salvador, they generally went to hospital warehouses as an intermediate step on the way out to more remote, lower-tiered health Units and Posts. Often times, these scarce supplies were hoarded by the hospitals and to a lesser extent by the Centers. The dearth of supplies at Units and Posts is an important contributory factor in this pattern of facility use. In addition, it is certain that the regularly scheduled weekly or bi-weekly physician visits to health Posts were disrupted to considerable disruptions, dislocations and dangers associated with the war, the intensity of which peaked during this same time period (especially in 1982-1984). The ever-dynamic conditions of the guerrilla war certainly forced cancellations of usual rounds in the interest of physical safety. In addition, the general deterioration of the MOH vehicle fleet and the growing length of time required to repair vehicles further complicated matters, as did the growing recurrent cost crisis felt in the increasingly limited availability of gasoline. On the demand side, the war has obviously disrupted life throughout the country, but particularly in relatively remote areas--the sites of most of the Units and Posts. It has made travel more dangerous for both consumers/would-be patients. Moreover, many of the most remote facilities have been closed by war, though generally only temporarily and sporadically. Nevertheless, to the extent that facilities have been closed, even if only temporarily, the MOH clientele's knowledge, or even their mere perception, that there was a greater likelihood that they might make the effort to get to their regular facility only to find it closed, probably discouraged people from seeking MOH care. This suggests that although there appears to have been a significant amount of substitution of hospital-based, physician-provided ambulatory care for physician-provided care at health Units and Posts during

1982-1986, that the felt, but unfilled need for medical care increased during this period. In addition, it is likely that self-treatment, and the use of pharmacies and private sector providers also increased. Considering the relatively modest growth in the number of total consultations provided by the MOH in the past 3 years, particularly with population growth at 2.6 percent per year, the relative importance of the MOH as a provider of medical care in El Salvador has decreased.

Returning to supply side considerations, the Government of El Salvador declared a moratorium on purchases of equipment which remained in effect until at least 1989. As basic equipment has broken down, the MOH has been forced to obtain what assistance it could from external funding sources to purchase spare parts or new equipment. Again, priority has been accorded to hospitals and to a lesser extent health Centers. Another important factor in explaining the changing pattern of MOH facility utilization (especially during the 1982-1986 era) is the impact of the war on medical personnel. As already mentioned, irregular supply lines and transportation networks have both prevented and discouraged MOH providers from maintaining their regular schedules.

The mobile health Units and the physicians serving health Posts on a weekly basis probably fulfilled their duties less effectively and less frequently during the height of the conflict. Since the situation has slowly improved, the functional level of the Units and Posts has probably improved. The various activities of the APSISA Project may have improved many of these factors which contributed to the falling off of service provision at especially the health Unit and Post level. Most notably, APSISA has upgraded the MOH vehicle fleet and reduced the down-time required for vehicle repairs, the availability, appropriateness and distribution of medicines and medical supplies throughout the system has improved, significantly, new medical equipment has been purchased and installed in all four facility types, and, bio-medical equipment maintenance appears to have improved. The fundamental conditions which gave rise to the altered pattern of MOH service provision/utilization in the 1982 through 1986 era, have abated. In large part, APSISA has been responsible for alleviating the financial crisis, and more specifically the recurrent cost crisis, and has improved the organization and functioning most of the MOH's major logistic systems. Whether the MOH can sustain these improvements remains questionable. There are positive indications that the reforms in the logistic systems will be of a permanent nature. This will depend in large part on whether or not the MOH can improve its system-wide planning and managerial capacity. The critical importance of planning suggests it must become a focus of greater effort and resources in APSISA throughout the remainder of the project, and should occupy a central position in any extension of the Project.

III. Decentralization

A. Estimating the Costs of Districtization Scheme #1

The Districtization version of decentralization is based on demarcated geographic areas, to be developed using several criteria (e.g., population) and delineated to group different types of MOH health facilities in a pyramidal, referral structure. The pyramidal structure is a truncated version of the traditional, primary health care referral system. Rather than the customary four-tiered structure, districtization calls for a two-tiered system. At the peak of the pyramid is either a regional (non-specialty) hospital or a health Center. The second layer consists of all other facilities, the health Units, Posts, dispensaries, etc. Implementing districtization will start dividing the country up into between 36 and 40 districts. For example Rosales Hospital serves as the district pinnacle in the San Salvador district, and each of the 9 regional hospitals serves as the pinnacle in a district, 10 of the districts will be capped with a hospital. At present there are 15 health Centers (3 of which have opened within the past two years). With the existing infrastructure, however, only 25 districts can be created with either a regional hospital or a health Center in the top layer of the pyramid. By implication, districtization will require building additional infrastructure. Given the estimate of 36-40 districts, it will require at the very least, 11 additional health Centers. The Government of El Salvador will not have a difficult time finding a donor willing to finance the construction of 11 health Centers for its Ministry of Health. That is not an issue. The issue is that 11 new health Centers, would require an additional 1,628 Salary Law funded positions (a 11 percent increase in the MOH's total number of such positions). This would increase the proportion of total MOH operations expenditures for personnel. The cost of staffing a single Center adds approximately 2 million colones to Ministry operations expenditures annually. Pursuing this version of districtization and building 11 new Centers will create personnel costs adding 21.5 million colones to the Ministry's annual operating costs. Equipping, supplying and maintaining the facilities would add considerably to that figure. To meet the personnel costs of such a project would require an 18 percent increase in the MOH's 1989 operations expenditures (i.e., total MOH operations actual and earmarked expenditures exclusive of transfers and capital expenditures). This is not all of the additional personnel costs which this districtization project would require. Each district office would be staffed by 10 to 12 persons. The estimated 36 to 40 districts, therefore, would require between 360 and 480 persons to staff. A large fraction of these persons, could be transferred from regional office positions they currently hold, leaving, roughly 150 new staff positions to be filled bring all of the districts on-line. We can estimate that these additional

MOH employees would push the districtization price tag up by an additional 2,927,640 colones, to bringing its personnel-only costs to 24,950,176 colones including Salary Law and Health-Board funded positions. An increase of this magnitude in GOES funding will not be forthcoming, so pursuit of this project will put the MOH in an untenable position. If the facilities are constructed and staffed, the entire MOH system will suffer the brunt of a recurrent cost crisis of unprecedented proportions, which would threaten the very viability of the Ministry. This is not hyperbole. The MOH is only just beginning to extricate itself from an impasse in which it had found itself only two or three years ago. That impasse was created by a combination of factors which still characterize the MOH and its plight; the Ministry's un-integrated organizational structure, its reliance on historical budget-based planning, overlaid with a severe and protracted economic crunch and a poorly timed and what because of changing conditions, eventually became an inadvisable infrastructure expansion project. AID should work with other donors to dissuade the MOH from pursuing districtization, at least as currently envisioned. The unprecedented level of support which the Ministry has been receiving throughout much of the past decade, will not be available throughout the foreseeable future. Funding cuts increasingly look likely in the future (certainly within 6-8 years). The macroeconomic condition of El Salvador, however, (together with the International Monetary Fund--with which it is presently negotiating a stabilization agreement) will not allow the Central Government to appropriate the increased levels of funding which this infrastructure project would require if it were to be sustained. With the downturn of external assistance likely in the medium to long term, the MOH would risk too much by pursuing this, as yet, poorly thought out plan.

B. Estimating the Costs of Districtization Scheme #2

The primary financial expert of the Institutional Development Unit of the Planning Department has proposed a design for districtization is not as ambitious nor as expensive the previous one. In this design, districtization would not require building new health Centers, but remodeling appropriately located health Units to accommodate the regional offices. Again, El Salvador would probably not have a difficult time finding a willing donor to loan it the money to undertake the necessary changes in the infrastructure. Without needed to greatly expand the number of health Centers, this plan far less expensive. All of the significant recurrent costs of medical supplies, drugs, etc. will not be incurred by this alternative scheme. Still, this plan too will be far too expensive for the MOH to undertake. The recurrent personnel costs demonstrate this. This second plan requires developing 50 district offices, with 22 persons per district office. The Regional Offices can each send out

approximately 4 of the 22 persons. This will reduce the size of the Regional Office by, about 40 persons. 200 persons will be redeployed. With 50 district offices of 22 persons each, the scheme will employ 1,100 persons in all. Subtracting the 200 who are to be redeployed from Regional Offices there will still be a need for an additional 900 new persons. Total Annual Recurrent cost of each group of 18 new employees required to staff each district office, assuming 4 persons in each district are redeployed from the regional office. With 50 such groups required to staff the estimated 50 required district offices, total annual recurrent personnel only costs of districtization scheme #2 are : $50 \times 227,928 = 11,396,400$ colones.

This scheme is significantly less costly in annual recurrent personnel costs than the first plan. It would cost less than half (46.5 percent) of the Rodriguez plan (again confining the discussion to only personnel costs), yet would still require an 8.6 percent increase in the MOH's 1989 total operations expenditures (i.e., the MOH's total expenditures and earmarked commitments minus capital expenditures and earmarks and transfers).

C. Other than Economic Reasons for Rejecting the Current Districtization Plans.

The two districtization schemes under consideration within the MOH would construct districts with either a hospital or a health Center at their focal point. It is most unlikely that such systems could be effectively implemented in the next few years. Functionally integrating the district would require functionally integrating the hospitals and their budgets with those of the other health facilities. As already noted, the MOH has been trying to do this with the hospitals for more than a quarter of a century without success. Hospitals are hardly likely to be willing to relinquish their autonomy, particularly when it becomes self-evident that districtization will be for them a uniformly losing proposition; in money, independence, and status. Moreover, throughout the years of the most severe financial squeeze of the mid-1980s, the hospitals repeatedly demonstrated their ability to survive within the MOH system and to fare considerably better than all other tiers of establishments. Thus, hospitals should be expected to fight districtization, and are likely to prove formidable opponents. It should also be borne in mind that the hospitals have considerable political clout within the MOH, in the national health political area, and among physicians as a group (and physicians remain without question the chief decision makers throughout the health sector in El Salvador). Even if a well thought out and integrated and affordable program can be hatched, it is most likely to undergo numerous permutations in the process of implementation. The result is not likely to look anything like the initially conceived plan because of the many inevitable compromises which

will be struck along its developmental road. To ensure that the final scheme is as close to the ideal MOH scenario as possible, any hospital-based districtization scheme must be clearly articulated and elaborated in detail. Moreover, the issue of cost and especially the recurrent costs which will eventually have to be borne by the MOH and the GOES must be estimated if the effort is to be sustainable. By way of (1) becoming well positioned strategically, and (2) developing as finely articulated a plan as possible, several contingency plans should be developed and costed out.

ANNEX H

ACRONYMS

AFSISA	Health Systems Support Project
ACS	Community Health Assistant
ARI	Acute Respiratory Infection
ARS	Rural Health Assistant
BHS	Basic Health Service
CHP	Community Health Program
C&M	Clapp and Mayne
DQC	Drug Quality Control
EOP	End of Project Status
FP	Family Planning
GDP	Gross Domestic Product
GNP	Gross National Product
GOES	Government of El Salvador
HPN	Health, Population, Nutrition
LAC	Latin America and Caribbean Bureau (AID/W)
LOP	Life of Project
MCH	Maternal Child Health
MHCS	Maternal Health and Child Survival
MOH	Ministry of Health
MSCI	Medical Service Consultants, International
OIC/MOH	Office of International Cooperation/Ministry of Health
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PACD	Project Activity Completion Date
PAHO	Pan American Health Organization
PIO/C	Project Implementation Order for Commodities
PROSAR	Rural Health Program
PVO	Private Voluntary Organization
TA	Technical Assistance
UNICEF	United Nations International Children's Education Fund
USAID	United States Agency for International Development
USG	United States Government
UTMIN	The Technical Unit for Drugs and Medical Supplies
VC	Volunteer Collaborator
VCR	Video Cassette Recorder
VISISA	Health Systems Vitalization Project