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EL SALVADOR

**HEALTH SYSTEMS VITALIZATION
EVALUATION**

August, 1985

Part I - III

Health Administrator's Report

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I. INTRODUCTION

A. Background - VISISA Project

In the summer of 1983 a project paper was written called "The Health Systems Vitalization Project" (519-0291). It was originally conceived to be a \$9 million project with three components: health supplies management, public health infrastructure maintenance and management information systems. Subsequently the project was expanded to \$25 million and a fourth component was added because of the need to increase the procurement levels of medicines, equipment, supplies and to improve emergency medical services.

The purpose of the project is to:

1. "Increase existing levels of primary health care and emergency medical services by meeting the initial short-term needs of the Ministry for essential goods and services.
2. Vitalize the institutional capacity of the Ministry to more effectively execute their existing systems in health supplies management, maintenance and information management."

In order to handle this large influx of commodities, AID was to provide technical assistance, training, supplies and construction/refurbishing of warehouses to restore the MOH logistical supply system. The objective of the Technical Assistance was "to provide technical assistance to key areas addressed by the Project, which is designed to rapidly (emphasis added) restore and revitalize the health system in El Salvador." The four components of the VISISA project are:

1. The first component is Health Supplies Management. The Project Paper concluded that "MOH has not developed a coherent distribution strategy. Operative Services has no administrative support staff. Central warehouse operation is antiquated, cumbersome, and inefficient. (An estimated one million colones were lost last year due to inefficiencies in this system e.g. the expirations of drugs due the lack of an effective inventory control program). Information regarding inventories, product movement, warehouse personnel is not organized or easily accessible. In brief, current procurement practices, warehousing and distribution management, are the most serious constraints to the vitalization of the MOH logistics system. MOH does not establish inventory, warehouse, transportation strategies, set implementation targets, or conduct evaluation of progress and results. Management of the logistics system is diffuse, operating units are loosely related and there is no continuous and reliable information flow to support management of products." (p.25) In order to

remedy this situation, there are three subcomponents: 1) to facilitate the early acquisition of critically needed commodities for infusion into the health supplies delivery system and to restore the management and administrative capability and effectiveness of the supply management functions of the MOH including procurement, inventory control, storage and distribution and to institutionalize this capability; 2) to support and increase the capability of the national and operational areas services to effectively control malaria; 3) to establish a drug quality control program and establish guidelines for shipping, transportation, warehouses, storage, and dispensing conditions to assure the distribution of efficacious and safe drugs of high quality.

2. The second component deals with upgrading the public health infrastructure maintenance and repair in transportation and biomedical equipment. AID is to support the Transport Department to rapidly improve the vehicular fleet and develop a systematic maintenance and repair program for MOH vehicles. The project will also help MOH develop the capacity to perform maintenance and repair of biomedical, electrical, and electromechanical equipment and to establish a preventive maintenance program.
3. The third component is to provide the MOH with the necessary resources to develop a comprehensive data base to support MOH activities in procurement, supplies and maintenance management and to implement a distributed data processing system which responds to the Ministry's decentralized administrative system.
4. The fourth component is to improve MOH emergency medical services as a result of the high rates of civilian trauma. A medical assessment made four recommendations relating to human resource development which will be covered later and relates to the establishment of mobile surgical teams, intermediate trauma management: wound stabilization, primary level trauma management: first aid and patient handling techniques. Recommendations were made with regard to the acquisition of emergency equipment and supplies and doing a special trauma study.

B. Purpose of Evaluation

The general objective of this evaluation is to provide the United States Government and the Government of El Salvador (GOES) with a current assessment of the status of the health of the Salvadoran population, human resources for health, health services delivery in El Salvador, pharmaceutical logistics and biomedical and vehicle maintenance as they relate to the project in progress.

The health administrator is to:

1. Examine changes in service delivery levels:
 - a. Determine the facilities in operation at the time of the evaluation in comparison with levels found by the Klassen Committee in February 1984.
 - b. Determine the number of consultations provided by the MOH in 1984 by level of facility and reason for consultation, and compare to target numbers for 1984 and to services provided in 1983.
 - c. Describe the way in which targets are set for services by facilities and recommend needed changes.
2. Include in the full mid-term evaluation report the contributions of all team members, including Kraus' work covering indicators for vehicle maintenance, bio-medical maintenance and materials management.
3. Evaluate progress toward project indicators contained in the logical framework of the project paper using the above findings and the findings of other team members (including Kraus) including:
 - a. The provision by both GOES and AID of projects inputs in a timely and effective manner;
 - b. Whether the inputs are causing the project outputs;
 - c. Progress toward reaching end of project status indicators.
4. Make global recommendations for change in project implementation to improve performance with respect to project indicators.

C. Evaluation Issues and Questions

It is important to objectively study the following items that were given as a charge to an independent oversight committee: a) examine the overall health needs of the people of El Salvador; b) review and evaluate existing and proposed AID health programs; c) make recommendations pertaining to the provision of health services in El Salvador and the AID health program; and d) assessment of the need to train new paramedics and upgrade the skills of nurses and other health personnel.

Concerns have been raised concerning the MOH and the VISISA project such as:

1. Deterioration in the health status of the population at large such as an increase in vaccine-preventable and other diseases, increases in infant mortality, malnutrition and malaria.
2. That medicines and supplies brought in by the VISISA project have not arrived or been distributed.
3. That health establishments believed to be open are closed.
4. That social service physicians have not received training in outpatient medicine, public health, sanitation, and nutrition.
5. That the number and distribution of health care workers is insufficient and their ability to function in the field is impaired.

This evaluation will attempt to respond to these questions. However, it should be emphasized that these concerns go far beyond the scope of the VISISA project to the effectiveness of the entire health care system in El Salvador. These concerns address changes in morbidity and mortality, changes in delivery levels and health manpower as well as those items under the scope of the project such as pharmaceuticals and supplies, and logistical and maintenance systems. Shortcomings in the health care system or deterioration in health status does not indicate the failure of a project that was limited in scope to begin with. There are many other factors involved. The problems are very complex and there are no easy answers or "quick-fix" solutions.

This report addresses those legitimate global and specific questions that have been raised concerning the health care system in general and the VISISA project, in particular. The "emergency" nature of the VISISA project presents a special problem since there were immediate needs as well as the need for long-term infrastructure development. The "emergency needs" for supplies identified by the project paper did, in fact, begin flowing into the country within 6 weeks of the Government's compliance with conditions. Deliveries were completed within four months. There were delays, however, in regular procurements, for reasons to be described later. The overall "emergency" status should never have been applied to regular procurements and technical assistance. This evaluation will sort out the many factors which make up this mosaic, evaluate the performance of the VISISA project and make recommendations for future directions for AID health initiatives in El Salvador.

1. Accomplishments

The two general purposes of the VISISA project were to get needed drugs and commodities into the country and to revitalize the health system. Although there have been delays, nearly all of the major goals of the project have been accomplished (except in Emergency Medicine training). All of the money has been committed and most of the goods have arrived in country and have been distributed. The VISISA project reinforced the health budget and bolstered a weak and inefficient system. There have been improvements but there is still a long way to go. If anything, this evaluation has reinforced the dictum which is even more true in the developing world, "The problem is not money or materials, but men." The lack of people with the skills and expertise to do the job and who will stay with it (rather than going to a better paying position in the private sector) is the greatest problem.

2. Impact to date

From reading all five reports, it is possible to say that the project has accomplished 95 percent of what it set out to do. Medicines and supplies are flowing in the system and improvements have been made. But, it is more difficult to say whether the VISISA project has made a significant impact on morbidity, mortality, manpower, and health facilities. Perhaps there will be measurable improvements in a year or so but it is not possible now. Even then, because of the limited scope of the project in relation to the whole health care system, the overall social, economic, and military situation, it is not possible to draw direct causal relationships.

3. Institution Building...Infrastructure Building

One of the two major purposes of the VISISA project is to "vitalize the institutional capacity of the Ministry." In the original Project Paper it was noted that there was a problem finding and keeping skilled people and there still is. By definition, revitalization of infrastructure is a long-term problem with no simple, inexpensive solutions. Below are a few of the more glaring problems:

- a. Changes in Ministers and Vice Ministers meant delays in making decisions while options are under study, and lower level appointments are being made.
- b. Low salaries in the MOH make it very difficult to recruit and keep employees, whether mid-level managers, technicians or mechanics, because they can get better paying jobs elsewhere in the government or in the private sector. As is typical in many developing countries, the government is

the training ground but continually lose personnel. How do you transfer skills and technology to a system where key leaders, managers and workers are constantly leaving? It is cumbersome and time consuming to get the government to shift its priorities in terms of personnel and budget.

- c. The civil service system is rigid. It is difficult to fire government employees, or to add new or upgrade existing positions.
- d. MOH personnel at the managerial level are extremely busy, and often have multiple responsibilities making it difficult for them to focus on tasks that AID may deem to be high priority.
- e. There is still a tremendous need to develop management information and information systems, forms, flows, standard operating procedures, manuals, etc. in all areas of the Ministry in order to streamline and rationalize the process.

The training of counterparts, transfer of technology, and the development of systems that fit the local situation and are appropriate to the local technology, and human and financial resources is a long-range project at best. The frustration of AID and the project advisors relates to the crisis nature of working in El Salvador and the intense pressure from Washington. The biggest single problem is the failure of some to distinguish between the initial emergency need for commodities, the subsequent medium term need for commodities, and the long-term infrastructure building needs.

4. Implications

This evaluation highlights some of the problems that have been encountered, the accomplishments made, and sheds some light on future directions. It was interesting to see how many divergent people and organizations were moving in similar directions - more of an emphasis on community oriented primary care, integrated rural development, human resources development and systems development. The problem is still one of policy and priorities, including budget allocations. There are sparse local resources to implement new programs.

D. Methodology

The methodology employed for this evaluation utilized a combination of analysis of documents, on-site visits, interviews and a review of the results of various surveys. These include:

1. The Project Paper provides the basis for evaluating VISISA with its goals, purposes, outputs, and inputs.

2. The Klassen Committee Report resulted from a survey conducted in February, 1984 of 63 facilities. This survey covered three areas: administrative, logistic, and clinical. It provides the only base line data as such for the project.
3. The results of various surveys completed in the last few months: the Klassen survey was repeated in February and April of this year. A more comprehensive survey was conducted in May and June of this year as a part of the Management Evaluation by Kraus International.
4. Numerous government documents such as the Five Year Plan, the Budget and up-to-date statistics on utilization, morbidity, and mortality were analyzed comparing 1983 and 1984 figures.
5. Three reports form the basis for evaluating the VISISA project: The Nichols Report, a comprehensive report that assesses "the overall health status of the Salvadoran population." (August 1984); the Autotte Report on Human Resources (July-August 1984) and the Kraus Report on Management Evaluation (Sept-Oct 1984).
6. Section 7.2 lists the interviews and on-site visits that took place. Those interviewed were cooperative and dedicated and provided all of the information at their disposal.
7. The most definitive study used in the evaluation is that done for the Kraus Management Evaluation. Thirty health facilities, selected as a pilot for a complete census in the future, included hospitals, health centers, and health units and posts in all five regions. Information was obtained from facility administrators, nurses, warehouse and pharmacy supervisors, and office personnel. Data was gathered regarding hours of operation, possible closures, volume of patients, morbidity, treatment patterns, availability of pharmaceuticals and monthly movement statistics over a two and a half year period for selected drugs.
8. Quarterly reports and work plans by the Westinghouse technical assistance team were analyzed in relation to the original Project Paper, Project Agreement, and contract. Each team member was interviewed extensively regarding their role, problems encountered, and recommendations for the future.

II. EL SALVADOR HEALTH CARE DELIVERY SYSTEM

A. El Salvador Health Status

In August, 1984, the MOH published a document called "Priority Health Needs in El Salvador" and summed up the situation as follows: "The health situation of the country has been experiencing profound difficulties as a consequence of a complex combination of political, economic and social factors that have been getting worse since 1979." (Necesidades Prioritarias de Salud en El Salvador, p.2). The health of the Salvadoran has been diminishing as a consequence of the economic social and military crisis. "The resources assigned to the health sector, especially those belonging to the Ministry of Health, have remained without significant change in the last five years. That has resulted in a decline in the levels of health, especially among the most vulnerable groups. Infant mortality shows an elevated level as has malnutrition and undernutrition. Internal migrations have aggravated the situation throughout the country, creating an increase in demand for health that cannot be attended to, considering the situation. Mobility for transmissible diseases, including malaria, have increased during the last five years." (Necesidades, p.2).

"The principle indicators of development show the deterioration of conditions in the country. The real gross national product fell 22 percent in the last four years. The reduction of exports, the increase of internal debt, added to the flight of foreign currency and trained human resources have contributed to the worsening prognostication." (Diagnostico Epidemiologico de Salud, p. 6) From 1979, El Salvador has been in an armed conflict that has disrupted economic activity, destroyed productive capacity, and undermined confidence of investors. World economic recession, increase in oil and gas prices, and the reduction of world market prices for principle export crops of El Salvador, has resulted in a weakening of the economic structure that sustained growth and financial stability for many years.

This has meant that health care must be delivered in disruptive circumstances, if at all. The amount that can be allocated for health care suffers a net decrease in real terms in the face of more pressing needs. "The situation of violence which has afflicted the country the past five years, has directly diminished the health of the population.... In the same way, this situation has decreased the delivery of services: difficulty of access, closing and destruction of health establishments, scarcity of medications and equipment, difficulty of transportation, the restriction and limitation of the budget, loss of lives of health providers and difficulty of doing business in the conflict area." (Necesidades, p.23)

B. El Salvador Health Care System

The following institutions form the Health Sector: The Ministry of Health and Social Assistance; The Salvadoran Institute of Social Security, The Salvadoran Red Cross; Health Services of the Ministries of Defense and Public Security; The Minister of Interior through ANTEL Hospital (Telecommunications); The Minister of Education, and the health services of the private sector.

There are approximately 326 official health establishments: 10 general hospitals, 4 specialty hospitals (childrens, maternity, psychiatric and pulmonary) 12 health centers, 98 health units, 159 health posts, 34 community posts and 9 dispensaries. The health centers are small hospitals with 75 to 100 beds. The health units are manned by a permanent physician, and the health posts are attended by an auxiliary nurse and visited two or three days a week by a physician, nurse, or dentist. The hospitals have a total of 6,202 beds which represents an average of 1.33 beds per 1,000 inhabitants. The distribution of the beds is not even but concentrated in the metropolitan region. This network of health services takes care of 85 percent of the population, Social Security 8 percent and the private sector the rest. The Social Security System has 40 Health Centers including hospitals and a total of 1,101 beds.

C. The MOH Budget

The Ministry of Health is responsible for the care of approximately 85 percent of the population or 4,250,000 people. For the past several years the total budget has remained at 200 million colones. According to the document, "Necesidades," the MOH budget has suffered irregular changes from one year to another. It does not follow a predetermined plan because it is subject to the prevailing conditions in the country since there are always insufficient resources for the growing demand of services (p.21).

The following Figures present the MOH budget from several perspectives:

1. Figure 1 shows the operational budget for the hospitals which are autonomous and the other health establishments which are managed by the regions. The budget has remained nearly constant since 1981. Since the purchasing power of the currency is down significantly (up to 50 percent less than it was five years ago), this represents a serious decrease in budget expenditures. The lower part of Figure 1 briefly summarizes the total Ministry budget, the number of people served, and per capita expenditure. It then compares the MOH expenditures with Social Security.
2. Figure 2 shows 1985 budget by source of funds and budget category. The 14 hospitals dominate expenditures with 44 percent of the total funds. Together, the facilities consume 70 percent of the budget (Health

Services and Hospitals), administration 11 percent, construction (expansion of the network) 14 percent, leaving only 5 percent for important preventive services (technical services and latrines) and rural health.

3. Figure 3 allows a detailed analysis of the budget by program and category. Since hospitals are autonomous institutions, they are the single largest line item. The Health Services category represents the amount allocated to the regions, 95 percent of which is salaries. Most of the construction and equipment are going to the new hospital being constructed in San Miguel.
4. Figure 4 gives a breakout of the total and percent of budget by category for hospitals and the other health facilities. A full 90 percent of the budget goes for full or part-time salaries and contract labor. Such a small amount is budgeted for operations, materials, and supplies, it emphasizes the importance of the "patronato" in health facility operations. The "patronato" is a small donation people pay each time they come to the clinic, or in essence a co-payment.
5. The detailed budget for each hospital is shown in Figure 5 and is broken down into the major budget categories for General Administrative Expenses and Medical Expenses. Again, salaries represent 85 percent of the expenditures and small amounts are allocated for medical supplies, equipment and other costs normally associated with running a hospital.
6. Figure 6 shows the cost per patient day at each of the hospitals. The fact that there is such an unexplained variance from one hospital to another would suggest that budgeting is not based on any rational criteria. According to the head of MOH administration, budgets for the hospitals are figured as a percent of the previous year.

Analysis:

An examination of the MOH budget would indicate the need to consider reordering priorities from the curative to the preventive, and from the institutional care to community-based primary care. This is especially crucial considering it will cost an extra 10 million colones in operational expenses alone if and when the new hospital in San Miguel opens. Even though 23.30 million dollars in loans were made through the VISISA project, the total MOH budget stayed the same.

D. Changes in Service Delivery Levels in 1983 and 1984

Detailed data is available only for hospitals and health centers. Health units and health posts data and budgets are handled at the regional level. A number of tables illustrate changes in delivery levels between 1983 and 1984:

1. Data for each hospital and health center are shown in Figure 7: available beds, total admissions, percent occupancy, average length of stay, total patient days, outpatient visits and prescriptions written.
2. Figure 8 summarizes the inpatient statistics for hospitals and health centers by service (medicine, surgery, etc.) and shows the percent change in admissions, discharges and beds available. There is no significant change.
3. Figure 9 deals with three basic indicators of utilization: patient days, outpatient visits, and prescriptions written. It shows the totals and percent change for 1983 and 1984. All three indicators are up from 1983.
4. Finally, Figure 10 summarizes a number of procedures and statistics for 1983 and 1984: the number of deaths, births, outpatient visits including medical, dental and emergency visits, prescriptions written, major and minor surgery, number of general and local anesthesia procedures, radiology procedures, electrocardiograms, number of injections, physiotherapy treatments and laboratory tests. In nearly all instances, the numbers have increased.
5. Appendix A summarizes all of the activities of the Ministry of Health for 1983 and 1984: vaccinations, transmissible diseases, tuberculosis, maternal and child care, family planning nutrition, laboratory, environmental health, etc. A detailed analysis of the data indicates that in some categories, more services have been delivered than the previous year, and in other categories less have been delivered. It is difficult to draw any firm conclusions from the data and too soon to tell even if direct relationships can be made with the VISISA project inputs.
6. Appendix B summarizes epidemiological data for the incidence of over 50 diseases in 1983 and 1984. Again, it is difficult to draw any conclusions. Reports indicate that typhoid, paratyphoid and measles are up significantly, but Rubeola, and Dengue Fever are down significantly. Other figures changed less dramatically in one direction or the other.

Analysis:

Utilization rates, number of services delivered, and incidence rates for different diseases have not changed sufficiently from 1983 to 1984 to determine if there is a trend. It is interesting, however, that in most instances, the MOH is providing more services with the same budget or less in constant dollars.

Health facility utilization, the number of services delivered and rates of morbidity and mortality are affected by two major factors: the budget - money available for health care which has had a net decrease in constant dollars, and the military situation which has had such a disruptive influence throughout the entire country and certain parts in particular.

All that can be done is to creatively get more money into the public system, reorder priorities and try to make the present system more efficient with improvements in the health infrastructure. These issues will be dealt with in the section on recommendations.

E. Facilities in Operation

The number of facilities in operation during 1983 and 1984 can be looked at in terms of gross government statistics or the findings of surveys conducted by AID.

1. According to government statistics comparing December 1983 with 1984 (Figure 11), the total number of facilities closed increased in 1984, and most of those are the rural health posts in contested military areas in the east and central regions. During the same period, five additional facilities were opened.
2. The Klassen Committee visited 63 health facilities. Among the 63 facilities visited, only one had been closed since June 1983. Fifty-six reported no closings during that period; four were unable to answer, and two had been closed due to staff training or local holidays. The Klassen Report concluded, "Our findings and impressions clearly indicate that to the maximum extent possible, given the situation in El Salvador, MOH facilities are open and operating. Which facilities are open changes rapidly..." Subsequent surveys conducted in February and April of 1985 found that the percent of facilities in full operation had increased from 95 to 98.4 percent. A census conducted in May and June of 1985 began with 30 facilities. The facilities were open for outpatient visits an average of 23 days a month. Every region but one (the Occidente) was ahead of their goal for outpatient visits whether a hospital,

health center, unit or post (see Table No. 4). Thirteen percent of those surveyed said that they had been closed briefly since June, 1984 and that was principally for training or the vaccination campaign.

Analysis:

Based on the data provided by the Ministry, and surveys by Klassen, AID and Kraus, the author of this report agrees with the conclusions of the Klassen Committee in terms of the commitment to keep facilities open. Facilities that are closed or show lower activity is directly related to the military situation.

III. THE VISISA PROJECT

A. Project Summary

The original Project Paper accurately describes the project and the situation as follows: "The project is designed to improve the health status of the Salvadoran population. The purpose is to increase existing levels of primary health care and emergency medical services to the Salvadoran population by meeting the critical need for essential goods and services and by assisting to develop the institutional capacity of the MOH. The project will consist of four major components: (1) health supplies management, (2) public health infrastructure maintenance, (3) management information systems, and (4) emergency medical services. Health facilities throughout the country are generally well staffed with competent, dedicated health professionals. What is lacking in the system are pharmaceuticals, medical supplies and equipment to deliver health services. Under the first component, AID will provide the Ministry with an adequate supply of critically needed commodities to sustain existing levels of primary care....The second project component is intended to upgrade MOH's existing capability to plan, manage, and implement their maintenance system for medical equipment, vehicles and health infrastructure, spare parts, tools, and training supplies for immediate repairs and establishment of a preventive maintenance system. Under the third project component, MOH's capability to collect, process and store data to produce meaningful management information will be augmented. The final component addresses the MOH's capacity to provide emergency medical services, specifically for war-related trauma. (extracted from original Project Paper, pp. 4-5).

B. Project Background

In 1978, a health assessment revealed a serious situation with high infant mortality, malnutrition and morbidity led by diarrhea, respiratory diseases and malaria complicated by burgeoning population growth. Subsequently, the country's health status deteriorated due to violence, the declining economic situation, a decrease in budgetary resources and the growing number of displaced persons. The purchase of drugs, equipment and medical supplies was reduced. Maintenance suffered and the MOH began to experience severe shortages of drugs and medical supplies. The problem was even more severe in the eastern regions where the military conflict was worse and resulted in the closure of some facilities. Unable to meet its needs, MOH requested and was given \$25 million in loan/grant assistance to address these priority areas.

C. Planned Project Outputs

The "Planned Project Outputs" listed below come directly from the Logical Framework of the Project Paper. These were modified slightly by the Project Agreement (See Appendix C) which is the working document for the VISISA project. These have been further refined by the work plans developed by Westinghouse.

1. Increased availability of drugs/medical supplies in MOH facilities. Increase of 20 percent in pharmaceuticals and medical supplies located in hospitals, health centers, health units, and health posts.
2. Additional medical equipment installed/functioning in hospitals, health centers, and health units. All facilities will have medical equipment purchased under the project installed and functioning.
3. Additional warehouse space available. Construction of an additional 1,500 sq. mt. at Matazano Central Warehouse and upgrading of 1,000 sq.mt. at the 5 regional warehouses.
4. Completion of the nation-wide cold chain. Construction of two cold rooms, one at Matazano and the other at San Miguel. One refrigerator truck in-country and operating, 20 refrigerator units and 7 freezers installed and functioning.
5. MOH printing/reproduction equipment capability improved.
6. Incidence of malaria in most prevalent areas reduced. Decrease of 5 percent in incidence of Malaria in places which contain 85 percent of the Malaria cases.
7. Improvement in MOH drug quality regulatory capacity. Movement of responsibility for drug quality control to the MOH. Establishment of a small drug quality control lab in the MOH and five lab personnel trained in-country by Drug Quality Control Specialist and Laboratory Management Analyst.
8. Maintenance/repair capability for the MOH improved for vehicles, physical plant, medical and equipment. Four additional positions in the MOH Division of Transportation. Average cost of repair and maintenance per car reduced. Reduction to 15 percent of the number of deadlined vehicles in the first project year. Reduction to 10 percent at the end of the project.
9. Improvement in maintenance/capability for medical electro-mechanical, sanitation equipment and physical plant. Increase in 40 percent in maintenance visits by MOH Department of Maintenance personnel to health centers, units and posts.

10. Efficient and effective procurement, maintenance, and supply management systems, developed and established for the Ministry. MOH information needs to be assessed, a management information system designed, computer and software procured and installed; and development of subsystem packages for procurement, maintenance and supply management.
11. Improve Ministry's capacity to provide emergency medical services, specifically for (but not limited to) war-related trauma for El Salvador's civilian population. Three mobile surgical teams trained and equipped with surgical kits, drugs and other supplies, will be established and operating. Approximately 1,150 medical personnel, including surgeons, general medical officers, nurses, auxiliary nurses and ambulance drivers/attendants, will be trained in wound stabilization, first-aid skills, and patient handling techniques. Ground casualty transport system strengthened by addition of 27 ambulances, some of which will be radio equipped. Power and water supply systems improved in hospitals, centers, units.

D. Planned Project Inputs

1. <u>Health Supplies Management</u>	(\$ 000)
Commodities	14,363.4
Technical Assistance	732.5
Training	60.4
Executive Supply Mgmt Group	58.1
Construction/upgrading	626.6
Commercial Transport/Warehousing	<u>25.0</u>
	15,866.0
2. <u>Public Health Infrastructure Maintenance</u>	
Commodities	2,184.0
Technical Assistance	<u>295.0</u>
	2,479.0
3. <u>Management Information Systems</u>	
Commodities, local maintenance contract	853.0
Technical Assistance	391.0
Training	<u>151.0</u>
	1,395.0
4. <u>Emergency Medical Services</u>	
Commodities	2,552.9
Technical Assistance	55.0
Training	95.8
Special Studies	29.5
Emergency Transportation Costs	<u>290.0</u>
	3,023.2
5. Evaluation	83.0
6. Contingency	<u>2,153.8</u>
GRAND TOTAL	25,000.0

IV. QUANTITATIVE ACHIEVEMENTS

A. Project Inputs

1. Commodities.

Nearly all of the \$20 plus million for commodities has been earmarked committed. Approximately 50% of all commodities under procurement have been received and distributed. The only exception is in computer hardware and software, and some of the biomedical equipment where there have been delays that are out of the control of the project. There have also been delays in getting vehicle parts. See the reports by Kraus and Leroy for details on shipments and distribution of goods.

2. Technical Assistance.

Most of the nearly \$1.5 in technical assistance has been provided by Westinghouse and other short term technical assistance. This will be discussed in detail later since there are long-term needs for health infrastructure building.

3. Training.

The \$300,000 budgeted for training has been done or is in process. Most of the training called for in emergency medical care has not been done pending completion of the national trauma study and design of a program suitable to the Ministry.

4. Construction/upgrading.

Funds amounting to \$626,000 have been committed and construction is in progress or completed. This applies specifically to the main warehouse in Matazano and the two regional warehouses. See the Kraus report for detail.

5. Miscellaneous.

Support for the EMG, special studies, emergency transport costs and commercial transport/warehousing amounting to \$400,000 has been committed and is underway or completed.

6. Local Currency Contributions.

The Government of El Salvador is providing the equivalent of \$12,430,700 to the project.

B. Project Outputs (See Project Agreement, Appendix C)

1. Component I: Health Supplies Management System

a. Subcomponent I-A has five parts:

1. The MSPAS will maintain inventories of medicines, medical supplies, and equipment at optimal levels. This subcomponent has been studied intensively, beginning with the survey done by the Klassen team and followed up recently by AID surveys in February and April. The question is whether the medicines are getting out into the field where they are needed? Some progress is indicated by the following table which compares the availability of drugs compared to the original survey done by the Klassen Committee in February, 1984 with April, 1985:

COMPARISON OF SURVEY RESULTS ON COMMODITY AVAILABILITY IN THE HEALTH SYSTEM

Item	Feb./85 Results	April/85 Results	Percent Results
Penicillin	47.47%	93.50%	97.0%
Chloramphenicol	60.00%	60.20%	.33%
Oral Rehydration Salts	67.90%	90.87%	34%
Xylocaine	54.43%	79.33%	46%
Anti Malaria Drugs	47.90%	76.00%	59%
Tetanus Toxoid	52.23%	67.63%	29%
Syringes	84.23%	94.37%	12%
Sutures	70.10%	77.90%	11%
Surgical Supplies	67.77%	92.60%	37%

Also, please refer to the Management Evaluation by Kraus International. The problem with surveys of this type is that it depends on when the survey was taken. There is a natural ebb and flow of stocks. There may be very little of a particular product just before the arrival of a new shipment. A new system of regular monitoring of the flow of product has been implemented and should eliminate the earlier problems.

2. The Executive Management Group is monitoring the construction of a new warehouse, is developing inventory and management systems (in conjunction with Westinghouse), training personnel and producing manuals. They are behind schedule in completing some of these

tasks. The reasons will be covered in the next section. There is still room for improvement in systems and the need for more technical assistance.

3. The project has built two cold rooms and developed an excellent cold chain for the entire country.
4. Management Information Systems are behind schedule because of delays in the MOH. Conflicting studies recommended two different types of MIS systems. A compromise has been reached. AID will be requesting bids for hardware, software, and technical assistance for the hardware. PAHO will provide technical assistance in specialized areas (health statistics, etc.).
5. A workshop was held with representatives from warehouses throughout the country to determine the training needs and provide the basis for developing a more complete training program. Again, this activity is behind schedule.

b. Subcomponent I-B

This relates to malaria control: \$1.3 million in insecticides and equipment was brought in and training provided. See Nichols Report on epidemiology. It may be too soon for results to show up in the morbidity data.

c. Subcomponent I-C

This sub-component relates to drug quality control. The technical assistance site inspection was completed, specifications have been written for equipment, and a final report is due July 22, 1985.

2. Component II: Public Health Infrastructure Maintenance

a. Vehicle Maintenance/Repair

Most of the vehicles have arrived or have been ordered. There have been delays in getting spare parts which has made it difficult to reduce down times. However, significant improvements have been made. Since January 1985, the number of vehicles operating has increased from 59.6 percent to 75 percent, and the percent of vehicles deadlined has gone from 40 percent to 25 percent. These rates would be better if spare parts were available. A preventive maintenance program has been designed and implemented. Significant construction has taken place and numerous training programs have been conducted. For more detail, see the Kraus

report and Appendix D (the Westinghouse workplans).

b. Biomedical and Electro Mechanical Equipment

Again, detail may be found in the Kraus Evaluation report. There have been some delays in procuring equipment, but these related to changes in personnel in the Ministry and the time taken to decide on what equipment they want, writing the specifications, getting approvals and going about the lengthy and time-consuming bidding process. Equipment that has been ordered has been installed. A management system has been developed to track all phases of biomedical maintenance. Since September 1984, productivity has risen from 66 percent to 82 percent. A human resources assessment has been completed and training programs were planned for the period from June 25 to July 21 for biomedical technicians. An inventory of all biomedical equipment was just completed and an analysis of equipment and spare parts needed will be ready by the end of July. Besides all of the planned activity, the biomedical advisor provided considerable assistance to the MSPAS in procurement, structuring specifications, etc. This is an example of the kind of "hands on" help the government likes and expects.

3. Component III: Management Information Systems

This is the component that has been delayed because the Ministry received conflicting recommendations on a computer system: one, a \$1.5 million system using a main frame and the other, a less expensive system, based on micro computers. A compromise has been reached and will soon go out to bid. This has caused delays in the MIS part of the other components. It is vital to the success of the overall project, since little data is available and what is, is hand tabulated.

4. Component IV: Improvement of the Emergency Medical Services

a. Subcomponent IV-A - Development of Human Resources for Emergency Services

Consensus could not be reached by the new administration as to the need for the three mobile surgical teams and their equipment. The number of people to be trained was also considered by the administration to be overly ambitious and will not be undertaken on the scale proposed. Training is planned for ambulance drivers, general medical officers and nurses.

b. Subcomponent IV-B - Equipment and Material for
Emergency Services

Supplies and equipment itemized in the Project Agreement have been purchased: the 52 medical stabilization kits, 26 emergency surgical lamps, 249 emergency surgical kits and 97 first aid kits. Emergency generators have been procured and expected incountry by September 1985. The 12 X-Ray machines are ordered. The 26 suction machines have arrived and are installed. The 27 ambulances have arrived and been distributed. The radio communication equipment is incountry and is expected to be installed over the next few months. The 100 water pumps have been ordered and will be installed as soon as they arrive.

c. Subcomponent IV-C - Special Studies

A national trauma study was added to the Westinghouse Health Planner's Scope of Work and will be completed by the end of September. This is a major study and will provide valuable data regarding the future planning for trauma management and primary care programs in El Salvador.

C. Project Effects and Impacts

Before the VISISA project, there were severe shortages of basic supplies and medicines. The institutional capabilities were deteriorating and there were no modern management systems. VISISA represents a small but significant proportion (about 20 percent) of all of the drugs brought into the country. AID research indicates that a significant amount is spent by people in the private sector because of the lack of availability of drugs in the public sector institutions. Drugs and equipment also come from private sources, but may be of limited use, e.g. drugs that are not that useful with upcoming expiration dates. Donated equipment may be old, obsolete, and difficult if not impossible to repair. VISISA has brought in biomedical equipment and supplies that are installed and in use.

It is unrealistic to expect a project such as VISISA to have an immediate, measurable impact on morbidity and mortality, health manpower and facilities when there are so many other factors involved and the project represents such a small part of the total health system. Nor can health care be evaluated in a vacuum without considering other national priorities, and the overall political, military and economic situation. If one considers the fact that the MSPAS is doing the same job today, and in some cases more than it did five years ago with the same budget (which is 50% less in real buying power), they are doing an amazing job. Although we cannot claim that VISISA solved all of their problems or made tremendous improvements in the health care system, the deterioration has been halted, and measurable improvements have been made in some areas.

V. QUALITATIVE ASSESSMENT

A. The Commodity System

Nearly all of the commodities purchased under the VISISA project have arrived. Some components of the project are running behind, but there are a number of reasons for these delays:

1. There have been changes at the Minister and Vice Minister level within the last year in MSPAS. Every time a change occurs, new appointments are made at the department level. According to "Necesidades," "frequent changes in the government between 1979 and 1984 affected the continuity of activities such as planning, execution of programs, supervision, and evaluation. This has been aggravated by the flight of professional and technical personnel to other national and international institutions in search of economic and personal security." (Necesidades, p.20). Currently, a major reorganization is underway in the Ministry. The new administration wants time to review the decisions. This has caused significant delays in decisions regarding the purchase of equipment and commodities while new specifications are written and approvals are sought in both bureaucracies and the bidding process takes place.

It is also difficult to get a decision made since there is so little delegation of authority below the vice minister level.

2. Although we may think of this \$25 million program as U.S. aid, the Salvadorans are aware of the fact that 95 percent is a loan, their money, that must eventually be repaid. They have their own ideas and priorities as to what they want.
3. It is one thing to get commodities into the country and another to get them out to the end users. There were serious problems in the warehousing and supply systems before and there still are. Progress is being made but this is a long range problem with no easy solution. Infrastructure building, "strengthening institutional capabilities," is by definition long-range. It would be unrealistic to expect quantum gains in just one year.
4. Success of the technical assistance depends on the identification of a counterpart who has the time, interest, and talent. It depends on the commitment of time and resources by the Ministry. It has been observed many times that the Ministry is a training ground, but pays very low salaries for comparable jobs.

People are constantly leaving for better paying jobs on the outside. The head of one of the warehouses, for example, with a multi-million dollar operation, is paid the equivalent of about \$300 a month.

Due to the constraints on the availability of grant funds, the technical assistance was decreased considerably from that proposed in the original Project Paper. The original project called for 11 long term advisors but ended up with only 6 (two at AID in procurement and the four Westinghouse advisors).

B. Biomedical and Vehicle Maintenance

These two activities are nearly completed as pointed out previously. The counterpart to the biomedical advisor left just before the project started. Both have had difficulty finding and working with counterparts that have the background and ability to do the job, especially in the bio-medical area. Both areas are plagued by low salaries, and the inability to get and keep qualified people. The Ministry likes people who will roll up their shirt sleeves and work along with them (rather than "advisors"). Both of these advisors gained the considerable respect of the Ministry staff. The biomedical advisor spent two months helping the ministry rewrite specifications for biomedical equipment which differed sharply from decisions made by the prior Administration.

C. Health Planning and Trauma Management

A health planner was brought on to the technical assistance team at the last minute at the request of the Ministry. By the time he arrived, the Minister had changed and the new planning counterpart at the Ministry, trained in Health Planning, was uncooperative with the Planning Advisor. This made it difficult to fulfill his scope of work. The contract was renegotiated and the Planning Advisor, a physician, began the national trauma study, which is a significant undertaking and will become the basis for the design of a national trauma program. Another major role of the health planner is in the area of management information systems (MIS). He has worked with the Supply Management, Biomedical and Vehicle Maintenance Advisors in identifying management information needs. In the area of vehicle maintenance, the MIS is up and running despite the limited computer capability of the MOH. Once, and if, a decision is reached on the hardware configuration for the MIS and the equipment procured, the areas of Supply Management and Biomedical Maintenance can be rapidly added. The Planning Advisor has also provided assistance to short term technical advisors who have, or are carrying out studies in: rehabilitation needs, cost sharing options, recurrent costs of the MOH and teaching/learning materials needs for health worker training. Finally, because of the difficulty in identifying consultants to develop the trauma training modules, the planner has assumed a leadership role in delivering these products.

D. Health Facilities

As the health administrator on the team, the author visited a number of the facilities. The health unit and health centers were functionally laid out and adequate for their needs. San Bartolo was exceptional for the developing world (although not by our standards) because it was appropriate to the local needs and resources. Rosales, the main tertiary hospital for the country, was antiquated but seemed to have everything. It was understaffed by our standards with 900 beds, 115 percent occupancy and only 1,400 employees (less than two per bed). Although the existing hospital is old and run down, the new hospital will be expensive to operate, costing the Ministry another ten to twelve million colones a year. It will probably cost even more than projected.

In the developing world, one cannot expect the same level of care at the secondary and tertiary level. It is too expensive and diverts scarce resources from primary care and preventive programs. One cannot use our standards to evaluate health care in the third world. Further, it is well known that it is more cost effective, though less personal and dramatic, to invest in basic primary care and preventive programs. There is some support for this in the Ministry but it is not unanimous by any means, nor is it reflected as a priority in the health budget.

As stated before, there is no rational system for setting goals or determining budgets. The Ministry should be able to begin to determine standards and do performance budgeting once the MIS system is in place.

No hospital, not even the largest tertiary hospital, Rosales, was run by a person trained in hospital administration. The practice of physicians running hospitals, and having key administrative positions in the Ministry of Health, is common in the developing world and should change if modern management practices are to be introduced.

E. Financing the Health Care System

The situation in El Salvador is typical of the developing world. The public system has the least amount of resources and the primary responsibility for the health care of the great majority of the people (in this case, 85 percent). The system is plagued by a shortage of drugs and supplies, and manpower. Physicians do their public service ("social year") and get out into private practice as soon as the year is over. In the case of most Latin countries, there are three systems: the public (85 percent), Social Security (8 percent) and the private system (7 percent). It is perceived that the quality of care ascends in that order as well. The bulk of the resources falls into the 15 percent. The problem is one of either getting more money into the public system or getting more people into the other two in order to take the pressure off the public system.

1. Privatization of the Public Sector?

There is a lot of talk these days about the privatization of the public sector and experimentation with alternative delivery systems such as Health Maintenance Organizations (HMOs). This has been tried with some success in Chile, Brazil and other countries but depends on a large, insured working population, a strong middle class and a fairly healthy economy. The government may turn over public hospitals to the private sector to manage or allow the public to apply the amount of their tax dollar allocated for health care to purchase a private insurance plan.

This does not seem to be practical for El Salvador at this point in time. That leaves two alternatives: 1) Improve the existing system or 2) Get more money into it. An in-depth study should be done of the hospital system. Technical assistance could help them improve specific systems: administrative, maintenance, ancillary support services, dietary, laundry, purchasing, housekeeping, etc. Consideration should be given to contracting out specific services to the private sector. Charts 1 and 2 show the range of options available to the MOH. Given the situation in El Salvador, some of the options are not applicable.

2. The "Patronato"

Currently the system is financed by two mechanisms: funds directly from the government and the "patronato", a small donation that people make each time they come in (unless for preventive care). The fact is, people with different financial resources use the public system. Some come in on an emergency basis but the public system has no way to recoup charges for the care. The "patronato" works well because, for the most part, the money is kept at the local level giving them an incentive to collect it. It is a very important source of revenue for purchasing supplies and medications. The amount is very small, from two colones for a visit, to fifty centavos for a test. The "patronato" is, in essence, a co-payment.

3. Suggestions to Expand the Co-Payment

One way to inject more money into the system is to increase the co-payment according to a person's ability to pay or have people who can't afford care perform some kind of work for the care that is provided. The idea of "in-kind" contributions through work has worked in numerous countries such as Mexico and Bolivia. Another problem that is common to the developing world where health care is essentially free is abuse of the system - too many visits and the expectation of prescriptions when they are not needed. Co-payments and "in kind" contributions such as work are a deterrent against over utilization.

EXHIBIT 1: POLICY ANALYSIS GRID

PRIVATIZATION OPTIONS: TO STRENGTHEN SERVICE DELIVERY

	STRATEGY	PRO	CON
<p>MORE RADICAL</p>   <p>LESS RADICAL</p>	<p>ALL MDH HOSPITALS AND HEALTH FACILITIES SOLD TO PRIVATE ORGANIZATIONS</p> <p>...LEASED TO PRIVATE ORGANIZATIONS SELL/LEASE SELECTED FACILITIES DECENTRALIZED TO STATE STATUTORY BODIES</p> <p>...MANAGED BY CONTRACT WITH PRIVATE COMPANIES</p> <p>...PROVIDE BONUS TO RELOCATING DOCTORS TO UNDERSERVED</p> <p>...ALLOW PRIVATE DOCTORS TO USE PUBLIC FACILITIES AT FEE CHANGE INCENTIVES</p> <p>...MDH BUYS SELECTED CARE FROM PRIVATE FACILITIES</p> <p>APPOINT SPECIAL ADVISORY BOARDS TO OVERSEE OPERATIONS</p> <p>CONTRACT WITH PRIVATE COMPANIES FOR DIETARY CLEANING SECURITY</p> <p>NO CHANGE</p>		

HOW TO IMPLEMENT? MANDATE BY FIAT

STIMULATE BY THREATS

STIMULATE BY REWARD

EXHIBIT 2A: POLICY ANALYSIS GRID

PRIVATIZATION OPTIONS: TO STRENGTHEN HEALTH FINANCING

	STRATEGY OPTION	PRO	CON
<p>LESS TRADITIONAL</p> 	<p>ALL HEALTH FINANCING OFFERED BY PRIVATE INSURANCE COMPANIES, POOR HAVE POLICIES PURCHASED FOR THEM BY GOVERNMENT</p> <p>GOVERNMENT PAYS FOR CARE VIA VOUCHERS, ALA CHILE PEOPLE BUY VIA SLIDING FEE SCHEDULE ON ABILITY TO PAY</p> <p>GOVERNMENT PAYS PRIVATE PROVIDERS FOR CARE OF POOR ON FEE BASIS ALA MEDICAID MEDICAID</p> <p>GOVERNMENT ALLOCATES TO PUBLIC HOSPITALS VIA CAPITATION BASIS RATHER GLOBAL BUDGET APPROACH OF EXISTING</p> <p>MON INSTITUTES RATE REVIEW TO MONITOR PRIVATE COSTS PRIVATE INSURANCE COMPANIES ENCOURAGED TO EXTEND COVERAGE AT EITHER PUBLIC OR PRIVATE AT FULL COST</p> <p>SOCIAL SECURITY ADDS SELECTED HEALTH BENEFITS FOR EMPLOYED GOVERNMENT CONTINUES TO FINANCE PUBLIC VIA EXISTING ALLOCATION BUT STRESSES COST CONTAINMENT AND LITTLE COLLECTION</p>		
MORE TRADITIONAL			

4. Keeping Qualified Physicians in the Public Sector

Another major problem is keeping qualified physicians and other health professionals in the public system. Poor pay and working conditions often discourage these professionals. The possibility of the doctor keeping a portion of the co-payment could be an inducement. Also, it is common practice for a physician to have a clinic in the morning for his public patients and then go to another place to see his private patients in the afternoon or evening. The possibility of allowing the physician to see private patients in the public clinic in the afternoon and pay for that use, should be studied. This would allow for more efficient use of the facilities, get more money into the system and induce physicians to stay in the public sector.

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VI. RECOMMENDATIONS

- A. Technical Assistance is needed to continue the revitalization of the Salvadoran health infrastructure.**
- 1. Continued long-term technical assistance is needed in Health Supply Management. Progress has been made but this is still an area that needs a lot of improvement. The advisor should work closely with EMG counterparts in the move to the new warehouse in Matazanos, in streamlining regulations and procedures, and in installing the MIS System. The advisor should have a team of local people capable of doing inventory and expediting and training staff in the health centers and posts.**
 - 2. Short to medium term technical assistance is still needed in the biomedical area to consolidate gains, reinforce technology transfer and continue to build MSPAS capabilities in training, maintenance and repair and to help in developing specifications for new equipment, installation, etc.**
 - 3. Short term assistance in Vehicle Maintenance is needed to keep up the momentum and make sure that the MOH continues to properly use the systems that have been set up.**
 - 4. The health planning function should change into a follow-up on the Trauma Study in developing trauma management and primary care programs. A team consisting of a physician, nurse, sociologist, and specialist in trauma/emergency medicine could carry out the project.**
 - 5. One organization should be responsible for ordering, writing the specifications, installing and implementing the systems. In the past one group would make recommendations, another group would add their own items to be procured, AID would order the materials, and yet another organization would be responsible for installation and implementation.**
- B. Primary Care, and prevention should become a major focus of future programs. Although some of the Ministry of Health people see the value in this, many have no idea what primary care really is and can't see beyond the traditional curative approaches to health care.**
- C. Develop national program in trauma management based on the recommendations from the national trauma study.**

- D. Commodities are still needed but emphasis should be on those drug, supplies and equipment that are absolutely essential (see Leroy report). Emphasis should also be on long-term infrastructure building, helping MSPAS continue to develop the expertise to control and manage the logistics of getting goods out into the field.
- E. The Ministry of Health should commit the human resources required to make the project work and realize the need for mid-level managers who can be trained and will stay. This means allocating the time and financial resources to a project. It also indicates the need for a major management evaluation of the ministry, their personnel needs at each level (e.g. fewer people but higher salaries to attract and keep better, more qualified personnel), salary levels, job descriptions, etc.
- F. Now that a decision has been made regarding Management Information Systems, A.I.D. should provide technical assistance to make sure that the systems are developed and implemented.
- G. Facilities and Health Care Financing
1. MSPAS should conduct a study of the health financing system and explore options discussed in this paper: making one system, privatizing part of the system, encouraging alternative care systems in the private sector, increasing local (health facility) income by expanding the patronato either according to ability to pay or through the establishment of "in-kind" payment for services. They should examine ways to create incentives to keep physicians in the system. The study should examine policy implications and practical ways to make the changes within the Ministry.
 2. MSPAS should establish a performance based budgeting system in all health facilities so that the budget relates directly to the need and the actual services delivered. Cost per service or unit delivered, standards and criteria should be developed.
 3. The MOH should get professional (rather than physician) management for the hospitals and within the ministry itself.

FIGURE 1

RESOURCES ASSIGNED TO THE OPERATION OF HEALTH ESTABLISHMENT:

(COLONES)

	1981	1982	1,983	1984
OPERATIONS	113,656,370	109,420,340	109,420,160	109,243,480
Regions	42,727,800	41,940,470	41,922,290	41,745,610
Hospitals	70,928,570	67,479,870	67,497,870	67,497,870
INVESTMENT	10,208,000	21,134,990	27,986,000	48,459,930
TOTAL	123,864,370	130,555,330	137,406,160	157,703,410

MSPAS is responsible for 4,250,000
 Representing % of Populatio 85%
 1983 budget 200,000,000
 Per Capita Expenditure 47
 Consults per person per yea 0.5
 Admissions per 100 consults 3

Social Security
 Number served 202,000
 Budget 82,000,000
 Per Capita Expenditure 406
 Consultants per year 3.5

Source: Five Year Plan, MSPAS, 1985
 McGriff, July 1985

FIGURE 2

1985 MSPAS BUDGET BY SOURCE OF FUNDS AND BUDGET CATEGORY

(COLONES)

CATEGORY	GENERAL FUND	INTERNAL LOANS	FOREIGN LOANS	TOTAL	PERCENT OF TOTAL
Higher administration	677,900			677,900	0.3%
General Admin Services	21,245,310			21,245,310	10.8%
Planning	2,699,690			2,699,690	1.4%
Health engineering	768,770			768,770	0.4%
Technical services	1,379,620			1,379,620	0.7%
Health Services	50,902,460			50,902,460	25.8%
Hospitals and other autonomous institutions	86,929,280			86,929,280	44.0%
Expansion of Health Network		4,312,060	23,576,250	27,888,310	14.1%
Construction, Renovation		100,000		100,000	0.1%
Rural Health		3,128,920		3,128,920	1.6%
Latrines		447,980		447,980	0.2%
Branch Investment		1,366,040		1,366,040	0.7%
TOTAL	164,603,030	9,355,000	23,576,250	197,534,280	100%
Percent	83.3%	4.7%	11.9%	100.0%	

Source: Dia McGriff, Ju

No. 226, 1985 Budget, February 2, 1985.

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FIGURE 3
TOTAL BUDGET BY MAJOR PROGRAM AND EXPENSE CATEGORY
EL SALVADOR MINISTRY OF HEALTH FOR 1985

(COLONES)

PROGRAM	PERSONNEL SALARIES	TEMPORARY CONTRACT	OVERHEAD EXPENSES	MATERIALS	EQUIPMENT	CONSTRUCTION MATERIALS	TRANSFERS SUBSIDIES	RENT AMORTIZATION	TOTAL
Higher administration	579,630	56,440	26,070	13,320			2,420		677,900
General Admin Services	2,538,710	1,717,990	413,000	16,573,670			1,940		21,245,310
Planning	2,323,630	148,810	63,320	145,890					2,653,650
Health engineering	45,420	237,640	5,620	27,150			1,650		769,770
Technical services	1,259,510	51,020	56,220	12,700					1,379,620
Health Services	38,755,780	9,353,020	451,820	2,269,530			11,790		50,902,460
Hospitals and other autonomous institutions							86,929,220		86,929,220
Expansion of Health Network Construction, Renovation		743,460	1,525,000	25,000	16,274,650	7,100,000		2,159,990	27,883,310
Rural Health		2,973,520	35,000	40,000		100,000			3,128,520
Latrines		447,200					80,000		527,200
Branch Investment	620,630	706,350	4,000	35,000					1,366,040
TOTAL	46,614,400	16,435,730	2,657,290	19,163,720	16,274,650	7,200,000	66,947,250	2,239,990	197,534,260

Source: Diario Oficial - Tomo No. 286, 1985 Budget, February 2, 1985.
 McGriff, July 1985

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FIGURE 4

TOTAL AND PERCENT BUDGET BY CATEGORY FOR MAJOR PROGRAMS, 1985

(COLONES)

BUDGET CATEGORY	HOSPITALS		OTHER FACILITIES		ALL FACILITIES	
	TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT
Permanent Salaries	65,940,180	81.0%	38,795,780	76.2%	104,735,960	79.2%
Temporary, contract	4,215,210	5.2%	9,353,080	18.4%	13,568,290	10.3%
Overhead	1,749,000	2.1%	451,830	0.9%	2,200,830	1.7%
Materials	9,462,400	11.6%	2,289,980	4.5%	11,752,380	8.9%
Remodeling & Construction						0.0%
Hospital transfers, subsidies, etc.		0.00%	11,790	0.02%	11,790	0.0%
Debt Amortization						0.0%
TOTAL	81,366,790	100%	50,902,460	100%	132,269,250	100%

Source: Diario Oficial - Tomo No. 266, 1985 Budget, February 2, 1985.
McGriff, July 1985

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FIGURE 5
ADMINISTRATIVE AND MEDICAL EXPENSES
BY HOSPITAL AND CATEGORY

(COLONES)

HOSPITAL	GENERAL ADMINISTRATIVE EXPENSES					MEDICAL EXPENSES			MEDICINES SUPPLIES	MEDICAL SUBTOTAL	GRAND TOTAL
	SALARIES	PART-TIME SERVICES	OVERHEAD	MATERIALS	ADMIN SUBTOTAL	SALARIES	PART-TIME SERVICES	OVERHEAD			
Francisco Romo	660,370	30,450	70,320	35,000	816,140	2,279,500	123,640	2,530	449,550	2,854,620	3,670,950
San Juan de Dios, S.R.	1,642,050	173,790	180,500	15,240	2,031,580	6,117,460	327,120	6,950	901,430	7,352,530	9,437,570
San Juan de Dios, Soc.	643,930	46,480	14,100	14,000	738,510	2,113,450		115,220	306,350	2,535,230	3,253,450
Dr. L. Edmundo Vasquez	571,260	42,190	72,200	96,160	781,830	1,559,700	86,100	250	199,600	1,845,650	2,627,480
San Rafael	569,150	40,490	57,000	17,350	684,020	2,427,240	128,320	8,000	350,970	2,914,530	3,593,550
Rosales	2,309,400	404,910	273,670	69,600	2,957,580	10,183,030	593,410	38,440	1,515,220	12,320,960	15,277,540
Benjamin Bloom	1,312,050	92,500	211,650	119,570	1,735,770	6,645,650	376,550	29,950	1,185,660	8,247,630	9,984,470
Maternidad *	1,054,640	73,600	105,330	27,430	1,261,000	5,572,910	254,590	121,600	1,022,200	7,011,300	8,272,530
Psiquiatrica	815,130	132,650	29,240	64,020	1,041,040	3,451,090	205,030	14,920	678,870	4,349,910	5,390,950
Neurológica	762,710	122,000	50,340	34,040	959,090	2,053,050	117,600	15,000	412,110	2,643,560	3,612,650
Santa Teresa	679,940	50,900	103,000	132,930	973,830	2,133,620	120,340	1,500	223,160	2,593,650	3,567,520
Santa Gertrudis	660,120	47,490	40,000	91,330	839,940	2,101,160	113,820	3,500	209,730	2,507,210	3,346,150
San Pedro	740,650	54,750	109,050	21,650	926,100	2,401,530	132,600	2,000	338,500	2,875,630	3,691,900
San Juan de Dios, S.R.	933,740	68,920	51,410	14,920	1,069,030	3,562,050	187,450	10,650	693,810	4,453,970	5,523,020
TOTAL	13,257,810	1,403,320	1,367,810	830,410	16,859,350	52,622,370	2,811,850	381,190	8,631,990	64,507,440	81,366,790
Percent of total	78.6%	8.3%	8.1%	4.9%	100.0%	61.7%	4.4%	0.6%	13.4%	100.0%	
Percent of Total Budget					20.7%					79.3%	100%

* Includes Clinica Ginecologia

Source: Diario Oficial - Tomo No. 286, 1965 Budget, February 2, 1965.
McGriff, July 1965

FIGURE 6

EL SALVADOR COST PER PATIENT DAY BY HOSPITAL

(COLONES)

HOSPITAL	TOTAL BUDGET	TOTAL TOTAL PATIENT DAYS	COST PER PATIENT DAY
Francisco Menendez	3,670,560	45,154	81
San Juan de Dios, S.A.	9,437,570	148,617	64
San Juan de Dios, Son.	3,255,450	57,925	56
Dr.L. Edmundo Vasquez	2,627,480	29,345	90
San Rafael	3,598,550	45,587	79
Rosales	15,277,540	208,765	73
Benjamin Bloom	9,984,470	69,917	143
Maternidad *	8,272,580	95,847	86
Psiquitrico	5,390,950	149,582	36
Neumologico	3,612,650	106,312	34
Santa Teresa	3,567,520	54,470	65
Santa Gertrudis	3,346,150	36,581	91
San Pedro	3,801,900	59,457	64
San Juan de Dios, S.M.	5,523,020	88,009	63
TOTAL	81,366,790	1,195,569	68

Source: Resumen de Actividades Hospitalarias, MSPAS, 1983 and 1984
 Diario Oficial - Tomo No. 286, 1985 Budget, February 2, 1985.
 McGriff, July 1985

FIGURE 7

EL SALVADOR HOSPITAL AND HEALTH CENTER UTILIZATION STATISTICS, 1983 AND 1984

FACILITY	AVAILABLE BEDS		TOTAL ADMISSIONS		PATIENT OCCUPANCY		AVERAGE LENGTH OF STAY		TOTAL PATIENT DAYS		TOTAL OPERATING VISITS		TOTAL PRESCRIPTIONS	
	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984
HOSPITALS														
Francisco Romo	106	106	11,059	9,816	122.3	116.7	6.2	6.6	67,353	63,154	62,046	66,825	214,530	213,354
San Juan de Dios, S.A.	742	742	88,037	23,932	31.3	34.2	6.7	7.1	133,607	148,617	168,187	113,311	233,623	273,074
San Juan de Dios, San	62	72	13,349	14,153	47.3	63.2	6.2	6.1	58,056	57,825	69,026	66,245	413,110	374,199
Dr. L. Escobar Viquez	122	116	2,156	2,223	67.3	63.2	2.8	2.3	23,381	23,346	23,227	23,170	137,168	153,071
San Rafael	178	188	11,223	11,153	38.7	61.2	3.8	3.9	42,331	43,227	43,723	39,629	164,472	123,213
Sancti Spiritus	47	67	12,123	13,213	81.6	82.15	16.8	13.8	284,542	227,723	225,723	224,134	237,223	62,217
Salvadora	22	22	12,123	11,023	63.3	32.2	6.2	6.3	52,222	42,917	101,427	101,122	472,271	422,223
Salvadora	32	32	2,223	2,223	62.2	72.15	2.0	2.0	107,223	83,447	82,222	82,422	210,222	163,201
Sancti Spiritus	32	32	1,223	1,223	32.2	62.2	2.4	2.6	104,222	104,222	99,222	60,222	132,222	132,222
Sancti Spiritus	22	22	10,222	10,222	22.2	22.2	2.4	2.4	34,222	34,222	72,222	21,222	172,222	214,222
Sancti Spiritus	22	22	7,222	6,222	62.15	32.15	4.9	3.3	34,222	35,222	63,111	63,622	32,222	113,222
Sancti Spiritus	22	22	12,222	12,222	62.2	62.2	6.4	6.9	62,222	57,427	70,622	70,622	212,222	212,222
Sancti Spiritus	22	22	12,222	12,222	72.2	72.2	6.6	2.8	62,222	62,222	171,422	181,444	222,222	62,222
Total	2,422	2,422	174,622	167,622	62.2	67.6	6.6	7.2	1,167,221	1,123,222	1,222,116	1,322,222	2,222,116	2,022,419
CLINIC CENTERS														
Atlix	22	22	2,222	2,222	22.2	22.2	2.0	2.7	7,222	6,222	22,222	21,222	22,222	72,222
Chalchicomula	22	22	2,222	2,222	22.2	22.2	2.0	2.4	7,222	7,122	21,222	21,222	21,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	6.0	3.1	2,222	2,222	22,222	22,122	22,222	42,222
San Salvador	22	22	2,222	2,222	22.2	22.2	6.3	6.4	12,222	11,222	41,222	41,222	22,222	42,222
San Salvador	22	22	2,222	2,222	22.2	22.2	2.7	2.2	1,222	1,222	2,222	2,222	22,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	2.4	2.4	14,222	14,222	42,222	42,222	22,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	2.3	2.3	12,222	12,222	22,222	22,222	22,222	112,222
San Salvador	22	22	2,222	2,222	22.2	22.2	2.3	2.3	12,222	12,222	22,222	22,222	22,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	6.5	6.6	4,222	4,222	7,222	16,112	22,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	6.6	2.1	12,222	21,222	21,222	47,222	102,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	6.1	6.1	2,222	11,222	22,112	22,222	22,222	22,222
San Salvador	22	22	2,222	2,222	22.2	22.2	6.1	2.9	14,222	13,222	22,222	22,222	72,114	22,222
Total	222	222	22,222	22,122	62.2	62.2	2.8	2.8	121,222	122,012	222,222	222,222	222,222	222,222
TOTAL	2,644	2,644	196,844	189,744	62.2	66.2	6.7	6.6	1,288,443	1,245,234	1,444,338	1,544,444	2,444,338	2,244,641

Source: Bureau de Estadística y Censos, 1983 and 1984
 Revised, July 1985

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FIGURE 8

ARY INPATIENT STATISTICS EL SALVADOR HOSPITALS AND HEALTH CENTERS, 1983 AND 1984

CATEGORY	HOSPITAL		HEALTH CENTERS		TOTAL		PERCENT CHANGE
	1983	1984	1983	1984	1983	1984	
Beds Available							
Medicine	1,639	1,604	250	226	1,889	1,830	-3.1%
Surgery	1,120	1,140	124	137	1,244	1,277	1.0%
Pediatrics	1,134	1,113	224	222	1,358	1,345	-1.0%
OB/GYN	767	760	120	125	887	885	-0.2%
Long term	206	226	53	60	259	286	10.4%
TOTAL	4,876	4,843	781	780	5,657	5,623	-0.6%
Admissions							
Medicine	31,511	33,235	8,370	8,683	39,881	41,918	5.1%
Surgery	27,420	25,565	3,718	3,697	31,138	29,262	-6.0%
Pediatrics	46,743	34,542	8,240	8,915	54,983	43,457	-21.0%
OB/GYN	67,465	57,402	11,071	12,047	78,536	73,449	-6.5%
Long term	5,571	6,255	72	86	5,643	6,341	11.1%
TOTAL	170,751	167,039	22,151	24,163	210,502	201,163	-4.5%
Discharges							
Medicine	30,202	31,533	8,361	8,707	38,563	40,240	4.3%
Surgery	26,546	28,033	3,650	3,875	30,196	31,908	5.7%
Pediatrics	45,635	33,872	8,247	8,970	53,882	42,842	-20.5%
OB/GYN	66,615	65,038	10,533	11,934	77,148	77,742	0.8%
Long term	5,537	6,315	735	817	6,272	7,132	13.7%
TOTAL	174,555	165,828	32,186	34,304	207,151	199,932	-3.5%

Source: Resumen de Actividades Hospitalarias, MSPS, 1983 and 1984
McGriff, July 1985

FIGURE 9

EL SALVADOR HOSPITAL AND CLINIC UTILIZATION PERCENT CHANGE, 1983 AND 1984

FACILITY	TOTAL PATIENT DAYS		PERCENT CHANGE	TOTAL OUTPATIENT VISITS		PERCENT CHANGE	TOTAL PRESCRIPTIONS		PERCENT CHANGE
	1983	1984		1983	1984		1983	1984	
HOSPITALS									
Francisco Romo	47,330	45,150	-4.6%	62,046	46,825	-21.4%	210,530	213,334	1.3%
San Juan de Dios, S.R.	123,457	143,617	11.4%	106,167	113,311	6.7%	253,623	271,874	7.0%
San Juan de Dios, San.	36,065	37,223	3.2%	66,526	66,265	-0.4%	413,110	394,139	-4.6%
Dr. L. Escobar Vargas	23,334	21,346	-8.5%	33,337	32,170	-3.5%	137,168	152,071	10.9%
San Rafael	42,004	43,557	3.7%	26,723	23,679	-11.4%	164,622	152,513	-7.4%
Soconusco	224,842	223,763	-0.5%	223,723	226,164	1.1%	337,533	623,217	84.3%
Benjamin Noya	23,622	43,317	83.4%	141,427	141,122	-0.2%	472,371	432,323	-9.1%
Rotaridad	103,673	33,847	-67.4%	83,236	31,436	-62.1%	210,727	163,791	-22.3%
Psiquiatrico	121,081	143,222	18.3%	30,523	62,343	104.1%	133,614	133,614	0.0%
Neumologico	163,626	165,312	1.0%	73,614	31,330	-57.1%	133,428	163,794	23.1%
Santa Teresa	34,367	34,470	0.3%	73,614	31,330	-57.1%	173,630	214,762	23.7%
Santa Eufemia	34,363	35,581	3.5%	63,111	63,623	0.8%	322,942	333,229	3.2%
San Pedro	46,227	33,437	-27.7%	73,613	70,622	-4.2%	213,233	220,764	3.5%
San Juan de Dios, S.R.	65,333	62,003	-5.1%	171,425	181,444	5.8%	225,347	464,522	106.1%
Subtotal	1,167,634	1,193,243	2.2%	1,253,114	1,360,304	8.9%	3,236,166	4,200,449	29.3%
HEALTH CENTERS									
Atlix	7,317	6,331	-13.4%	22,493	21,391	-4.9%	32,091	72,634	126.7%
Chalchapa	7,623	7,181	-5.7%	21,433	23,734	10.7%	31,317	26,220	-16.3%
Coahuila	2,223	2,543	14.4%	24,423	22,120	-9.4%	22,376	44,726	100.0%
San Bartolo	12,324	11,221	-9.0%	41,522	43,114	3.8%	32,361	44,271	36.8%
Sacatepequez	1,162	633	-45.5%	9,743	10,230	5.0%	26,303	20,323	-22.8%
Coahuila	16,170	16,226	0.3%	44,230	47,620	7.7%	70,464	22,377	-68.1%
Sacatepequez	12,624	13,227	4.8%	23,625	24,620	4.2%	32,083	136,649	329.1%
Santiago de Maria	13,721	13,522	-1.4%	24,448	23,146	-5.3%	33,523	23,222	-30.1%
Ciudad Barrios	4,973	6,120	23.7%	7,724	16,113	107.9%	63,916	23,613	-63.2%
San Francisco Solano	14,660	21,741	48.3%	23,620	47,372	100.9%	123,562	223,413	81.7%
Santa Rosa de Lima	9,723	11,620	19.4%	22,112	23,513	6.3%	74,345	23,613	-68.1%
La Union	16,236	15,413	-5.1%	23,611	23,622	0.0%	70,114	20,111	-71.4%
Subtotal	121,043	123,012	1.6%	232,670	270,703	16.3%	364,207	322,270	-11.5%
TOTAL	1,288,677	1,316,255	2.1%	1,485,784	1,631,007	10.4%	3,600,373	4,522,719	25.0%

Source: Report of Hospital Activities, HOPS, 1983 and 1984
 Re: 1987, July 1988

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FIGURE 10

SUMMARY STATISTICS EL SALVADOR HOSPITALS AND HEALTH CENTERS, 1983 AND 1984

CATEGORY	HOSPITAL		HEALTH CENTERS		TOTAL		PERCENT CHANGE
	1983	1984	1983	1984	1983	1984	
Number of deaths	5,549	5,650	544	524	6,093	6,174	1.3%
Death Rate (as %)	3.2%	3.4%	1.6%	1.5%	2.0%	2.0%	
Live Births	42,251	41,507	6,916	7,011	49,167	48,518	-1.3%
Total Outpatient visits	1,293,114	1,350,534	335,670	378,703	1,628,784	1,729,237	5.1%
Medical Consults	912,341	943,342	241,400	264,156	1,153,741	1,213,498	5.2%
Dental Consults	60,516	53,458	37,638	37,560	98,154	95,438	-1.7%
Emergencies by Physici	326,257	352,704	76,632	76,567	402,889	429,271	6.5%
Emergencies by Nurse	32,876	33,034	63,051	52,770	95,927	91,001	-4.3%
Prescriptions	3,856,166	4,060,449	964,207	952,270	4,820,373	5,040,719	4.6%
Total Surgery	114,115	130,420	19,137	19,062	133,252	149,472	12.2%
Minor	82,295	100,314	14,675	14,470	96,970	114,764	18.4%
Major	31,820	30,105	4,462	4,592	36,282	34,708	-4.4%
Total Anesthesia	112,081	115,482	16,967	18,699	129,048	134,181	4.0%
General	42,732	42,628	5,721	6,333	48,453	48,963	1.1%
Local	69,349	72,854	11,246	12,366	80,595	85,218	5.7%
Radiology Procedures	131,853	179,340	22,807	16,452	154,660	195,792	26.6%
Electrocardiogram	9,612	14,078	0	0	9,612	14,078	46.5%
Number of Injections	2,071,557	2,241,288	415,161	448,723	2,486,718	2,690,011	8.2%
Physiotherapy							
Number Treated	57,220	57,058	56	51	57,336	57,109	-0.4%
Number of Treatments	103,654	106,742	1,716	1,347	110,570	109,099	-2.2%
Laboratory	1,239,198	1,317,721	222,437	224,769	1,461,635	1,542,510	5.5%

Source: Resumen de Actividades Hospitalarias, MSPAS, 1983 and 1984

R-G:ff, July 1985

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FIGURE 11

Ministry of Public Health and Social Assistance

Health Establishments According to Type Region, Closed as of December 1984

	OCCIDENTAL		CENTRAL		METROPOLITANA		PARACENTRAL		ORIENTAL		TOTAL	
	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984
HOSPITALS												
Closed	-	-	-	-	-	-	-	-	-	-	-	-
Total	3	3	2	2	5	5	2	2	2	2	14	14
Centros de Salud												
Closed	-	-	-	-	-	-	-	-	-	-	-	-
Total	2	2	1	1	1	1	3	3	5	5	12	12
Unidades de Salud												
Closed	-	-	-	-	-	-	-	-	-	-	-	-
Total	21	21	14	14	23	23	12	14	28	28	98	100
Puestos de Salud												
Closed	-	-	12	15	1	1	2	4	13	17	28	37
Total	29	29	39	39	4	4	39	37	53	62	164	171
Puestos Comanditarios												
Closed	-	-	1	-	-	-	-	-	3	2	4	2
Total	9	10	7	7	8	8	2	2	8	8	34	35
Dispensarios de Salud												
Closed	-	-	-	-	-	-	-	-	3	2	3	2
Total	-	-	-	-	3	3	-	-	6	6	9	9
Closed	-	-	13	15	1	1	2	4	25	26	41 ²	46 ²
Total	64	64	63	63	44	44	58	58	102	111	331 ¹	342 ¹

Sources:

1/ Lista de Establecimientos de Salud (Actualizada)

2/ Informes Mensuales de Los Establecimientos de Salud

Departamento de Estadísticas de Salud

Dene McGriff

**SCOPE OF WORK
(May-June, 1985)**

For up to 35 working days in San Salvador and 9 working days in Washington, DC, Mr. McGriff will work with the Government of El Salvador and the USAID Mission to analyze the health facilities system. Specifically:

- A. **Examine changes in service delivery levels:**
 - 1. Determine the facilities in operation at the time of the evaluation in comparison with levels found by the Klassen Committee in February 1984.
 - 2. Determine the number of consultations provided by the MOH in 1984 by level of facility and reason for consultation, and compare to target numbers for 1984 and to services provided in 1983.
 - 3. Describe the way in which targets are set for services by facilities and recommend needed changes.

- B. Include in the full mid-term evaluation report the contributions of all team members, including Kraus' work covering indicators for vehicle maintenance, bio-medical maintenance, and materials management.

- C. Evaluate progress toward project indicators contained in the logical framework of the project paper, using your above findings and the findings of other team members (including Klaus), including:
 - 1. The provision by both GOES and AID of project inputs in a timely and effective manner;
 - 2. Whether the inputs are causing the project outputs; and
 - 3. Progress toward reaching end of project status indicators.

- D. Make global recommendations for changes in project implementation to improve performance with respect to project indicators.

SUMMARY OF INTERVIEWS AND SITE VISITS

A. Interviews

1. Ministry of Health

Dr. Gonzalo Beltran Castro (Acting Vice Minister)

Lic. Miguel Interiano (EMG)

Oscar Osorio (EMG)

Dr. Adan Montes (Dir. Dept. Operativos & Normativos)

Dr. Christian Amaya (Dir. of Administration)

Dr. Sagastume (Dir. of Statistics)

Max Corleto (EMG)

Director of Rosales Hospital

Director of the Centro de Salud San Bartolo

Director of the Unidad de Salud Mejicanos

Lic. Belarmina de Enríguez (Chief of Procurement)

Warehouse Managers (Matanzas and Social Security)

2. Westinghouse Team

Raul Vasquez

Scott Brandon

Carlos Pereira

Dr. Eduardo del Castillo

George Kraus

3. Sites Visited

Matanzas Warehouse

Social Security Warehouse

Hospital Rosales

Centro de Salud San Bartolo

Unidad de Salud Mejicanos

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E L S A L V A D O R
HEALTH SYSTEMS VITALIZATION
EVALUATION

AUGUST, 1985

PART II
EPIDEMIOLOGIST'S REPORT
ANDREW NICHOLS, M.D., M.P.H.

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I. INTRODUCTION

The current consultation is the second which looks at Health Status Assessment and Health Policy and Program Review for AID/El Salvador (AID/ES) under the sponsorship of University Research Corporation. As noted in the initial report carried out in August, 1984, this consultation resulted from concern regarding the directions of current efforts by AID/ES and the need for an independent health sector program and policy review. The objective was to focus on new directions for AID/ES programming, leaving the evaluation of current work (VISISA, etc.) to others.

As was the case with the previous study, the present effort has at its core epidemiologic data obtained from the Ministry of Public Health and Social Assistance (MSPAS) and elsewhere. These data form the basis of what is to follow. In addition, however, there are multiple other inputs, including companion evaluation projects carried out for AID/El Salvador. Most importantly, there are the opinions of the real experts in this setting--the Salvadoran health workers, who live with the situations described in the report on a daily basis.

The purpose of AID assistance to El Salvador and of this consultation is to further the cause of improved health and to meet the challenge of the World Health Organization (WHO), as cited in the previous report: to achieve "Health for All by the Year 2000." Activities which move El Salvador in this direction are therefore consistent with the purpose of the consultation; those which are ineffective or move in the opposite direction are not.

Because this is a follow-up report to the more comprehensive study carried out in August 1984, that initial report (dated April, 1985) should be read in conjunction with the present remarks. Every effort will be made not to repeat what was said before except insofar as it is necessary to reference current data or to evaluate progress toward meeting a stated goal. (Section III provides a brief summary of the prior documents.) The present report is therefore a supplement to the previous report and should be read in that context.

II. PURPOSE OF CONSULTATION

The previous consultation was designed to complement a companion document entitled, Health Resource Assessment and Projections for the Future in El Salvador. The two studies were carried out at roughly the same time in 1984, the Health Resource Assessment having been published in January, 1985. It is proposed that the current follow-up activity tie together with a follow-up Health Resources Report, a Pharmaceutical Consultant Report, and with an evaluation of the VISISA Project to the end that all four may be combined into a single final report.

The current segment of that report has a Statement of Work consisting of four elements. They are as follows:

- A. "Collect current data on mortality and morbidity for the ten most common causes in the general population, mothers, and children under five, differentiating the urban and rural residents.

- B. "Analyze changes in mortality and morbidity data (as available) since mid-1984 baseline study.
- C. "Relate any changes found in mortality and morbidity data to project inputs, if possible.
- D. "Evaluate progress toward policy and program reorientation and changes in resource allocation recommended in the August, 1984 study of the health system."

The current consultation is a mid-term effort designed to review health sector policy and program efforts by AID/ES. For both this and the final review, it was requested that there be an updating of statistical information which could be obtained from epidemiologic reports available at the time of these visits.

It should be noted that the initial work order stated that the recommendations in the first report were to be of a "tentative" nature. The order went on to establish that: "These recommendations can subsequently be confirmed, reordered in priority or discarded by the mid-term and final evaluation plan for the health systems vitalization project. Understanding that AID/ES may wish to exercise its authority in modifying or ignoring any of the recommendations made, one of the opportunities presented in this mid-term report is to carry out the above mandate. Accordingly, each of the original recommendations will be reviewed. (See Section VIII-C in this report.) In addition, more information will be provided, when available.

III REVIEW OF PREVIOUS REPORT

The report entitled Health Status Assessment and Health Policy and Program Review, dated April, 1985, presented a collection of substantial amounts of data obtained from a variety of sources both in El Salvador and outside the country. This material was gathered prior to and subsequent to the site visit of August, 1984. That accumulated information continues to provide the basis for the present report, although the extensive bibliographic references will not again be cited. (Citations may be found in the April, 1984 report on pages 82 to 85.)

That report, as is the present, was divided into ten different sections. The first Section, "Context of Site Visit," has been alluded to in the Introduction. Basically, it reviewed the "Health for All by the Year 2000" theme and put this in context of the request of the AID/El Salvador Mission for assistance.

The second section, titled "Statement of Work," set the stage for data collection, noting sources to be used--particularly those in the MSPAS. In addition, the section dealt with the nature of the recommendations expected and how they would look beyond the current VISISA Project.

The third section, "Health Status and Population Demographics in El Salvador," forms a background for much of what is to follow in the current report. That section looked at mortality, morbidity and population demographics data, both from the MSPAS and external data sources.

The fourth section, on "Health Organization in El Salvador," dealt extensively with organizational structures for both governmental and non-governmental entities. Since little attention was given to private voluntary organizations working in El Salvador and since their input is potentially significant to the outcome of the present consultation, a brief review of selected PVO activities is recorded in Section VI of the present report. Also, because one of the significant events which has taken place since the previous report has been the reorganization of the MSPAS, that reorganization will be dealt with in Section IV-B of this report.

The fifth section of the April, 1985 report addressed the various activities in the MSPAS and provided a brief background on the data reporting system of the Ministry. It is important to stress again the dedication which the MSPAS has for collection of data and the care with which these data are treated and reported. While lacking computerization and even sufficient health manpower to carry out the assigned tasks, there is cooperation throughout the Ministry dedicated to producing meaningful statistical reports on a weekly, monthly and annual basis.

The sixth section of the earlier report relied heavily on site visits to areas throughout the country. As noted in that report, these site visits were as "random" as they could be under the circumstances and demonstrated certain consistent themes as the result of travel to all five regions served by the MSPAS. Findings of these site visits generally were that there was a shortage of drugs and equipment, but that a dedicated staff appeared to be functioning in most, if not all, locations where they were said to be at work. The basic conclusion was that there is a functioning Ministry of Health in El Salvador serving a substantial percentage of the Salvadoran population.

The seventh section of the earlier report concentrated on health priorities and resources and introduced the first draft of the proposed Five Year Plan. In essence, the section concluded that resource allocation was oriented more toward secondary and tertiary health facilities than toward primary care. It further noted that the key concern of providers interviewed in a variety of settings was for supplies and equipment, but that there was a strong desire to see more programmatic effort focused on primary health care problems, such as control of diarrheal diseases, sanitary improvements, provision of improved maternal and child health services, and better health education. (Further discussion of the Five Year Plan will be presented in Section IV-A of the present report.)

Finally, the ninth--and longest--section of the previous report was that related to recommendations. Sixteen basic recommendations--nearly one fourth of the total report--were made for reorienting AID/El Salvador program directions. Since most of the recommendations presented were derived from data and other inputs received from the MSPAS, it is felt that they are consistent with MSPAS objectives and therefore appropriate guidelines for AID/ES policy initiatives. (These recommendations will be reviewed in Section VIII-C and IX-A of the present report.)

The report concluded with two brief sections, one a Summary and Conclusions Section and the other a Footnotes and Bibliography Section. The report then went on to present a series of tables, most of which were derived from MSPAS reports and designed to demonstrate trends over a number of years. Finally, there were ten basic appendices, the most substantial of which was a compilation of Daily Activity Reports for the site visit to El Salvador of August 13-25, 1984.

There are two additional AID-sponsored reports which have become available in 1985 and are relevant to the current study. The first is the previously mentioned Health Resource Assessment and Projections for the Future in El Salvador (the Autotte report) and the management evaluation of the second phase of the VISISA project (the Kraus report). These are dated January, 1985 and June, 1985, respectively. Other work carried out during the first six months of 1985 that relates to the present report is included in the final compilation, of which this is a part.

IV. SIGNIFICANT EVENTS SINCE PREVIOUS REPORT

There have been a number of changes in the health situation in El Salvador since August, 1984--some significant, and some less significant. Due to changes in the administration of the Ministry of Health, several individuals have departed and others have come. As will be seen in Section V, certain conditions used to measure health status have increased in frequency while others decreased. In general, however, the most significant changes involving the MSPAS are in three areas. These are:

- A. The completion of the Five Year Plan;
- B. Reorganization of the MSPAS; and
- C. Completion of a vaccination campaign throughout the country.

Each of these will be discussed in turn.

A. Five Year Plan

The completion of the Five Year Plan for the Ministry of Health (Plan de Salud 1985 to 1989), effective September, 1984, marks a major step for the Ministry. The reason for the significance of this undertaking is that the plan will be used by the new government of President Napoleon Duarte to guide the activities of the MSPAS over the projected tenure of his administration. With the reconfirmation of the Minister of Health, Dr. Benjamin Valdez h., effective June, 1985, there is every reason to feel that the plan will be implemented by the Ministry of Health and its employees.

As noted in the previous report, this plan engages in substantial self-criticism before proposing an agenda for the future. Examples of passages taken from the plan are as follows:

"Through 1983, through the four years before that, through the decades up to these last four or five years, that which defines our situation is that which, in total accuracy, ought to be called 'The Agony of a People.' Many Salvadorans die from complex and varied circumstances; (they die) without hope of resurrection. We note that people and nations that die are never reborn...

"Health services from the currently poorly organized system of health in El Salvador are not accessible to all in the country, are not integrated, nor continuous, nor much less are they available from conception to death for all Salvadorans."

The report then goes on to issue a call for change:

"We all need to make a great sacrifice for democracy; We need to acquire a new social conscience that impells the birth of a new internal social organization, which will permit us to suffer the presence of dependency or external domination in a less pernicious form; that will require us to begin walking together, to learn that we are part of the Salvadoran community and that only through struggle and the rewards that it brings will we be able to start the march toward our definitive liberation. If we do this, we will be able to hope for an improved health condition and arrive at the goal of "Health for All by the Year 2000."

With these resounding words of hope, the Five Year Plan goes on to provide nearly 80 pages of background information on the health situation in El Salvador. (Many of these same facts were noted in the Health Status Assessment and Health Policy and Program Review Report dated April, 1985.)

The plan then lists the five basic policies which it says will guide health policy directions from 1985-1989 in El Salvador. These are as follows:

1. "To structure the primary level of health care in a form that satisfies the basic necessities of all the population in the most efficient manner.
2. "The modality selected to structure the primary level of health care ought to put emphasis in the growth of community participation and contribute to the strengthening of the local level as the center of inter-sectorial cooperation and integration of growth and development activities.
3. "To develop a solid, although gradual process of decentralization that commits the making of decisions and administration of resources at regional and local levels. For this there will be implemented a reorganization of the MSPAS and growth of a training program in how to serve people.
4. "To promote the harmonious growth and rational utilization of human resources and technology.

5. "To create mechanisms with other institutions involved in the health sector and to orient changes in the same with the goal of structuring, over a long period, a national system of health in accord with the Judicial-Administrative organization of the nation and the use of its resources."

In view of the recommendations contained in the previous report, it is of interest that the proposed recommendations of the Five Year Plan stress primary health care, community organization, decentralization, more rational use of human resources and coordination of effort by multiple agencies. These general policies would appear to be in accord with the recommendations made in April, 1985, as a result of the August, 1984 visit to El Salvador. (It should be noted that the recommendations appearing in the April, 1985 report were written in August, 1984 and that the Five Year Plan, although unofficially available, is yet to be approved and released for distribution, even within the MSPAS. Accordingly, the policies noted above were not available at the time that the previous report was written and are still technically unavailable as of this writing.)

The basic strategy called for in the plan is to emphasize primary health care and to realign resource distribution to this end. As noted in the objectives, organization at the community level and decentralization from the central level will be key to this process. The plan is based on the belief that improvement in basic health indices will come only with a more comprehensive community-based primary health care system in El Salvador.

Some of the more specific activities proposed are: to improve community sanitation through a continuing expansion of the drinking water and rural latrine construction programs; to promote maternal and child health programs, as well as an integrated health care program for adults, to assure improved health indices; and to develop more resources through better planning, increased efficiency and improved use of what resources are already available. A number of sub-programs are elaborated from these basic concepts. Finally, an evaluation of the plan is called for and the outline of this evaluation specified.

If followed, the Five Year Plan can only be considered a major step forward in promoting improved health care for El Salvador. An extensive "action plan" is included as part of the report, together with a number of specific objectives for environmental and health service delivery improvement.

While a very preliminary version of the Five Year Plan was available at the time of the August, 1984 consultation, nothing approaching the detail or specificity of the current plan could be obtained. It is significant, therefore, that there is so much congruency between the "Health Status Assessment and Health Policy and Program Review" and the recommendations to be found in the Plan. This should suggest a direction for AID/El Salvador funding as plans for the next funding cycle are developed.

B. Reorganization of the MSPAS

The Plan de Salud 1985-1989 concludes with four specific steps that need to be followed. That conclusion is as follows:

"It is therefore indispensable, in order to improve the level and structure of health at the community level: first, reorganize the Ministry of Public Health and Social Assistance; second, implement the national system of health; third, make effective the intersectorial participation; and fourth, make effective the active participation of the community."

It is the first of these that is the concern of this Section--reorganization of the MSPAS. In the previous report several alternative organizational schemes were suggested, along with a review of the then current organizational diagram. The latter shows seven operating programs reporting directly to the Minister and Vice-Minister of Health through the Director General of Health. These programs include Administration, Engineering, PLANSABAR, Operating Services, Normative and Technical Services, VISISA, and executive units representing such projects as those of the Interamerican Development Bank. In addition to the foregoing are a number of staff lines also reporting in the same manner, these including Internal Audit, Judiciary, Public Relations and Planning. It was the belief of all those contacted in the Ministry that this structure was outmoded, unwieldy and needed to be streamlined.

The structure which has emerged as the provisional organizational chart for the MSPAS achieves this objective without question. As may be seen from Figures I and II, the new proposal allows for only three operating lines that report through the Director General of Health to the Minister and Vice-Minister. The three lines provided for are the Administrative Division, the Regional Health Offices, and the Normative, Technical and Operating Services Division. (This latter represents a combination of Normative and Technical Services with Operating Services, plus others.) Staff functions reporting directly to the Director General are the Divisions of Human Resources Development, Health Engineering, VISISA and Interamerican Development Bank projects.

The new Administrative Division contains departments devoted to General Maintenance, Personnel, and Financial/Accounting, among others. The Technical, Normative and Operating Services Division is subdivided into two main parts: a Division of Attention to the Person (Personal Services) and a Division of Attention to the Environment (Environmental Services). Under the former come programs such as Nutrition, Dentistry, Maternal and Child Health and Family Planning, Medical Assistance, and Mental Health. Under the latter come PLANSABAR, Malaria Control, and Environmental Health. Health Education, Nursing, Epidemiology and Laboratory Services are included as service divisions to both Personal Services and Environmental Services.

In this manner the MSPAS is being reorganized in the hope that it will be more responsive to community needs. New appointments are being made at the coordinator level to assure the smooth functioning of the new structure. The new Director of Administration is Lic. Cristian Amaya and the new Director for Technical, Normative and Operating Services is Dr. Adan Montes Figueroa. Working under Dr. Montes in the Personal Services Division is Dra. Guadalupe Raseghi and under the Environmental Services Division will be Dr. Rolando Eduardo Hernandez Argueta (until now chief of the Epidemiology Department).

Just how effective this reorganization of the Ministry will be in changing service delivery patterns remains unclear. As in all reorganizations, it has the advantage of restructuring the leadership of the Ministry at the operational level to bring this leadership more in line with the current direction of the Ministry. It is clear that new and capable personnel are being brought into positions of authority through the reorganization.

Reorganization alone, however, will not assure that program objectives are to be met. This is the device typically most favored by administrators because it is the easiest to accomplish. With the implementation of this reorganization, the MSPAS has arrived at the "hard part" of implementing its Five Year Plan.

C. Vaccination Campaign

In terms of influencing eventual health statistics and public health, it is clear that the most effective step taken since the last report is the implementation of a country-wide vaccination campaign. A report recommending the proposed outlines of this campaign was published as a result of a meeting held October 8, 1984. Entitled Plan of Action: Immunizations 1984-86 this document has become the bible to the Epidemiology Division and others interested in the immunization campaign and its evaluation. The document was published by the Pan American Health Organization Office in conjunction with the MSPAS. Its purpose was to lay out a plan for the vaccination campaign just concluded, with strong participation by UNICEF.

Basically, the document recommended that a nationwide campaign be undertaken during three days of 1985: February 3, March 3, and April/21. The objective would be to immunize against five infectious diseases at the same time: measles, whooping cough, diphtheria, tetanus and polio. An objective of immunizing 400,000 children less than three years of age was recommended. The plan was to reach 80% of the children in this group. In addition, in order to reach children over three years of age whenever possible, it was suggested that provisions be stocked for a campaign to cover 600,000 children. Finally, it was suggested that vaccine against tetanus should be given to women from 15 to 45 years of age whenever possible during the campaign.

In order to make the campaign possible, UNICEF and PAHO together agreed to help identify the \$450,000 needed. A functioning cold chain was noted to be among the more important support tools required for a successful campaign. In addition, the importance which Rural Health Aides (ARS)

could play in the implementation of the program was noted. The support of cold chain development by VISISA and the Rural Health Aide program by PL-480 funding provide two examples of AID/ES contributions to the project. Indeed, the entire infrastructure for moving medicines and supplies throughout the country (aided by VISISA) was essential for an effective national campaign such as that proposed and ultimately conducted.

Another important feature of the campaign was its heavy dependence upon community participation, including volunteer support. Once again, the direction made clear by the Five Year Plan and previous recommendations to build upon a community base finds expression in a particular program implementation.

According to the Epidemiology Division of the Ministry, the program took place on the dates specified much according to plan. Rather than focusing on children under three, however, the MSPAS chose to target children under five years of age. It is estimated that approximately 250,000 doses of vaccine were given on each of the three days of the campaign. (See Section V-B-2.)

It is significant that, for the first stage of the campaign, MSPAS officials were allowed to enter all parts of the country, including those held by guerilla forces. For the second and third dates, MSPAS vaccinators had ready access to most of the contested zones, but were required to use Red Cross personnel to go into those areas under the complete control of guerilla forces. Whoever had responsibility for giving the vaccines, it is reported that an effective nationwide plan was realized.

At the present time PAHO is initiating an evaluation of the vaccination campaign to see how successful it was. Utilizing a "cluster" technique of identifying who did and did not receive which vaccines, PAHO proposes to provide some insight into the relative extent of coverage by campaign workers. This analysis should be completed by late summer, 1985.

While apparently simple in concept, an evaluation of a vaccination campaign is more complex in practice. For example, the evaluation should distinguish whether one, two or three doses were taken by the subject of the interview. Further, had the interviewee been vaccinated previously? In other words, was this a redundant vaccination or was it a new vaccination? Without this kind of basic information the projected effect of the campaign cannot be estimated.

When there was a similar campaign in the early 1970s, a significant effect was noted the following year in the diseases for which vaccination had been given. It may reasonably be expected, therefore, that in the coming year there will be a drop in the incidence of at least some of the five diseases for which the under five year old population was vaccinated. Should this be the case, there may also be some reduction in mortality figures for these five diseases in 1986.

At the present time the MSPAS proposes to continue the effort initiated in the immunization campaign through periodic "mini-campaigns." The degree to which this is successful will determine whether there is a significant impact on the long term health status of Salvadoran children with respect to the incidence of preventable infectious diseases.

V. CHANGES IN HEALTH STATUS

Health status measurements are imprecise and at best general indicators of health. They are useful only in global terms, particularly with large populations over long periods of time. They have little utility with small populations in short time frames.

Among the most useful health status indicators are infant mortality rate and death rates, generally. These give some indication of unnecessary deaths, as defined in the more developed countries. Given the relationship between mortality from acute diseases in less developed countries and mortality from chronic diseases in more developed countries, mortality rates serve as an indirect index for the degree of development of a particular society.

Morbidity indices, on the other hand, are more a reflection of the environment and health care delivery system prevalent at that particular time. Since they are more open to interpretation and less definitive than mortality statistics, they are generally considered less valuable in measuring the health of a population. Nonetheless, they do have value and can demonstrate changes in health care and environment over a shorter period of time than can mortality indices. Once again, large populations are required for meaningful interpretation.

Because factors associated with ill health and high mortality are well known, their presence or absence may serve as indirect indicators of the likely health of a population. For example, poor sanitation is generally associated with ill health and a higher than necessary mortality. Lack of medical attention is also associated with both of the foregoing. Efforts to improve sanitation and increase medical coverage may be used, therefore, as measures of health and environment, even though they are more process than outcome oriented.

In the section which follows, each of the indicators mentioned will be used to assess potential ill health in the Salvadoran population and, in particular, any changes in that health status since previously reported data were available. Mortality, morbidity and other indicators will be reviewed in order. Following this, a summary statement concerning any changes which have taken place in the last year in any of the above will then be noted.

A. Mortality

It should be noted that mortality data lags morbidity data reporting in the MSPAS by at least one year. One reason for this may be that morbidity data are collected in the health centers throughout the country and reported directly through the MSPAS, whereas mortality data are maintained by municipalities and are reported through this source to the government and, ultimately, to the MSPAS. Accordingly, mortality data reported in

the April, 1985 study and collected in August, 1984 were from 1982. Such data sets are typically first reported in the Salud Publica en Cifras, the most recent edition of which (as of this writing) is Number 15, dated 1982. (Advance data for Number 16, to be published during the summer of 1985, were made available for this report.)

1. Ten Most Common Causes of Death

Because mortality data are not kept by the MSPAS, but by the municipalities, the reporting of those data is much delayed over morbidity data. The most recent available published mortality data are from 1981. (1982 data are available in draft form and will be published after mid-1985.) Selected 1983 mortality data were obtained from various data sources available through the Ministry of Health, but are not yet organized in final form. These data are presented, together with 1981 data, in Table I.

It is interesting to note that the total number of deaths reported in El Salvador has declined by about 5,000 in the two year interval from 1981 to 1983. One classification which stands out for both reporting periods and which has changed little is that pertaining to perinatal mortality, constituting over ten percent of all deaths in both years. The second largest number of deaths in 1983 and one which stands out for both is "homicides and injuries intentionally inflicted by other persons." This category, which had fallen in 1981 as compared to the two previous years, has now jumped to second place among the 10 primary causes of deaths in El Salvador and constitutes 6.9% of total deaths reported. (This compares to 5.0% in 1981.) Although absolute numbers have declined very slightly, intestinal infections show a slight increase as a percent of total deaths in 1983 over 1981--6.9% or the same as for homicides. Motor vehicle accidents, on the other hand, show a slight, almost imperceptible, decline.

Perhaps the most interesting change in the ten primary causes of death reported are the four new categories which appear for 1983 that were not present in the top ten of 1981. These are, in order: 1) psychotic conditions; 2) cardiac dysrhythmias; 3) mental disturbances; and 4) pneumonia. As may be seen, this list contains two items which may be included under "mental health" (psychoses and other mental disturbances), one under "chronic illnesses" (cardiac dysrhythmias) and one under "acute diseases" (pneumonia). Indeed, pneumonia was on the list of the top ten diseases for a number of years and has now returned.

It is clear that, given the data just mentioned, no firm statement can be made about changing mortality, even in the two year period from 1981 to 1983. (Data for 1984 are currently totally unknown.) The return of homicides and intentionally inflicted injuries to second place on the list in 1983 and the appearance of mental health problems are both consistent with a chronic conflictive social situation. (One question raised by the mental health categories on a mortality table is actual cause of death. Is it suicide? The data

do not make this clear.) The return of pneumonia to the list of the top ten causes of death is not particularly encouraging, since this is an infectious disease and should be controlled by a variety of means before resulting in death.

2. Infant Mortality Rate

Data concerning mortality in children less than five years of age for 1983 are not available at this time. The infant mortality rate for 1983 (provisional) is, however, unofficially available. When compared with data for 1982 (see Table II) it becomes apparent that there has been little, if any, significant change. The small increase in rate is consistent with minor fluctuations in other years, but does not reverse a longer term downward trend in this rate. It is equally, if not more, significant, however, that there has been effectively no change in the infant mortality rate for the four year period from 1980 through 1983. The historic reduction in infant mortality rate underway in El Salvador for many years has been "on hold" since 1980.

3. Maternal Mortality Rate

Provisional data for 1983 indicate some distinct improvement in maternal mortality rates. After a reversal of a previous downward trend in maternal mortality rates in 1982, 1983 brought a substantial reduction over the previous year (89 deaths in 1983 versus 133 in 1982 or a rate of 0.6 per 1,000 live births in 1983 versus 0.8 in 1982). Table III provides a six year listing of numbers and rates.

The foregoing may or may not relate to an active program for the protection of maternal health by the MSPAS. This includes the development of new norms published by the Ministry in 1983. These norms, presumably now in use throughout the country, specify level of risk during pregnancy and prescribe certain activities for each of these levels of risk. In addition, the Ministry norms provide for specific recording of prenatal data, so as to assure as much information as possible will be available on the patient at the time of delivery.

Data were taken from the maternal health program to demonstrate the number of women being followed by MSPAS facilities in 1983 and 1984. The results are as follows:

	<u>1983</u>	<u>1984</u>
Pregnant women enrolled in MSPAS facilities	61,135	64,737
Pregnant women enrolled in first trimester	37,583	38,703
Percent coverage	31.3	32.6
Total number of pregnant women	196,655	198,489

Given these data, it would appear that there has been some small improvement in maternal enrollment in the year from 1983 to 1984. The changes are sufficiently small that any changes in maternal mortality in 1984 probably cannot be attributed to this increased enrollment.

It is estimated that approximately one-third of all births in the country are in MSPAS and other certified facilities. The remaining two-thirds are outside of any organized facility. It is estimated that more than half of all women who give birth outside of the system are attended by empirical midwives. There are some 2,000 empirical midwives in El Salvador, approximately 1,000 of whom have been trained in a ten day theoretical course, coupled with a five day practical course, provided by the MSPAS.

In summary, while one can hope for improved maternal mortality data, the figures are reasonably low at the present time, given other mortality data for El Salvador. They could, however, be made lower with proper support.

B. Morbidity

1. Ten Primary Causes of Transmissible Illnesses

As stated above, morbidity data can be presented in a more contemporary manner than can mortality data. Once again, the reason is that morbidity data are maintained by the MSPAS, whereas mortality data are not. Comparisons for 1983 and 1984 are available and are of some interest. Table IV shows data for the ten most common reportable illnesses. It should be noted that unofficial, but available, data from the Annual Epidemiologic Report for 1984 are slightly different than those reported in Table IV. The 1984 data used for this table are taken from the Weekly Epidemiology Report for December, 1984.

Perhaps the most significant difference in the two years is that all categories but one (amoebic dysentery) are higher both in rate and

number in 1984 than in 1983. (If still unpublished data are used, every category of disease shows deterioration in 1984 over 1983.) In other words, of the 10 primary causes of transmissible illnesses in El Salvador, the conditions have worsened in nearly every instance.

This statement should be interpreted with caution, in that the degree of change in some cases is very slight and there may be subsequent revisions in these figures, including the rate calculations. For the moment, however, it may be tentatively concluded that there has been some deterioration in reported rates for most, if not all, of the ten primary causes of transmissible illnesses in El Salvador between 1983 and 1984. It is possible that these reported rates represent more use of health facilities than more disease.

2. Diseases in Children Less than Five Years Old

A review of cases and rates of certain preventable illnesses characteristic of children shows that there has been a marked increase in the rate of measles, while there has been an equivalent fall in the rate of poliomyelitis. Measles cases and case rates have doubled during the year 1983 to 1984, while the number and rate of polio cases in 1984 is approximately one-fourth what it was in 1983. These data are charted for six preventable infectious diseases (measles, polio, diphtheria, whooping cough, tetanus and tuberculosis) in the previously cited publication of the Pan American Health Organization/UNICEF and the MSPAS--Plan of Action: Immunizations 1984-1986. These graphs are reproduced as Figures III-VIII. It is important to note that final 1984 data are included in the graphs and that adjustments have been made, as represented by dotted lines to show final figures for that year.

While the data on preventable infectious diseases are mixed, the potential impact on the just-concluded vaccination campaign is substantial. Although evaluation of the campaign is not yet available, it appears that approximately one quarter of a million Salvadoran children received the three required vaccinations over a three month period. These data, taken from information available at the Epidemiology Section of the Ministry, are as follows:

	<u>First Round</u>	<u>Second Round</u>	<u>Third Round</u>
Vaccination Posts	2,285	2,132	2,132
No. of Children Vaccinated	217,230	262,443	241,223
Goal	312,000	312,000	302,000
Rate	69%	84%	79%

In addition, some 15,000 mothers were vaccinated against tetanus in this campaign in an effort to prevent tetanus neonatorum.

Assuming the goal to have been realistic, the campaign seems to have been reasonably successful, apparently having reached approximately 70% percent of those targeted on all three rounds.

As noted, experience with previous immunization campaigns indicates that there may be a lowering of case rates for preventable infectious illnesses for children five and under in the coming year. Should this be the case, there is also the possibility that the rate will rise again unless the momentum of the immunization campaign is continued.

While 1984 may not have been a particularly good year vis a vis 1983 with respect to morbidity for children under five, it is significant that most of the preventable infectious diseases have shown a general pattern of decline in El Salvador over the past nine years. Several of these diseases experienced rises in their rate of occurrence during the period from 1981 to 1983, which may relate in some way to the social upheaval created by the military conflict in the country. The overall tendency, however, is for improved rates, while short term changes in this pattern may occur. This is particularly true of measles, which demonstrates a wide variability in case rates from year to year.

3. Maternal Morbidity

Maternal morbidity should relate in some way to maternal mortality data reported in Section V-A-3. It should be noted that maternal morbidity data, at least in the reports currently available, are normally included with overall morbidity data and are not reported separately.

C. Other Indicators

When available, morbidity and mortality data provide the most direct indices of the health of the population. Other indices, however, may be used. While more process oriented or indirect in nature, they say something about the efforts to improve health in a society.

Given the fundamental importance of life style and environment to health, two indirect indicators which may be reviewed are general health education and environmental sanitation. Health education is strictly a process measurement, describing the effort made by health authorities to inculcate more healthful behaviors. This behavior itself is extremely difficult to measure and requires many more interventions than are possible in El Salvador at this time.

Environmental sanitation, on the other hand, can be measured in two dimensions. The first is the effort expended to improve sanitation (e.g. inspections of facilities, etc.) and the second is actual change in the

ambient environment through improvement in drinking water, sewage treatment, etc. Together with health education and process interventions, the latter is somewhat more concrete and clearly related to health outcomes.

Still another approach for the indirect measurement of health is the delivery of medical care. Here it is possible to assess the number of visits to a health facility, to analyze the level of intervention by the health professional, and to comment on the comprehensiveness of this approach. While health care must always be distinguished from health, the presence of medical attention is normally associated with better health than is its absence. This is particularly true in a society where medical intervention is frequently at the primary level; where diseases which might otherwise prove fatal can be prevented.

In a more developed society medical intervention tends to occur near the end of life and be associated with chronic illnesses. While significant on an individual level, it is more difficult to relate the effectiveness of this intervention to health outcomes in the population at large.

A final indirect measurement of health to be included here is the distribution of health services. Health manpower distribution says something about the level and intensity of care which society is prepared to offer its members. For example, the number and distribution of physicians and Rural Health Aides in El Salvador may make a comment on the commitment of the country to provide higher level intervention on the one hand and/or to take care of a larger number of its people on the other. The effective distribution of these personnel throughout the country may also be a factor in assessing that country's commitment to "Health for All."

In this section such indirect indicators as the foregoing will be reviewed for their potential relevance to health, particularly as they may have changed over the last one to two years.

1. Sanitation and Education

Measurements of sanitary improvements are difficult to make in brief periods such as one year. Sanitary improvements tend to come gradually and, in the process, gradually influence health indices for the better. For example, the slow decline in the morbidity and mortality from tuberculosis in El Salvador (See Table VI), may relate in part to the BCG vaccination effort, but probably more fundamentally relates to slowly improving environmental conditions in the country.

Available published data from the Environmental Sanitation Department in the Ministry of Health indicate that latrine promotion and construction has dropped steadily over the past several years--from 7,280 reported latrines installed in 1982 to 6,640 in 1983 to 4,639 in 1984. These figures compare with a high of nearly 20,000 in 1980. This decline could indicate a saturation of the need for latrines--or, more likely, a funding shortage for the program.

Elimination of breeding places for mosquitos declined from 29,094 in 1982 to 23,466 in 1983. This is a potentially significant indicator, given the prevalence of malaria in low lying areas and coastal zones of El Salvador. Perhaps the most fundamental method of controlling the spread of malaria, elimination of breeding places, remains an important public health objective and should not be allowed to diminish so long as there remain areas in need of control.

Given the continuing prevalence of rabies in El Salvador, elimination of stray dogs is considered to be an important control measure. Due to a campaign, results were markedly more favorable for 1984 than for previous years. The number of stray dogs destroyed rose from 24,635 in 1982 to 29,235 in 1983 to 68,236 in 1984.

A still more indirect measure of ambient sanitation is the number of inspections carried out by public health authorities for homes, restaurants, etc. A total of 324,126 such inspections were recorded for 1982, dropping to 313,184 in 1983 and 275,189 in 1984. While the number of inspections for each of the areas measured declined in 1983 compared to 1982, the decline was small and of little significance. Declines in 1984, however, were more precipitous. Indeed, until 1984 there had been little change in these figures over the previous six years.

Health education is more stable. When assessed in terms of lectures given, personal interviews conducted, or classes held for mothers, there has been little change over the years. Between 1982 and 1983 changes have been minimal, except for a 50% increase in the number of classes given to mothers clubs. (This is of dubious significance, given the small numbers involved, a change from 209 to 309.) Perhaps the most interesting downward trend in health education data provided by the Ministry of Health is the decline in classes for empirical midwives over the years, dropping from a high of 844 in 1979 to a low of 338 in 1983. (This might relate to the fact that a certain base level of training has been achieved and that the Ministry feels it is now in the maintenance phase.)

2. Medical Care

As previously indicated, a widely accepted indirect measure of the commitment by a society to the health of its people is health care. Perhaps the most significant measure of this attention for the present report is the ambulatory attention provided over time by the MSPAS. (It should be remembered when looking at these figures that MSPAS data are referable only to the 85% of the population for which the Ministry has responsibility. The remaining portion of the population comes under the responsibility of Social Security or others and is not included in these figures.)

As may be seen from Table VII, the number of medical consultations provided between 1980 and 1984 has been remarkably constant, with some increase in 1984 over 1983. Perhaps the most significant

figures are the number of consultations per hundred eligible residents, based on the target population for which the MSPAS has responsibility. This figure has varied from a low of 49 in 1983 to a high of 60 in 1984--the same figure which was seen in 1981. Whereas regular consultations by physicians have varied little, emergency consultations by physicians have risen over 40% in the period from 1980-84. It is interesting to speculate to what extent this represents a change in patterns of potential behavior and to what extent it represents a change in case mix of problems presented for attention.

The Five Year Plan takes note of this relatively low penetration of ambulatory coverage in comparison with the 15% of the population cared for by other delivery systems. For example, it is noted that while the MSPAS offered approximately 0.6 consultations per eligible patient in the period just mentioned, the Social Security System offered more than 4. This inequity has frequently been cited by MSPAS officials and has led them to call for "a single system of health care" or "a national health care delivery system."

The difficulty of making projections is illustrated by the Five Year Plan's medical consultations projected for 1985 through 1989. In 1985, the first year of the plan's projections, it is estimated there will be 0.8 ambulatory consultations per eligible person. This is anticipated to rise to 1.2 consultations per person per year in 1989. While it is possible that the objective of 1.2 consultations per person per year in 1985 will be met, recent experience casts doubt on the ability of the MSPAS to meet this target without fundamental changes in MSPAS priorities or total budgetary allocation.

The number of out-patient medical consultations offered by hospitals over the past five years roughly parallels the experience with non-emergent ambulatory care services. That is, there has been little change over that period of time. The total number of recorded medical visits was 2,195,945 in 1983 compared to 2,338,718 in 1982. Perhaps of greater interest is the rise in the number of emergency visits seen both by hospitals and health centers (which are, in effect, small hospitals) during this period. While part of this rise may be attributed to the inclusion of three new centers in 1981, the number of urgent care visits has grown from 295,687 in 1979 to 402,889 in 1983. Even in the last two years for which there are available data, from 1982 to 1983, the number of urgent care visits has grown by over 20,000. It may reasonably be asked if this was related in some way to the hostilities currently underway in the country. (A recent study of hospital emergency room use shows that 92% of all visits are for wounds, burns or fractures.)

While the activities of physicians are often used as the primary index of medical attention, the activities of Rural Health Aides are of particular interest to any study of primary health care in rural El Salvador. As will be noted in Table VIII (for discussion see Section VIII-C-13), there has been a considerable reduction in the number of Rural Health Aides functioning in El Salvador over the past

five years. As might be expected, there was a consequent decrease in the number of persons attended by the Rural Health Aides from 1979 to '81 (from 479,669 to 226,819), only to see a gradual rise in persons attended in 1982 (284,218) and 1983 (302,364). The figure for 1984 (284,195) is almost identical to that for 1982. While actual service delivery by Rural Health Aides to patients remained essentially unchanged between 1982 and 1984, there was a very small increase in their health education activities.

3. Health Manpower

Health manpower production and distribution is yet another indirect guide to health services delivery. Treated more extensively elsewhere, some selected remarks are appropriate in this context.

The issue of physician production is of some relevance. Until 1981-82, all medical school enrollees in El Salvador were in the National University. In that year, 621 students matriculated in private medical schools. The number matriculating in these schools continued to grow in 1982-83 and 1983-84. With a substantial increase in matriculation by the University of El Salvador in 1984-85, there was a corresponding decline in matriculation at the private schools. These data include periods when there was no matriculation in either the National University or private medical schools, as shown in Table IX.

With an eight year curriculum, for example, the failure to enroll new students in 1976-77 by the National Medical School should have resulted in a relatively low number of students available for social service year commitments in the current year. (Since the relationship between matriculation and graduation times is not precise, due to closures of the medical schools and varying times required to graduate, such statements are only approximate.) This problem should soon be addressed by the completion of educational requirements for students matriculating in 1978-79 and 1979-80. Assuming most students graduate on schedule, a real shortage will occur again in 1988-89 and 1989-90 when classes which should have graduated from the National University will be absent due to the closure of the school in June of 1980. This problem will be partially alleviated by graduates of private medical schools in 1989-90, following which El Salvador may see an excess of medical graduates for a number of years if present trends continue.

When physicians actually in practice are considered for the years 1983 and 1984 (1984 data being unofficial and in prepublication form at this time), it is apparent that the major change in physician staffing is with reference to the social service year of physicians working within the MSPAS. In 1983 the number of such physicians was 175; in 1984 it dropped to 151. As a consequence of this reduction, several specialist positions were added to the Ministry's budget for medical personnel. The real impact, however, was a reduction of 14 percent in the number of social service students in the field.

Based on information presented above, it may be predicted that this reduction will continue for the next couple of years. When distribution of health positions generally in the Ministry is reviewed between 1983 and 1984, it may be seen that there is little, if any, effective change. As is shown in Table X, the actual number of the personnel employed by the Ministry increased by five, with virtually no change in distribution by region. Placement by urban and rural location is not provided in Ministry statistics.

If specific medical services are reviewed by program it may be seen that there have been some changes in the range of services provided. For example, total consultations for children less than two years old are reported to have increased from 391,419 in 1983 to 446,423 in 1984. The number of prenatal enrollees grew from 61,735 in 1983 to 64,735 in 1984. In the case of vaccinations, however, 1984 saw a lowering in the number of people of all ages vaccinated for all transmissible diseases with the exception of rabies and typhoid. In these two cases there was an increase in vaccinations in 1984. (See Table VI for comparative vaccination information.) Clearly, if information provided for the current year proves to be correct, 1985 will witness a major upturn in number of people vaccinated, particularly in children under five.

The foregoing are simply a few of the indirect indices which may be used in analyzing the comprehensiveness of the health care delivery system. Examples cited in this section were in the area of sanitation and health education, medical care delivery and health manpower. The ultimate test of any health care delivery system is not in these or other indirect indicators, however, but in the outcomes of health care. These may be found in the morbidity and mortality data reported in Sections V-A and B.

VI. PRIVATE VOLUNTARY ORGANIZATIONS

A relatively new arrival on the scene in El Salvador are the private voluntary organizations concerned with health care. In August, 1984, there were relatively few of these groups operating. (One group, Save the Children, was discussed in the previous report.) A number of others have since appeared. Still others have been in El Salvador but have adopted new missions to relate to changing circumstances in the country. A reasonably current list of PVOs working in El Salvador is included as Appendix I. The following section addresses all three of these areas.

A. Salvadoran Red Cross

The International Committee for the Red Cross (ICRC) was included in the initial study of Health Status Assessment and Health Policy and Program Review for El Salvador. The Salvadoran Red Cross was only mentioned. This organization has a long and successful history in El Salvador.



Currently the Salvadoran Red Cross has taken a leading role in providing emergency care for displaced persons. The problems have been great. It is currently estimated that there are over one-half million Salvadoran displaced persons in various settlements and dispersed around the country.

The role of the Salvadoran Red Cross is not to operate settlements, but to provide emergency assistance to people who might need such shelter and direct them to settlements operated by other agencies. An example of the kind of problem faced by the Salvadoran Red Cross is the 103,000 Salvadoran expatriates brought back from Honduras after the war with that country.

The Salvadoran Red Cross, like other Red Cross units around the world, has as a goal the provision of services during the first forty-eight hours after any crisis. They make every effort not to get involved in long term problems and offer several traditional Red Cross services in the country. These include a blood bank and the only truly viable ambulance system in El Salvador. It is estimated that approximately half of the 80 to 90 ambulances operated by the Salvadoran Red Cross are functioning at the present time.

The Salvadoran Red Cross relies heavily on volunteers, with about 6,000-7,000 people available at any given moment. Only 3% of all Red Cross workers are paid. There is a paid physician chief of staff, a physician clinical head, and rotating physicians who have responsibility for Red Cross programs. All rotating physicians are volunteers.

About 23% of the annual Red Cross budget is provided by the MSPAS. The Salvadoran Red Cross can accept foreign assistance, but must not give evidence of direct collaboration with any foreign funding source. In all cases it must maintain its independence as a Salvadoran agency.

Currently the Salvadoran Red Cross states that it is caring for emergency needs of about 15,000 persons each month. It has grown rapidly over the last several years and has had to move to expanded offices in San Salvador. This is one agency which provides assistance to displaced persons outside of the established settlements.

(The Executive Director of the Salvadoran Red Cross is Mr. Oscar Morales; the Chairman of the Board is Mr. Teofilo Siman. The address is 17 Calle Poniente and Avenida, A.P. 2672, San Salvador, El Salvador. The telephone number is 22-5155.)

B. Project Hope

Project Hope did not have a functioning Salvadoran project at the time that the material for the August, 1984 Health Status Assessment of El Salvador was gathered. The program actually began operations in November, 1984, with the focus on registered displaced persons. At that time AID support had been going to CONADES, a Salvadoran organization with governmental responsibilities for displaced persons.

The basic concern of Project Hope is sanitary education, with an emphasis on prevention and health education. The program participated, for example, in the recent vaccination campaign carried out in El Salvador. They are involved in nutrition, maternal and child health, family planning, and other preventative activities. A major focus is on community education and organization.

Project Hope is currently operating in 52 camps for displaced persons. At present Hope has 102 employees in El Salvador; this number is programmed to go to 200. Of these, 48 are being trained as medical auxiliaries, a program which seems to be finding increasing acceptance in El Salvador. (See Section IX-C).

The medical auxiliaries receive an eight week course in San Salvador. Currently some 23 "Ayudantes Comunitarios de Salud" (Community Health Aides) have been trained, with 100 more to be identified. The next course will begin on July 15.

Community health aides are supervised by six nurses who are required to make two visits per month to each dispensary. One of the tasks of Project Hope is to set up dispensaries, where needed, in each of the displaced persons settlements in which the program is working. According to informants with the project, Hope is now serving 43,000 Salvadorans, with a goal of serving 80,000 persons when the project is mature.

Project Hope has a grant from AID of \$6,000,000 over a three year period. With this support, they have been able to set up a highly structured organization in San Salvador, with radio communication and computer support for their workers in the countryside. Through a signed agreement with the MSPAS, all Hope programs and equipment will revert to the Ministry of Health at such time as Hope ceases to operate the program. (The agreement between Hope and the GOES is currently being held up in a committee of the National Assembly and has yet to be approved.)

(The Director of Project Hope in El Salvador is Dr. E. Croft Long; the Deputy Director is Mr. George Weismuller; and the Medical Director is Dr. Gerardo Mariona Vargas. The address of Project Hope is Apartado 26, San Salvador, El Salvador. The telephone number is 23-7311.)

C. Social Secretariat of the Archbishopric of San Salvador

An internationally known relief organization in El Salvador is the Archbishopric of San Salvador. The social secretary of that Archbishopric has responsibility for refugee work and other social service activities.

The Archbishopric cooperates with a number of displaced persons settlements throughout the country. In San Salvador, the San Jose settlement has held up to 1,200 displaced persons, but has now been reduced to 300 to 400 individuals (all with children under one year of age) so that the majority can be dispersed to other settlements outside of the city. In the city, several of the remaining settlements are extremely

crowded, including La Basilica, with 425 displaced persons (originally designed for 200), and another, with 650 displaced persons (originally designed for 300).

The Archbishopric is particularly concerned with creating conditions for independent living and not promoting dependency in their settlements. They are currently exploring ways to assure that people stay in the settlements for only a limited period of time and are then moved out into a work environment, be it their original home or a new location.

The Archbishopric has a physician assigned to each site, some on a full time basis and some intermittently, depending upon the population served. A major focus of the program at present is the development of "Promotores de Salud"--or health promoters. These local health promoters are selected by their villages and trained by the Archbishopric in a program known as CAPS. This program, the "Comunitaria Arzobispado Pastoral de la Salud," promotes health services for displaced persons. Among its activities is the development of dispensaries and the training of health promoters.

At present, 120 "Promotores de Salud" are being trained in two groups, with 17 courses scheduled during the current year. A sample of their curriculum is included as Appendix II. Each group of trainees returns to San Salvador from their rural areas for four stages of training to prepare them for their work. They work in 30 dispensaries and 12 clinics operated by local parishes. All of the promotores are volunteers.

The Health Promoter Program began in September, 1983, but is only now completing the training of its first group of volunteers. Health promoters are able to work in wide areas of the country, including zones of conflict. An example cited was the community of Laguna in Chalatenango. In this instance a priest remains in the community, although it is contested territory. It is, therefore, a potential setting for placement of the health promoter.

An extensive treatise on the subject of displaced persons was published in June, 1985, by the Universidad Centroamericana "Jose Simeon Canas." The title of this document is Salvadoran Displaced Persons and Refugees. A conference was held July 16-17, 1985 to consider the findings.

(The director of the Social Secretariat of the Archbishopric of San Salvador is Padre Octavio Cruz and the head of the training program for health promoters is Sister Carmen Castillo. The address of the Archbishopric is Isidro Menendez and Calle San Jose at Avenida las Americas. The telephone number is 26-1943.)

VII. RELATIONSHIP TO PROJECT INPUTS

It should be noted that the Statement of Work for this project mandated that the final report "relate any changes found in mortality and morbidity data to project inputs, if possible" (emphasis added). The basic message of what follows is that it is not possible to make this relationship. The reasons are various and are listed below.

The primary reason that a relationship between project inputs, from a project such as VISISA, cannot be related to health indices is that it is extremely difficult to tie specific activities to specific outcomes in health care. There is no question that the establishment of a viable cold chain would have beneficial impact upon the health of children, since otherwise an effective vaccination program is impossible. VISISA is making this cold chain possible. The difficulty is in explaining how the cold chain relates to the vaccination program and how the vaccination program relates to the improved health indices.

A second problem faced in meeting this objective is insufficient time. The VISISA Project has, by its own admission and the admission of its evaluators, been slower getting under way than had been hoped. Medicines and supplies are now flowing into the countryside, as demonstrated by independent sampling. What effects this will have on health outcomes remains to be seen, but surely it could not have happened by June, 1985. It will be better to use the occasion of the final evaluation for this particular project to see if there have been changes at that time. By then, 1985 data should be available in some areas. This could relate to VISISA and other AID program inputs in 1984. Effectively speaking, there was no input from VISISA in 1983 to be measured in 1984.

The final concern with all measurements of this type is the accuracy of the measurements themselves. As stated in the initial project report, the MSPAS places great value on statistics and makes every effort to collect reliable information. Still, the accuracy of data obtained for so diverse a group as the social service physicians and others working in health units around the country must raise questions of accuracy and reliability. The basic response to this concern is that the data are roughly compatible from year to year and that any pronounced changes from one year to the next should represent a change in health status, one way or the other. The direction of this change is more to be relied upon than the absolute numbers themselves.

There follows a brief commentary about each of three major health programs sponsored by AID in El Salvador as these might relate to project outcomes.

A. Displaced Persons

Largely through its work with Project Hope, AID is making a major investment in health care for displaced persons. By awarding Hope \$6,000,000 over three years, AID is making a commitment through Hope to improve health services for these individuals. As has been noted, Project Hope is placing health promoters in the field and establishing dispensaries in order to attain its objectives.

Because Hope is monitoring details of its work with two IBM computers at its central office in San Salvador and maintains constant contact with its field workers, there is some possibility that preliminary data will come from this project in time to make "pre-post" comparisons about health status in the settlements operated by Hope over a one year period from early 1985 to early 1986. Certainly, a program which only became active in the field in early 1985 cannot offer any support for health status change in June of the same year.

An interesting possibility presents itself in that the Archbishopric of El Salvador is providing similar kinds of services to displaced persons through its own programs. With their cooperation, a comparative study of impact by the two health programs at the end of 1985 might be of interest. For such a study to be conducted, it should spell out the differences in approach between Hope and the Archbishopric, then look at pre- and post-intervention health status indicators in communities served by both groups. (If such a study were to be done, it would be necessary to plan for it at this time by getting requisite baseline data.)

While AID worked previously with displaced persons in the field of health through CONADES, the nature of this program is such that there is little which can be evaluated at this time. Since the MSPAS does not maintain separate data sets for the health care and health status indicators of displaced persons, it would have been necessary for AID/ES to format its own data collection in this area if it wished to answer questions regarding changes in health status indicators as a result of its inputs. In short, there is insufficient data at the present time to answer the questions regarding changes in health status--either in a positive or negative direction for displaced persons assisted by AIDS/ES.

B. VISISA

The major program effort for AID in El Salvador during the last several years has been the VISISA Program. VISISA has attempted to rebuild the infrastructure for making supplies and equipment available to health services delivery components throughout the system. Although slow to get underway, drugs, supplies and equipment now appear to be flowing to their intended targets. The question arises: "What impact has VISISA had or will it have on health?"

As noted in the introduction to this section, there is no way to make a clear statement about the impact of VISISA on the health care of Salvadorans at this time. It may be noted from data presented elsewhere in this report that for certain preventable diseases the incidence rates have risen over the past year (1984 versus 1983). On the other side of this issue is the fact that certain process indicators (which might have been facilitated by VISISA) from the Ministry show improvement. These in turn, should lead to positive changes in health status indicators in another year.

As indicated above, there is always the problem of how much credit to give to VISISA (which, as noted, provided the cold chain mechanism for the recently concluded vaccination campaign). If this campaign, as expected, produces a reduction in morbidity rates over the next year for diseases that may be prevented through vaccination, then how much of the credit should be extended to VISISA for this reduction? At best, any such statement must be general in nature and guarded in scope.

A particular caveat needs to be extended with regard to VISISA and its potential impact on health indices. The program was initially seen as an emergency response to an extraordinary depletion of drugs, supplies and

equipment in the MSPAS. That this problem is now being partially met only implies a return to "normal," not necessarily an improvement in MSPAS support capability. If this were the case, then the best that might be hoped for would be a continuation of whatever morbidity and mortality trends were already in effect pre-VISISA. Whatever the case, it is even premature to anticipate such a finding at the present stage of VISISA implementation. In short, little can be said concerning the impact of VISISA on health indices at this time.

C. Health Manpower Training

The impact of AID assisted health manpower training on health outcomes is still more obscure. The presence of trained health manpower is normally associated with improved health care delivery, which is traditionally associated with improved health care. Clearly, the relationship lines are distant and indistinct in this area, making it almost impossible to relate project inputs to health outcomes.

Even more significant in this regard is the diffuse nature of support extended to health manpower training thus far by AID/ES. It could be said that the Rural Health Aide Program had its genesis in AID and any services rendered by this program should be credited to initial AID support. As has already been noted, the number of services rendered by Rural Health Aides declined significantly from a high in 1979 to a low around 1981 and has recently slowly increased (apart from some decline in 1984). What impact these visits have had on health outcomes of the people treated can only be considered a matter of conjecture. Furthermore, the ARS program has been sufficiently well integrated into MSPAS activities that there is some question as to how much credit should be given AID/ES for program inputs at this time.

AID/ES assistance to nursing education and, in particular, medical education has been so slight as to make any statement of association even less meaningful. Professional education in El Salvador has basically remained the province of the professional schools, which have requested and accepted little AID support. In the case of medical education there is even some conscious separation between the proper role of the university (now "universities") and the MSPAS, where most AID assistance in health is directed. The result is that the segment of AID funding dealing with health manpower training, with the possible exception of Rural Health Aides, cannot be said to have influenced health outcomes to any measurable degree.

The difficulty of relating medical inputs to health outputs is such that the project should not be judged a success or failure based upon how health indices change in El Salvador. Rather, process indicators are a sufficient gauge of the effectiveness of the program. Are there, for example, more Rural Health Aides as a result of AID/ES funding? Are these Rural Health Aides properly trained, and how can this be documented? Have they provided preventive and therapeutic services for a sizable number of people in rural areas, and how does this compare with the previous years'

data for the same health professionals? If all of these questions can be answered positively, then it may be said that the program is worthwhile. It is not necessary to demonstrate a lowering of infant mortality or measles rates to arrive at this conclusion.

There are, however, programs which more directly impinge upon health status indicators than those already listed. For example, AID has funded and continues to support water and latrine projects in El Salvador. There is a close and dramatic relationship between improved sanitation on the one hand and lowered morbidity on the other. AID may have played some role here, if these contributions can be sufficiently distinguished from those of the BID and other donors.

In addition, AID has historically supported family planning efforts in El Salvador. This may have had some effect on the birth rate, which has been steadily declining, as has the overall population growth (see Table XI). As was noted in the previous report, since El Salvador has had one of the highest growth rates in Central America, its reduction is important to the growth of the economy and the health of the Salvadoran people. AID may be playing some role in this process.

Still another way in which AID/ES may challenge overly high morbidity and mortality rates in El Salvador is to direct additional resources to primary care programs. It is generally believed that an effective primary care strategy, emphasizing preventive health measures and coupled with environmental sanitation programs, can dramatically influence both morbidity and mortality rates. Given the recommendations which follow, this is an area which should be explored in the final evaluation.

VIII. PROGRESS TOWARD PROGRAM AND RESOURCE REORIENTATION

If there were no changes made or contemplated with respect to the sixteen recommendations made in the last report, the effort could only be said to have been futile. However, those recommendations must compete with many other recommendations facing MSPAS and AID/ES. In addition, the lead time on USAID project development is substantial. A program suggestion received last winter (1984) can only be suggested for consideration this winter (1985) for inclusion in the FY '87 budget request. Timelines, then, are protracted and this bureaucratic process must be respected.

It should further be noted that a good consultant identifies what the client would like to do and assists the client in doing it better. To the degree that the MSPAS is the ultimate "client" of this consultation, then a measure of its success is how well the consultation assists AID/ES move in directions already being considered by the MSPAS. To the extent that this occurs, there is a better chance of congruence between GOES and AID/ES Program directions in the future. Some more specific comments on this subject follow.

A. Overall Direction of AID/ES and MSPAS

In this section we shall review overall directions of the AID/ES program in relation to the MSPAS, consider previous recommendations in relation to

the Five Year Plan, and, finally, review these recommendations for current applicability and priority.

It appears that AID/ES programming is already determined for FY 1986. This means that there is likely to be a 10.2 million dollar extension of the VISISA Project through late 1986. Any major alteration in AID/ES strategy will have to await presentation of the FY '87 budget.

The overall direction of the MSPAS is clear as a result of the recently published Five Year Plan. That is, the MSPAS is looking at a much strengthened voice for community development and primary care. With these two concepts in hand, the Government of El Salvador is prepared to attack health care problems at their roots, hopefully minimizing them as problems for the future (see Section IV-A). These activities are clearly addressed in the Five Year Plan and should form the basis for any future AID/ES or other foreign assistance programs.

It is probable that the VISISA Project will not abruptly terminate, but will progressively diminish as a percentage of overall health program support in El Salvador. This is in keeping with the expressed desire of more than one informant in the MSPAS. It is strongly suggested that, as VISISA Project funding diminishes, any residual or supplemental funds be directed toward community development and primary care. Within these two areas come the usual programs favored by AID such as maternal and child health, nutrition, sanitation, and family planning. It is to be hoped that AID/ES and the MSPAS can focus on the general concept of community oriented primary care as the vehicle for including other more limited emphasis areas in program planning for El Salvador in the future.

B. Thrust of Previous Recommendations and Relationship to Five Year Plan

As has been indicated, the Plan de Salud 1985-1989 is probably the most important document to emerge from the MSPAS in some time. It sets a new course for a new government. It calls for primary care, community development, decentralization, more rational use of human and technical resources, and a process which will lead to a "National Health System" at some future time. The Plan puts a clear emphasis on rural health and the need to redistribute resources in this direction.

Most of the previous recommendations found in the April, 1985 report on Health Status Assessment and Health Policy and Program Review are to be found under three broad categories. These are:

1. Community oriented primary health services;
2. Integrated rural development; and
3. Human resources development.

In these three areas may be found virtually everything that appears in the Five Year Plan.

Indeed, the congruence between the April, 1985 report (drafted in August, 1984) and the Five Year Plan (drafted in the summer of 1984 and still under review) is remarkable. It is clear that the drafters of the Ministry of Health plan agree with a basic concept of the April, 1985 report. That is, there must be a relative redistribution of resources by the MSPAS away from secondary and tertiary care and toward community oriented rural primary care if there are to be meaningful health outcomes. While the Five Year Plan is clearly a step in this direction, the outcome of this process remains to be seen.

C. Current Appraisal of Previous Recommendations

In this section we shall attempt briefly to address each of the sixteen recommendations made in the original report and consider how each should be revised or eliminated or left unchanged. In the process, a summary effort will be made to assign priority to the recommendations so that the more important ones may be considered first. (In Section IX-A each recommendation will be reviewed in terms of how well AID/ES is either already carrying on the task in question or expressing a willingness to consider it as an element in the FY '87 work plan for El Salvador.) It should be recalled that all references are to recommendations made in the Health Status Assessment and Health Policy and Program Review dated April, 1985.

1. Strengthening the "Patronato" System

The first recommendation read as follows:

"It is recommended that the Patronato system be strengthened by whatever means are necessary, consistent with the culture and compatible with the organization of the health care delivery system in El Salvador."

The purpose of this recommendation was to identify a context within Salvadoran law and customs for the implementation of a community-based health care system. As the MSPAS looks for means to implement decentralization of its functions, the potential of the "Patronato" system to decrease dependency upon government should not be overlooked. Because "Patronatos" are part of Salvadoran law and are generally well known and accepted at the community level, they do not represent a new or foreign concept.

As was indicated in the previous report, changes may have to be sought in the "Patronato" law to make it more responsive to current needs. This may result in allowing more independence of action and fiscal accountability at the local level. Whatever the case, it is strongly urged that this recommendation be heeded and that attention be given to identifying successful and unsuccessful "Patronatos" in order to understand the elements of success or failure. The recommendation is given a very high priority rating (4 on a scale of 5).

2. Improve Local Volunteer Programs

The second recommendation read:

"It is recommended that a substantial effort be made to identify, train, and support volunteers to work in MSPAS facilities and as outreach workers."

The discussion relating to the previous recommendation within the context of the MSPAS noted the importance of this approach at the present time. The Salvadoran Red Cross and other PVOs were cited as examples of the effective use of volunteers, as was an outreach program in Mexico City involving over 50,000 women as health promoters. Finally, the outstanding exception to the current limited use of volunteer effort in the MSPAS was noted to be the Malaria Control Program, which has mobilized thousands of volunteers over the years throughout the country.

In view of these considerations, the recommendation was made for a substantial effort to identify volunteers to work both in MSPAS health care facilities and as outreach workers. This recommendation is now amended (see Section IX-C). That is, the emphasis is now on volunteer workers in areas where no MSPAS facilities currently exist. In other areas voluntarism may be encouraged, but the greatest need is for trained personnel who can operate--without cost to the government, other than their training and supplies--in remote areas of El Salvador. These volunteers should operate in a highly structured program and with strong support from MSPAS. Specific program suggestions consistent with this and the previous recommendation, among others, will be offered under Section IX-C.

The amended recommendation now reads:

"It is recommended that a substantial effort be made to identify, train and support volunteers to serve in areas where there are no MSPAS facilities, these volunteers to be selected by their communities and to function as rural health promoters. Other volunteer service, including that in MSPAS facilities, is also recommended."

In view of further information obtained on the present site visit, this recommendation has the highest priority (5 on a scale of 5).

3. Investigate Minimum Charges for Medications

In the previous report the third recommendation read:

"It is recommended that consideration be given to the possibility of instituting minimal charges for medications prescribed and dispensed by MSPAS facilities."

In view of subsequent discussions, this topic remains extremely important to the MSPAS and health care delivery in El Salvador. The previous discussions expressed the importance of instituting some

charges in order to "share the cost" of providing health care throughout the country. The idea was to identify that service most valued by the population and place some small, but reasonable charge upon it.

The advantages of doing so with reference to medications are as follows:

- a. Medications are perhaps the most valued part of the medical encounter in El Salvador.
- b. A small "hesitancy fee" or cost sharing arrangement might discourage requests for less needed and less effective medicines by consumers.
- c. Consumer cost awareness might lead providers to restrict the number of medications which they prescribe to a more limited number than at present (an average of over four prescriptions per physician visit).

If all of the foregoing could be accomplished by the simple expedient of instituting charges, then this would be an appropriate step. Clearly, there are political implications to so doing and this area must be approached with caution. As was stated in the previous report, the new constitution of El Salvador does not prohibit charges being made, assuming that services are not denied to the medically indigent in the process.

An analysis by AID/ES of the concept of cost and its potential in El Salvador has been delayed from its original due date. That analysis has now begun. As planned, the cost sharing study will review all possible cost sharing options, including nominal payment for medicines, scaled fees for services based on the client's ability to pay, increases in the voluntary contribution to the "Patronato", and others. Every effort should be made to see that this study is concluded on schedule and that the report is promptly issued.

In summary, the recommendation for cost sharing with respect to prescription drugs administered by MSPAS facilities is reiterated without change and given a high priority rating (4 on a scale of 5).

4. Conduct Community Needs Assessment with Professional Participation

The fourth recommendation in the previous report read:

"It is recommended that a community needs assessment process be instituted at the local level by health care providers under the direction and leadership of (the) MSPAS in coordination with designated social scientists."

The purpose of this recommendation was to assure a full understanding of the needs of any particular community where MSPAS personnel are working. The intent is to do so in a multidisciplinary fashion involving each of the various health disciplines working in that area. It was noted in the report, for example, that El Salvador already has a strong tradition of participation by environmental sanitarians in its health facilities. One aspect of this recommendation would be to encourage the coordination of efforts by these health professionals and others in a comprehensive attack on the causes of ill health in any given community.

A new aspect of this recommendation is the potential for combining it with training of physicians during their social service year. Most physicians who work in MSPAS ambulatory health care facilities, particularly in the more isolated areas, are carrying out the responsibilities of their social service year. One concern expressed by the previous report and other analyses of the Salvadoran health situation is the relative lack of training of these physicians during their year of social service. Were it possible to institute a case teaching methodology built around community health problems and a multidisciplinary approach to those problems, with supervision from the various faculties of medicine in cooperation with MSPAS authorities, this would have the advantage of combining improved services with improved training through physician participation in the needs assessment process.

The recommendation is accordingly revised as follows:

"It is recommended that a community needs assessment process be initiated at the local level by health care providers, including social service year physicians with the supervision of their medical school faculties, under the direction and leadership of the MSPAS and in coordination with designated social scientists."

If the community needs assessment can be combined with a training component through the development of organized case studies, it is given a very high priority (4 on a scale of 5). If it is not to be a supervised training situation, but simply an implementation of the previous recommendation, it is still recommended (2 on a scale of 5).

5. Implement Program Evaluation at the Local Level

The fifth recommendation read as follows:

"It is recommended that limited and appropriate program evaluations be undertaken at the local level with the guidance of the Ministry of Health, participation by local providers, and with the assistance of relevant social scientists."

As have been all of the foregoing, this recommendation is consistent with a focus on community oriented primary health care. Without evaluation there can be no knowledge of what has been accomplished.

Without some measure of these accomplishments, the program can easily be misdirected or falter.

In this and other recommendations pertaining to community oriented primary health care, it is suggested that social scientists be included in the process. While this may seem a luxury for a country such as El Salvador at this time in its history, it is possibly of greater utility in this setting than in a more fully developed health care system. This is because the impact of any interventions will only be maximized when they involve the full community. Competent social scientists should facilitate the process of meaningful community participation. This can best be accomplished by assuring their involvement both in program design and evaluation.

Discussion of the previous recommendation noted that any evaluation would best focus on process measurements, rather than outcome measurements. ("Clearly, in the context of El Salvador, evaluation needs to focus on process primarily and on outcome in only the most ultimate and global sense.") This counsel could well be taken by AID/ES as it evaluates its own project interventions in-country. A particular example cited in the previous report--the acquaintance of the provider with current medical literature--leads to a possible program implication. That is, AID/ES could, as part of its VISISA Project, make medical literature available to health care providers along with the drugs, supplies, and equipment which it is currently providing. In so doing, it would offer both some assurance that these commodities were well utilized and would participate in the process of continuing education. Such an intervention would be easily subject to evaluation by social scientists.

In short, the previous recommendation is reiterated and given a standard priority rating for implementation (2 on a scale of 5).

6. Expand Health Education Programs

The sixth recommendation was as follows:

"It is recommended that there be a continuing expansion of health education activities as an integral part of MSPAS activities in El Salvador, that this include increased training programs for nurses and nurse auxiliaries, and that the potential involvement of volunteer workers in the effort be explored."

As may be noted from the last phrase in the recommendation, this suggestion references the previous recommendation that there be extended use of volunteers by the MSPAS, particularly in its outreach effort. In addition, the recommendation focuses on the need for continuing education of providers in the field and, as such, coincides with prior comments concerning the importance of providing training opportunities for physicians during their social service year. Clearly, similar statements can be made about nurses, nurse auxiliaries and other health professionals.

It is important to distinguish health education for consumers and continuing education for providers. The term "health education" is normally used to signify education for consumers, where "continuing education" is typically used in connection with education of providers. Both are needed, but it is important not to confuse the two.

When health education for providers is mentioned in this recommendation, it is directed to trained providers using health education techniques so that they may extend these techniques to their patients. This was, presumably, the rationale for transferring the Rural Health Aide Program to the Health Education Department within MSPAS. Continuing education for providers, as such, is addressed as part of human resources concerns and is included in recommendations 11 to 13.

Given that preventable disease is typically visualized in terms of intervention at the biologic, environmental, life style, or organizational level, it is most important not to minimize that aspect of the health care system which has the greatest potential for changing life styles and, to some extent, the environment. Health education is such a vehicle. Suffice it to say that adequate tools need be made available to the health educator so that this important work may be accomplished most effectively.

In summary, the recommendation concerning health education is reiterated, with the caveat that it be distinguished from continuing education, and is given a high priority ranking (3 on a scale of 5).

7. Strengthen Current Nutrition Programs

The seventh recommendation read as follows:

"It is recommended that the Rural Nutrition Center Program be expanded in scope, including an emphasis on greater coordination with Salvadoran agencies and more self-sufficiency in food production, and that its target population of children and their parents be broadened."

The recommendation went on to state that "wherever possible, use of locally produced food must be encouraged." This was based upon a concern that the rural nutrition centers were largely dependent upon imported commodities and that any interruption in this food chain will cause serious problems for the program.

In the discussion, it was further noted that, while the program was designed to work with rural cooperatives built upon agrarian reform, the centers so situated have been less effective than those selected by the MSPAS from already existing communities. The reasons for this remain unclear, but perhaps relate to the relative lack of community organization and structure in the new cooperatives. In this context,

8. Install Additional Potable Water Systems

The eighth recommendation read as follows:

"It is recommended that the active development of potable water supplies continue at the projected rate, including installation in the zones of conflict and that AID be a participant in this process."

This recommendation was based upon interview information obtained from PLANSABAR, the agency responsible for constructing rural potable water systems in the country. The continued and rapid development of a network of potable water for El Salvador is critical to the future of public health. Perhaps no single intervention is more important in terms of affecting health indices than is establishing a truly potable water supply system in a country or region.

It is of interest that the potable water system in El Salvador is conceptualized and constructed at a high level of sophistication. As was noted in the previous report, the goal is not simply to put a central pump in a town square, but to pipe water to individual homes. This has clear cost implications, but is probably compatible with the current state of economic and cultural development of El Salvador. Theoretically, a functioning water system should generate revenues for its maintenance and expansion.

Perhaps the most important comment that can be made about the development of potable water systems in El Salvador is that this has become the primary financial responsibility of the Banco Interamericano de Desarrollo (BID)--the Interamerican Development Bank. Relatively large amounts of money are channeled into El Salvador for this purpose through BID. The program continues unabated and shows every likelihood of further extending the network of potable water to rural areas of the country.

Unfortunately, all is not well with PLANSABAR at present. Irregularities in the use of funds have been alleged. The former director has been replaced. It is said that a number of water systems previously installed are dysfunctional and that mechanisms for maintenance and revenue collection at the local level need improvement.

In view of the foregoing, the recommendation is revised as follows:

"It is recommended that active development of potable water supplies continue at the projected rate, including installation in the zones of conflict, that an emphasis be placed on system maintenance and revenue generation, and that AID be a participant in this process."

it was previously noted that 30 centers now exist. At the present time two of these have been temporarily "closed," leaving 28 in operation.

A key concern of the MSPAS with this program, as with the Rural Health Aide Program, is the continuing salary obligation which it imposes upon limited MSPAS resources. In the previous report it was noted that directors of rural nutrition centers received 100 colones per month and their assistants 75 colones per month. Since then this has been increased to 160 colones per month for all workers in the centers. A quick calculation of the number of workers in each center by the number of centers which are operational lead to a total salary obligation on the Ministry of something over one quarter of a million colones per year--and this just to operate the current number of centers.

Program originators must be sensitive to the problems they create for the MSPAS when they establish activities with continuing salary obligations. The ultimate effect of such obligations is to weaken prospects for long term program survival. This is now apparent in the Rural Nutrition Center Program. In short, this program has several significant weaknesses. First, many of the centers already established have not succeeded, particularly those located in the cooperatives for which the program was originally intended. Second, by relying heavily on imported food commodities, as opposed to locally grown foods, the centers have created a dependency which diminishes the prospect for self sufficiency. Third, by creating a new "salaried class" in the MSPAS, the program has levied a burden against the Ministry and its future flexibility in program development.

The final concern about this program is the relatively small number of children whom it impacts. More than one observer independently noted that the program was a "drop in the bucket" in terms of total needs in El Salvador. While extremely appealing to the casual observer who walks in during a feeding session or when children's hands are being washed for the noon meal, other aspects of the program need to be seriously evaluated. In view of the foregoing comments, this recommendation is now revised to read as follows:

"It is recommended that the Rural Nutrition Center Program be evaluated with respect to its potential for self sufficiency in the Salvadoran setting. To the degree that this is possible, the program should be selectively continued in the future, utilizing locally produced foods wherever possible; to the degree that self sufficiency to some degree is not possible, the program should be combined with other efforts (such as the proposed Rural Health Promoter Program) or terminated."

In relation to other priorities and the fact that the Rural Nutrition Center Program is currently serving less than 1,500 children in need, this recommendation, while important, is given a lower priority ranking (2 on a scale of 5).

Clearly, this recommendation is important to public health, but is a lesser priority for AID programming. This is simply due to the fact that BID and the MSPAS, through PLANSABAR, have taken the major responsibility in this area. Accordingly, the recommendation is retained in amended form, but given a regular priority rating for AID (2 on a scale of 5).

9. Construct Additional Latrines

The ninth recommendation read:

"It is recommended that an expanded latrine construction program be undertaken, with assistance from AID and in conjunction with private voluntary organizations working in El Salvador utilizing new and innovative designs."

When compared with potable water, latrine construction must take second place. This is simply because potable water has more impact upon health than anything else that can be done for the environment. However, latrine construction enjoys a close second place in this hierarchy of values.

There are several advantages to latrine construction over water system development. The first is simply a matter of cost. For very little money a system of latrines can be built. In contradistinction to developing a sewerage system, latrines simply require a minimum of equipment and supplies, some planning, and local labor. Water systems, on the other hand, require vast investments of capital and a high level of engineering expertise.

The second advantage of latrine construction in the present context is that it corresponds nicely with community development objectives. Private voluntary organizations or others interested in community development can easily coordinate a program of latrine development with their other efforts. Rural Health Aides, for example, are expected to have their entire community covered with latrines at the end of five years. Such a program, then, can coordinate with and reinforce an overall effort at community oriented primary health care.

A necessary correlate of latrine construction--as with the development of potable water systems--is that there must be a concomitant effort in health education. It does little good to build latrines and have them used for storage of foods or supplies. Water systems are more likely to be utilized simply because of their convenience. Latrines can be inconvenient and even unpleasant as compared to previous patterns of behavior. This means that health education is an absolute "must" in conjunction with any program of latrine development.

Because AID is doing relatively little in this area, at present; because latrines can be built at a very small unit cost; because the latrine program fits into the concept of rural community development; and because it coordinates well with the projected health education

activities recommended elsewhere in this report, latrine construction programs for AID are given a very high priority rating (4 on a scale of 5).

10. Eliminate Mosquito Breeding Areas

The tenth recommendation reads as follows:

"It is recommended that an aggressive program of eliminating mosquito breeding areas be continued and enlarged in an expanded effort to reduce the incidence of malaria in El Salvador."

This recommendation was derived from the fact that the most effective means of controlling malaria in a country such as El Salvador at this time is the elimination of breeding areas for the mosquito vector. Drug control is an important adjunct, as is spraying of homes and other sites where mosquitos are likely to rest. However, elimination of the breeding places of the mosquito is the single best way to minimize the problem.

As has been noted in the daily activity reports which provide the background for this report, whatever opportunity El Salvador and other developing countries in the region may have had to control malaria through use of insecticides has probably now been lost. This is due to the extensive use of insecticides in agriculture, which has promoted substantial resistance in the mosquito population.

This recommendation is made only because of the high level of malaria seen in the country at the present time (see Table IV). Malaria remains an extremely important cause of morbidity in El Salvador.

Malaria, like any other disease, cannot be controlled with a single approach. Fortunately, as has been noted, one of the best organized community involvement programs in the country exists in the malaria volunteer worker program. Other aspects of control continue, with medications being made available through the VISISA Program. What is needed at this time is a renewed attack on the most vulnerable point in the malaria cycle--elimination of breeding sites for the mosquito.

Accordingly, the recommendation concerning elimination of mosquito breeding areas is given a very high priority (4 on a scale of 5).

11. Increase Training Capacity for Physicians in Primary Health Care, Nutrition and Disease Prevention

The eleventh recommendation read as follows:

"It is recommended that training in primary care, nutrition and disease prevention for physicians be markedly increased, possibly with USAID assistance, and that the preventive medicine and training capacity of the National University Medical School be restored."

Given the focus of the previous report on primary health care, it is essential that physicians and other health workers be adequately trained in this discipline. It is sometimes forgotten that primary health care, like other specialties of medicine, is a collection of organized information and approaches to problems and should be treated as such. Just as one does not learn to teach a subject by knowing it, neither does one become a primary care physician or health provider by having an interest in the subject. It must be taught.

While nutrition education and disease prevention are typically considered to be part of primary care, they are mentioned independently in the foregoing recommendation only for purposes of emphasis. Once again, the potential exists for combining training and service by using the physician social service year to make this possible. For example, each social service year physician could have as a requirement that he or she participate in a nutrition study of the community in which his or her facility is located and then adopt measures to correct any deficiencies found. This would have the dual advantage of providing the MSPAS with a meaningful follow-up study on nutritional status of the population, on the one hand, and institute a program of remediation, on the other.

Educational interventions can be made by the MSPAS acting by itself. The ultimate success of any primary care education program centered on physicians, however, will be related to the involvement of the medical schools of El Salvador in this process. Ideally, each school should assure a full complement of primary care education throughout the course of their students' learning process. While it is important that this be done at all levels, the focus of this report has been and will remain in the social service year, when the program can be addressed in conjunction with the service obligation. It is strongly urged, therefore, that ways be found to support the University of El Salvador and the private medical schools as they follow their students into this part of their training. (It should be noted that the vast majority of medical students matriculating in El Salvador enroll in the National University Medical School.)

In accordance with the above, the previous recommendation for training in primary care, with AID/ES assistance, is reaffirmed. This is particularly true with reference to the National University Medical School. The recommendation is given a high priority rating (3 on a scale of 5).

12. Expand Continuing Education for Health Professionals

The twelfth recommendation read as follows:

"It is recommended that continuing education be made available to all health professionals in El Salvador in whatever manner is most productive. This shall be accomplished by taking the program to the people and reinforcing the structure already available in the Ministry to achieve this purpose."

Without continuing education, professionals cease to perform adequately in their disciplines. It is for this reason that many professional groups have established continuing education requirements for their members. In some (notably family practice), certification is withdrawn if these requirements are not met.

A fundamental observation during visits to health units throughout El Salvador was that there were few, if any, books available for practitioners in the field. Previously referenced as a concern and suggestion, this falls logically under the rubric of continuing education. It will appear only logical to provide social service year physicians and others working in scattered MSPAS sites with basic texts which they might use in carrying out their practice. For example, in the case of physicians, a useful minimal library might consist of: 1) the PDR; 2) the Merck Manual; 3) Control of Communicable Diseases in Man, and, possibly, Conn's Current Diagnoses and Treatment. This could be supplemented by a respected public health text, preferably of Latin American authorship.

As a next step in continuing education, every effort must be made to strengthen the human resources division of the MSPAS. They should be encouraged to provide more and better continuing education activities for various health professionals, both at the regional level and in San Salvador. With this, the possibility of instituting a certification process for continuing education should be considered.

It should be noted that El Salvador is particularly fortunate to have a human resources division in its Health Ministry. Not all countries do and the one in El Salvador has the tradition of providing continuing educational experiences for its health professionals. This tradition should be strengthened and encouraged.

As noted previously, a particularly opportune time for continuing education is also a time for basic education in the case of physicians, when they are undertaking their social service year in MSPAS facilities. This provides an ideal opportunity for the medical school in which they are studying to collaborate with the MSPAS in offering case-based educational opportunities. This could benefit the MSPAS both through improved quality of services delivered and by the collection of information vital to an understanding of the population being served.

The revised recommendation should read:

"It is recommended that continuing education be made available to all health professionals in El Salvador in whatever manner is most productive and that a certification process for those meeting all requirements be considered. This should be accomplished by taking the program to the people and reinforcing the structure already available in the Ministry to achieve this purpose."

In summary, the previous recommendation for continuing education for professionals is repeated, but with the additional proviso that a certification process for those health professionals meeting continuing education requirements be considered. This recommendation is given a priority ranking (3 on a scale of 5).

13. Review and Strengthen the Rural Health Aide Program

The thirteenth recommendation of the report read:

"It is recommended that the Rural Health Aide training program be reinstated and that a large scale effort be undertaken to identify and support acceptable candidates for the program."

This recommendation is based upon considerable investment by both AID/ES and the GOES in this program. Now operating at half the potential number of persons trained, the program has been organizationally lodged in the Health Education Division of the MSPAS. It was felt that this would be a more appropriate location for the Rural Health Aides and would provide the Ministry an opportunity to reassess the program.

Initially planned for extension to 3,000 positions, the Program was soon reduced in scope to a projected 1,000 positions. Then, with budgetary exigencies, a still lower target figure of 800 was considered. Currently, the Technical, Normative and Operating Services Division is talking about a total of 400 Rural Health Aides in the field. This compares with a total of 252 presently.

The Rural Health Aide Program reached a low in terms of numbers of individuals involved and productivity of those individuals sometime around 1981. Since that time new trainees have brought the total number of Rural Health Aides up and this has resulted in greater number of people being seen by the Aides. With the next training program for Rural Health Aides delayed until September, 1985 (or later), it remains unclear what the long term commitment of the MSPAS is to the Program in its present form.

It would seem appropriate at this point in history to carry out an evaluation of the Rural Health Aide Program, but with a clear objective. That objective is to assure a restructuring of the Program consistent with the financial capabilities of the MSPAS to maintain it. For example, the potential relationship of Rural Health Aides to a program of Rural Health Promoters, all of whom will be volunteers, in an advisory or supervisory role should be considered. In this way the number of Rural Health Aides might have a rational upper limit (such as 400 or 500), while the number of Rural Health Promoters could be quite large--even numbering in the thousands.

With these comments in mind, the previous recommendation is revised to read as follows:

"It is recommended that the Rural Health Aide Program be evaluated with a view toward coordinating it with a new program of Rural Health Promoters, all of whom would be volunteers, and then to expand the Rural Health Aide Program selectively so as to provide supervision and direction for Rural Health Promoters in the field."

This recommendation is given the highest priority rating (5 on a scale of 5).

14. Role of Medical Education/University of El Salvador

The fourteenth recommendation of the previous document was as follows:

"It is recommended that medical education in El Salvador be both supported and constrained so that quality schools may survive, but that this be accomplished in such a way that it does not result in a serious oversupply of physician manpower."

This recommendation was based on visits to various medical schools by both the Health Resource Assessment and Health Status Assessment teams in the fall of 1984. Data gained since that time and included in the present report indicates that matriculation in the private medical schools has fallen more or less in proportion to an increased matriculation in the National Medical School. If this trend continues, it is possible that the projected surplus of physicians previously anticipated will not materialize. By the same token, there will always be some irregularity of physician production, based upon the nature of the educational system in El Salvador and the occasional periods where no students matriculate for one reason or another.

Historically, medical education in El Salvador has enjoyed a good reputation in Central America. The National University Medical School is known for the production of well educated physicians. Now that the school has been restored to its campus, every effort must be made to enable it to assume its previous role in the country and in the region. Tentative efforts by AID/ES in this regard should be continued.

One observation is in order with reference to the relationship between AID/ES and the National University Medical School. Universities in Latin America have a certain social role to play, one of these being to serve as a "social critic" of whatever administration is in power. Typically, at least in recent history, the university position has been associated with a "leftist" perspective and is seen as opposed to many positions of the U.S. government. This has the potential for creating friction between the U.S. Embassy and the university in question. Such a situation arose recently with reference to the National University and the U.S. Mission in El Salvador. It is recommended that every effort be made

to understand the historical context out of which Latin American universities speak and not to allow these expressions of independence to interfere with productive relationships at the operational level.

Whatever is done with the University of El Salvador, attention needs to be paid to the private medical schools that are now a fact of life in El Salvador. Once a determination can be made as to which ones of the schools are likely to remain over a longer period of time, explorations should then take place as to how cooperative relationships can be established. For example, the Evangelical University Medical School and the University of Jose Masferrer Medical School are likely candidates for this assistance. The emphasis, however, should remain on the National University Medical School and any work with private schools should be supplementary and secondary to this.

In view of the foregoing, the previous recommendation is retained with an emphasis on the need to relate to the University of El Salvador Medical School. This recommendation receives a high priority rating (3 on a scale of 5).

15. Loans Versus Grants

The fifteenth recommendation was as follows:

"It is recommended that all future AID awards to El Salvador be made as grants rather than loans for any health related project other than those directly contributing to the productivity of the Salvadoran economy."

The reason for this recommendation should be self evident. That is, health sector improvement, while contributing tangentially to a country's productivity, is not a direct capital investment. Capital investments are appropriate subjects for loans; medical assistance is not. Medical assistance should be in a form of grants with no expectation of repayment.

To be sure, a case can be made for certain aspects of the receiving program being treated as a loan. For example, the construction of warehouse facilities in San Salvador and elsewhere could be justified as an acceptable subject for a loan. The provision of drugs and other commodities can in no sense be no justified.

If the United States wishes to avoid increasing the debt burden of developing countries to an unacceptable level, it should reconsider making loans to these countries for programs such as health. Even with an interest rate of 3-4% and a loan term of 40 years, the fact remains that the money is given as a loan and must eventually be repaid. There is no way in which El Salvador would be able to repay the kinds of debts represented by the VISISA loan. Several informants in the MSPAS said as much. In essence, their feeling was: "Why worry? we are not going to pay it back anyway."

Perhaps the only mitigating factor favoring a loan over a grant is that the recipient country thinks of the money involved as its own and therefore exercises more independent judgment concerning the expenditure of the funds committed. The other side of this particular issue is that since the money is considered to be the property of the debtor country and not the donor country, resentment arises whenever the donor country institutes requirements such as a preferential purchase of items made in the United States. Whatever small psychological benefits may accrue from this debtor-lender interaction, they are far outweighed by the negative consequences of such a relationship.

In summary, the previous recommendation that future awards to El Salvador in the field of health be made as grants rather than loans is reiterated and is given a very high priority rating (4 on a scale of 5).

16. Schedule of Follow-Up Visits--Mid-Term and Final Evaluations

The sixteenth recommendation read as follows:

"It is recommended that the two proposed follow-up studies be performed as scheduled and that they be used to assess program progress, make recommendations for changes in program direction and prepare an independent evaluation of program success."

This recommendation was designed to ensure continuity of effort with regard to suggested changes in AID programming in El Salvador. It was specifically structured to assure continued independent input into the AID/ES allocation process. This will assure that the project remains under outside review and is responsive to needs as seen by non-AID evaluators and others.

As has been noted previously, the next visit needed to complete the requirements of this recommendation would be the spring of 1986, probably March. At that time a serious look should be taken at the degree to which previous recommendations have been accepted and incorporated into AID/ES program planning and implementation. While this is somewhat at variance with the Oversight Committee referenced in the previous report and called for in a letter from Representative Clarence Long, the procedure suggested is consistent with AID policy and should help to assure independent and critical review of AID health policy in El Salvador.

In summary, the previous recommendation is retained and given a high priority rating (3 on a scale of 5).

IX. DIRECTIONS FOR THE FUTURE

It has been said that the past is prologue. Indeed, the primary concern of AID/ES and MSPAS, as well as outside observers of these program efforts, should rest in the future and not with the past. The MSPAS has taken a stand on this issue by developing and promoting its Five Year Plan. In doing so it

looked at the past in terms of what lessons it offered, but moved quickly ahead to plan for the future.

AID/ES should do the same. There is no doubt that programs sponsored by AID/ES have contributed greatly to reinvigorating and sustaining the health services infrastructure of the MSPAS. Individual elements of these projects have and will be criticized for their failure to develop in a timely manner and for other shortcomings. These concerns are easily balanced, however, by the program's successes.

Of more concern here, however, are future directions. What progress has been made toward implementing the recommendations previously offered, what further can be done to "vitalize" the AID/ES program, and what are some suggested sample programs that may be begun at this time? These questions form the basis for the remainder of this section.

A. Progress in Implementing Specific Recommendations

This subject must be approached with caution, since the recommendations in question were only presented to the MSPAS in draft form in August, 1984 and in published form in April, 1985. Although provided with summary conclusions and recommendations in August, 1984, and April 1985, some members of the senior Ministry staff seem to have been unaware of them until the current visit, which began with a meeting at the Ministry's office on June 25, 1985. AID/ES, however, was well familiar with the recommendations from the time of their development in August, 1984.

The second word of caution concerning any interpretation regarding implementation of the previous recommendations is in order. That is, many of the recommendations were based upon observations of what the MSPAS wanted to do and was intending to do anyway. While only those actions and intended actions of the MSPAS which were consistent with the overall thrust of the recommendations will be incorporated in those recommendations, it remains the case that the recommendations are sensitive to the wishes of the MSPAS. Accordingly, because a particular recommendation happens to have been implemented at the MSPAS level does not mean that it is due to that recommendation, but may simply mean that the recommendation "caught the spirit" of what the MSPAS was attempting to do.

The recommendations also take into account the resource capacity of AID/ES. Theoretically, much more can be accomplished with a greater resource base. That is not likely to be soon available. Accordingly, recommendations have been couched in terms that are consistent with potentially available support and are more modest than might otherwise be the case.

Given the foregoing concerns, the following status report may be given concerning the implementation of each of the sixteen recommendations:

1. Strengthen the "Patronato" System

While there is more discussion concerning this recommendation, nothing has been done to implement it. The cost sharing study, now underway, may offer new information regarding how "Patronatos" function--or fail to function. (See IX-A-3 below.)

2. Improve Local Volunteer Programs

Program planning is definitely moving in this direction, although specific programs have not yet evolved. Action is clearly expected on this item by the time of the next (and final) evaluation.

3. Investigate Minimal Charges for Medication

This study is now underway, after some delays. AID is providing the economic study and the Ministry is definitely interested in the results.

4. Conduct Community Needs Assessment with Professional Participation

A draft proposal was presented to the Minister of Health by AID/ES and the Westinghouse technical advisors to develop a prototype "community needs assessment" instrument with associated plans for data analysis. Following review of the proposal by several offices of the MSPAS, their conclusion was that, while the concept was sound, it should be subsumed under the Ministry's new initiative for training and maintaining Rural Health Promoters (PROSAR). (See Section IX-C.)

5. Implement Program Evaluation at the Local Level

AID/ES has been carrying out its program evaluation of the VISISA Project with various surveys. In addition, AID/ES has been promoting establishment of a "Basic Drug Formulary," which is expected to contain a limited number of pharmaceutical products and information on their use by level of facility. However, the kind of program evaluation contained in the recommendation has not been seriously considered or implemented at this time.

6. Expand Health Education Programs

The Health Education Division in the MSPAS gives no indication of having expanded any programs. If anything, they have contracted for budgetary reasons.

7. Strengthen Current Nutrition Programs

There is little evidence that current nutrition programs have been strengthened. The number of Rural Nutrition Centers in operation has declined from 30 to 28.

8. Install Additional Potable Water Systems

Water systems continue to be installed, but serious problems have been uncovered in the PLANSABAR Division of the MSPAS. These problems need to be resolved before this recommendation can be carried forward in a meaningful way. AID/ES has provided the GOES counterpart contribution to the recently signed \$23.4 million BID loan for additional potable water system development.

9. Construct Additional Latrines

There is little evidence that this recommendation has resulted in a new impetus being given to the latrine construction program. This program also currently falls under PLANSABAR and is therefore subject to whatever review that program experiences. However, a 21 million dollar loan with the IDB is expected to be signed in September, 1985, a portion of which is for construction and installation of 75,000 latrines.

10. Eliminate Mosquito Breeding Areas

Six engineering proposals have been put forward to the MSPAS by the Malaria Control Division for engineering projects to eliminate mosquito breeding areas. Consideration is currently underway at AID/ES and it is likely that some funding, possibly out of PL480 money, will be forthcoming.

11. Increase Training Capacity for Physicians in Primary Health Care, Nutrition and Prevention

Some progress has been made in this area by the respective medical schools, although this direction was underway before project recommendations were offered. Perhaps the most significant event was the course given in Hawaii by the MEDEX Program for individuals interested in bringing the presence of medical schools into the social service year. Technical assistance from the MEDEX project followed, to develop a series of modules on PHC and clinical management of common morbidities. Training of Trainers took place in June, 1985 and modules were reviewed, revised and provided to Regional MSPAS Directors. Several regions have used the modules to provide training for social year physicians.

12. Expand Continuing Education for All Health Professionals

The Human Resources Division of the MSPAS has been given increased organizational status, but no additional funding by the Ministry. There is little evidence of change in this area, with the exception that AID/ES funds were made available for instructor training (5 workshops with 130 participants), and PL480 funds (slightly more than 1 million colones) were programmed for the reconstruction of the sanitary training school, which was severely damaged in the June, 1982 earthquake.

13. Review and Strengthen the Rural Health Aide Program

The Rural Health Aide Program has been organizationally moved within the Ministry of Health, but has not necessarily gained stature as a result of the move. The program is seriously being reviewed by the MSPAS and 27 new Rural Health Aides were recently trained. This recommendation has been partially implemented, but much remains to be done.

14. Role of Medical Education/University of El Salvador

A good start was made in implementing this recommendation through the provision of books and a proposed grant to purchase certain equipment for the National Medical School. Unfortunately, this process is now being interrupted and should be restored. The recommendation has thus been implemented in a preliminary and sporadic manner.

15. Loans Versus Grants

The VISISA Program continues as a loan to El Salvador. The status of this recommendation will be based on whether AID/ES requests future funding as a loan or grant and whether the US Congress and Administration respond accordingly.

16. Schedule of Follow-Up Visits; Mid-Term and Final Evaluations

The first part of the recommendation has been fully implemented with the current consultation. Implementation of the second part is not expected until the spring of 1986.

With reference to AID/ES, the time line for program change is a minimum of one year and no substantial reorientation of the VISISA Project was expected or possible. Rather, the test of AID/ES commitment to the recommendations will come with the next program proposal to the Congress. This will be drafted in the fall of 1985.

By the time of the next and final evaluation in this series, it should be possible to make a clear statement regarding the responsiveness of the MSPAS and AID/ES to the recommendations contained therein. At the present time it is premature to attempt to do so and failure to have implemented any of the foregoing recommendations by either the MSPAS and AID/ES should not be taken as unwillingness or lack of intent to do so.

B. Conference on Community Oriented Primary Health Care

In what may be considered a seventeenth or additional recommendation:

"It is recommended that there be held in El Salvador a conference on Community Oriented Primary Care. This conference should bring together all participants currently concerned about this subject in El Salvador and be coordinated by the MSPAS. Funding should be

sought from AID/ES and PAHO and the conference should be held prior to the final development of the AID/ES Project Proposal for implementation in FY 87.

Participants in such a conference should include not only the MSPAS, but also other official organizations concerned with health care in El Salvador such as the Social Security System (ISSS). In addition, PVOs working in-country should be invited, as should various national and international agencies concerned with primary care. It is particularly important that there be a representative sample of "workers in the vineyards"--or individuals who are actually carrying out primary care in remote sites for the MSPAS and others.

It is suggested that leaders in the community oriented primary care movement from Latin America and elsewhere be invited to participate in the conference. Models from other nearby countries such as Costa Rica, Nicaragua and Mexico should be explored. Time and resources permitting, selected international models outside the American Continent should also be considered. This could include examples from the Middle East (e.g. Israel) and elsewhere.

If such a conference is to be held in time to influence AID/ES Project decisions for FY 87, the program planning must begin immediately. This could be done directly by AID/ES Project staff in El Salvador or by an external contractor in consultation with PAHO and MSPAS. Once again, it is extremely important that an effort be made to involve the Pan American Health Organization in this process and that the resources of other Latin American states be mobilized for the meeting. Given the interest of the MSPAS in developing a new program centered around rural health promoters, this concept should have a central place in any such meeting.

In addition to stimulating AID/ES involvement and crystallizing MSPAS thinking on the subject, the conference should have the effect of mobilizing national attention around the issue of community oriented primary care. An international and interinstitutional approach to this subject could go a long way toward moving in El Salvador closer to a "National System of Health Care." Should this process be accelerated, the conference would more than have justified itself.

C. Rural Health Promoter Program

An eighteenth and final recommendation is as follows:

"It is recommended that there be developed in El Salvador a Rural Health Promoter program ("Promotores de Salud Rural"), to be composed of volunteer health workers selected by their communities, trained and supported by the MSPAS and other cooperating agencies, and certified by the MSPAS."

Already suggested by the Planning Division of the MSPAS, this idea coincides with both the theoretical direction of public health authorities around the world and the economically resources available to El Salvador at the present time.

A program of Rural Health Promoters would aim at least to duplicate the number of workers currently involved in the Malaria Control Program in El Salvador. They will be identified by the communities from which they come, trained by the MSPAS (and/or a consortium of the MSPAS with other official and private voluntary organizations), then returned to their communities to fulfill their service roles. Continuing education will be a vital part of the program, as will supervision--provided by Rural Health Aides in the case of the MSPAS. (See Section VIII-C-13). These Rural Health Promoters will work on a strictly voluntary basis, maintaining their own jobs and receiving supplemental assistance from their communities for their health-related work.

The program will need to be carefully controlled so as to assure minimal standards of quality and a guarantee of continuity. In lieu of salary, a great deal of prestige and honor should attend the position of Rural Health Promoter and adequate material support should be provided. Such support should consist, at the very least, of uniforms, credentials, medicines, supplies, etc. More important is that there be quality training in the beginning and a strong program of continuing education. Health education should be a central focus of the Rural Health Promoter's mission and advancement to become Rural Health Aide should be possible.

In other words, the Rural Health Promoter Program should be designed to integrate with existing activities in the MSPAS and elsewhere. Consistent with the rural health promoter concept currently being evolved by Project Hope, CAPS (in conjunction with AESCALAEPIUS), CARITAS, Save the Children, the International Rescue Committee, and others, this is an idea whose time has come for El Salvador. A recent proposal prepared for the President of El Salvador by the MSPAS for development of "Promotores de Salud Rural" (or PROSAR) is included as Appendix III. AID/ES should be an important participant in this process and help facilitate its development. The context and philosophical framework should be that of community oriented primary care.

The next step beyond VISISA is becoming increasingly clear. That step is PROSAR--or something like it--and this in the context of community oriented primary care. The time to begin is now.

X. SUMMARY

This report, the second in a proposed series of three on "Health Status Assessment and Health Policy and Program Review for AID/El Salvador," begins with a review of the initial report dated April, 1985, which was based on data obtained in August, 1984. Three significant events since that report was written are noted. These include: A) completion of the Five Year Plan; B) reorganization of the MSPAS; and C) conclusion of a major country-wide vaccination campaign.

Changes in health status from the prior period were reviewed insofar as possible. As could be anticipated from the proximity of dates and the slowness with which health status indicators normally change, no significant

differences were found between data reported in the previous report and that which is currently available. Indeed, in some areas there appears to be a slight worsening of health status as measured by morbidity.

Indirect health status indicators were somewhat more positive. To the degree that activities carried out by the MSPAS could be considered consistent with the future improvement of health, there is some reason for hope. A tendency for small gains appears to be continuing in the areas of sanitation, medical care and health manpower development.

One new element on the scene since the previous report is the appearance of an increasing number of private voluntary organizations. Three of these were discussed in this report: A) the Salvadoran Red Cross; B) Project Hope; and C) the Social Secretariat of the Archbishopric of San Salvador. Each in its own way appears to be making an important contribution to the improvement of health status in El Salvador.

As discussed, little relationship could be found in this study between project inputs and health status indicators. There does, however, appear to be some congruency on thinking as to what is needed in El Salvador in the field of health at present--that is, concentration on primary health care at the community level. The direction being taken by the MSPAS, private voluntary organizations and others is totally consistent with the recommendations of the previous report.

While few concrete results can be reported from implementation of the previous recommendations, there is no reason to have expected any significant action at this time. Two additional recommendations were suggested: A) a conference on community oriented primary care and B) the development of a Rural Health Promoter ("Promotores de Salud Rural" or PROSAR) program or something similar for the extension of primary care throughout the country. Several previous recommendations were revised and all were reviewed and prioritized.

Most of the sixteen previous recommendations were grouped under three broad headings. These were: A) community oriented primary health services; B) integrated rural development; and C) human resources development. It is of more than passing interest that these three headings closely correspond to the mission of the major three operational components of the newly reorganized Ministry of Public Health and Social Assistance. They also adhere closely to the newly developed Five Year Plan of the MSPAS. It is recommended that these be the areas where AID/El Salvador increasingly focus its attention in the future.

The recommendations, in order of priority, are ranked as follows:

A. Highest Priority

1. It is recommended that there be held in El Salvador a conference on Community Oriented Primary Care. This conference should bring together all participants currently concerned about this subject in El Salvador and be coordinated by the MSPAS. Funding should be sought from AID/ES and PAHO and the conference should

be held prior to the final development of the AID/ES Project Proposal for implementation in FY 87.

2. It is recommended that a substantial effort be made to identify, train and support volunteers to serve in areas where there are no MSPAS facilities, these volunteers to be selected by their communities and to function as Rural Health Promoters. Other volunteer service, including that in MSPAS facilities, is also recommended.
3. It is recommended that there be developed in El Salvador a Rural Health Promoter Program ("Promotores de Salud Rural"), to be composed of volunteer health workers selected by their communities, trained and supported by the MSPAS and other cooperating agencies, and certified by the MSPAS.
4. It is recommended that the Rural Health Aide Program be evaluated with a view toward coordinating it with a new program of Rural Health Promoters, all of whom would be volunteers, and then to expand the Rural Health Aide Program selectively so as to provide supervision and direction for Rural Health Promoters in the field.

B. Very High Priority

1. It is recommended that the "Patronato" system be strengthened by whatever means are necessary, consistent with the culture and compatible with the organization of the health care delivery system in El Salvador.
2. It is recommended that consideration be given to the possibility of instituting minimal charges for medications prescribed and dispensed by MSPAS facilities.
3. It is recommended that an expanded latrine construction program be undertaken, with assistance from AID and in conjunction with private voluntary organizations working in El Salvador utilizing new and innovative designs.
4. It is recommended that an aggressive program of eliminating mosquito breeding areas be continued and enlarged in an expanded effort to reduce the incidence of malaria in El Salvador.
5. It is recommended that all future AID awards to El Salvador be made as grants rather than loans for any health related project other than those directly contributing to the productivity of the Salvadoran economy.

C. High Priority

1. It is recommended that there be a continuing expansion of health education activities as an integral part of MSPAS activities in El Salvador, that this include increased training programs for nurses and nurse auxiliaries, and that the potential involvement of volunteer workers in the effort be explored.
2. It is recommended that training in primary care, nutrition and disease prevention for physicians be markedly increased, possibly with USAID assistance, and that the preventive medicine and training capacity of the National University Medical School be restored.
3. It is recommended that continuing education be made available to all health professionals in El Salvador in whatever manner is most productive and that a certification process for those meeting all requirements be considered. This should be accomplished by taking the program to the people and reinforcing the structure already available in the ministry to achieve this purpose.
4. It is recommended that medical education in El Salvador be both supported and constrained so that quality schools may survive, but that this be accomplished in such a way that it does not result in a serious oversupply of physician manpower.
5. It is recommended that the final evaluation be performed as scheduled and that it be used to assess program progress, make recommendations for changes in program direction and prepare an independent evaluation of program success.

D. Priority

1. It is recommended that a community needs assessment process be initiated at the local level by health care providers, including social service year physicians with the supervision of their medical school faculties, under the direction and leadership of the MSPAS and in coordination with designated social scientists. (Note: Very high priority if real supervision is possible.)
2. It is recommended that limited and appropriate program evaluations be undertaken at the local level with the guidance of the Ministry of Health, participation by local providers, and with the assistance of relevant social scientists.
3. It is recommended that the Rural Nutrition Center Program be evaluated with respect to its potential for self sufficiency in the Salvadoran setting. To the degree that this is possible, the program should be selectively continued in the future, utilizing locally produced foods wherever possible; to the degree that self sufficiency to some degree is not possible, the program should be combined with other efforts (such as the proposed Rural Health Promoter Program) or terminated.

4. It is recommended that active development of potable water supplies continue at the projected rate, including installation in the zones of conflict, that an emphasis be placed on system maintenance and revenue generation, and that AID be a participant in this process.

It should be stressed, as the rankings indicate, that all of the recommendations are considered to be priority concerns. Because they are all basically concerned with community oriented primary care in one form or another, they interrelate in such a way as to make joint implementation not only feasible, but desirable. What is being proposed, in short, is a primary care package of recommendations which are mutually supportive and designed to improve the health status of El Salvador's people.

If El Salvador is to enjoy "Health for All by the Year 2000," it must vigorously pursue a strategy of primary health care over the next 15 years. It is suggested that, if it is to be successful, this be a strategy of community oriented primary care. It is further suggested that integrated rural development and human resource development provide the context for these changes. Finally, assuming the Government of El Salvador shares in the perceptions and recommendations of this report, it is suggested that AID/ES orient its future program and planning efforts accordingly.

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TABLE I
TEN PRIMARY CAUSES OF DEATH
EL SALVADOR
1981 AND 1983

	1981			1983		
	Number	Percent	Percent Medically Certified	Number	Percent	Percent Medically Certified
GRAND TOTAL	37,468	100	47.5	32,715	100	46.5
Certain conditions originating in the perinatal period	4,095	10.9	29.6	3,641	11.1	23.9
Homicides and injuries inflicted by other persons	1,881	5.0	86.7	2,266	6.9	14.9
Intestinal infections due to specific organisms and those which are ill-defined	2,396	6.4	23.7	2,259	6.9	14.8
Psychotic conditions	--	--	--	1,320	4.0	8.7
Bronchitis, emphysema and asthma	1,013	2.7	15.9	970	3.0	6.4
Acute myocardial infarction	773	2.1	25.2	834	2.6	5.5
Cardiac dysrhythmias	--	--	--	801	2.4	5.3
Mental disturbances	--	--	--	780	2.4	5.1
Motor vehicle accidents	851	2.3	82.4	724	2.2	4.8
Pneumonia	--	--	--	633	1.9	4.2
<u>Sub-Total for ten primary causes of death*</u>	14,971	39.6	51.2	14,228	43.4	--
Other causes	15,318	40.9	66.1	14,589	44.6	--
Other signs and symptoms includ. ill-defined morbidity states	7,179	19.2	7.6	3,898	12.0	25.6

Source: General Office of Statistics and Census, MSPAS (Note -- Previously Unreported Data; all 1983 Data Preliminary and Tentative)

*1981 Sub-Total does not equal number shown in Table since not all of the top ten causes of death are listed for 1981

T A B L E I I

DEATHS IN CHILDREN LESS THAN FIVE YEARS OF AGE

EL SALVADOR

1976 — 1983

<u>Infant Mortality</u>			<u>Proportional Mortality in Children Less than five Years of Age as a Percent of all Deaths</u>		
Year	Number	Rate*	Total All Ages	Less than Five Years	Percent
1976	9,154	55.2	---	12,676	41.1
1977	10,529	59.3	---	13,958	42.3
1978	8,790	50.8	---	11,263	36.7
1979	9,232	53.0	32,936	12,094	36.7
1980	7,138	42.0	38,967	9,211	23.6
1981	7,183	44.0	37,468	10,269	27.4
1982	6,621	42.2	33,309	8,931	26.8
1983 (P)	6,168	42.8	37,715	---	---

Source: General Office of Statistics and Census

* Rate per 1,000 live births

P = Provisional Data

T A B L E I I I
M A T E R N A L M O R T A L I T Y
E L S A L V A D O R
1 9 7 8 - 1 9 8 3

Y e a r	Entire Country	
	Number	Rate*
1978	132	0.8
1979	150	0.9
1980	120	0.7
1981	101	0.6
1982	133	0.8
1983 (P)	89	0.6

Source: General Office of Statistics and Census

*Rate per 1,000 live births

(P) Provisional Data

T A B L E IV

TEN PRIMARY CAUSES OF NOTIFICATION OF TRANSMISSIBLE ILLNESSES

E L S A L V A D O R

1 9 8 3 - 1 9 8 4

C a u s e s	Number of Cases		Rate per 100,000 Populatio	
	1983	1984	1983	1984
1. Diarrheal Illnesses	120,483	137,731	2,304.1	2,881.7
2. Intestinal parasites	120,483	123,010	2,304.1	2,573.7
3. Influenza and grippe	83,214	100,908	1,591.4	2,111.3
4. Malaria	65,407	66,844	1,250.8	1,398.5
5. Amoebic dysentery	13,739	8,692	262.7	181.9
6. Gonorrhoeal infection of the genitourinary tract	5,957	8,580	113.9	179.5
7. Varicella	4,289	5,721	82.0	119.7
8. Syphilis	4,025	5,674	77.0	118.7
9. Dengue	3,814	5,452	72.9	114.1
10. Hemorrhagic conjunctivitis	2,953	4,760	56.5	99.6
T O T A L	424,364	467,372		

Source: Annual Epidemiology Report, 1983
Weekly Epidemiology Reports, 1984 (Preliminary)

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T A B L E V
 PREVENTABLE ILLNESSES IN CHILDREN
 E L S A L V A D O R
 1 9 8 2 - 1 9 8 4

I l l n e s s e s	1 9 8 2		1 9 8 3		1 9 8 4	
	N° Cases	Rate	N° Cases	Rate	N° Cases	Rate
Diphtheria	22	0.4	18	0.3	15	0.2
Pertusis	1,756	34.4	499	9.5	505	9.3
Tetanus	138	2.7	87	1.6	116	2.1
a) Tetanus Neonatorum	92	1.8	39	0.7	54	1.0
b) Other Causes	46	0.9	48	0.9	62	1.1
Polio	16	0.3	88	1.9	19	0.3
Measles	3,664	71.9	2,458	47.0	4,760	88.3

Source: Weekly Epidemiology Report, 1984

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T A B L E VI

EPIDEMIOLOGIC REPORT OF PREVENTABLE INFECTIOUS DISEASES

E L S A L V A D O R

1 9 7 8 - 1 9 8 3

Y e a r	Measles	Diphtheria	Tetanus	Whooping Cough	Polio	T. B.
<u>Vaccinations</u>						
1978	170,714	221,051	366,506	146,555	148,355	282,273
1979	180,223	223,495	362,808	151,325	151,482	272,903
1980	117,345	142,659	25,237	103,487	103,068	192,777
1981	128,540	187,734	308,810	111,980	101,858	211,181
1982	130,663	218,233	360,531	115,841	115,830	215,580
1983 (P)	155,682	249,357	443,992	144,443	143,126	245,133
<u>Illnesses</u>						
1978	1,621	1	122	2,362	10	2,449
1979	10,371	..	114	812	3	2,281
1980	2,315	2	98	1,005	55	2,255
1981	12,554	1	122	3,932	52	2,091
1982	3,664	22	138	1,756	16	2,161
1983 (P)	2,407	10	82	497	34	2,053
<u>Deaths*</u>						
1978	68	5	181	139	15	223
1979	511	5	181	80	10	209
1980	120	6	93	76	37	200
1981	611	6	50	150	26	199
1982	207	10	61	79	203
1983 (P)	153	10	49	43	205

Source: Vaccinations, Cases and Deaths: MSPAS

* Reported deaths in some cases exceed reported illnesses. This is due to the fact that morbidity data came from MSPAS facilities only; mortality data are from the entire country.

(P) Provisional Data

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TABLE VII
AMBULATORY COVERAGE ASSISTANCE
EL SALVADOR - 1980 - 1984

C O N C E P T S	Y	E	A	R	S
	1980	1981	1982	1983	1984
Medical Consultations	2,224,914	2,528,647	2,338,714	2,195,945	2,449,614
Consults per 100 population*	55	60	54	49	60
Dental Consultations	336,832	335,285	355,095	341,112	346,021
Consults for (a+b+c+d+e)	958,607	833,995	986,381	1,215,123	1,346,545
a) Nurses	491,399	491,881	537,545	639,309	601,266
b) Nurse Auxillaries	155,589	153,714	222,572	228,573	175,925
c) Rural Health Aides *	311,619	188,400	226,263	229,976	222,044
d) Midwives	---	---	---	77,983	109,662
e) Volunteers	---	---	---	39,283	237,648
Medical Emergencies Attended (a+b+c)	304,456	338,384	388,175	410,642	438,144
a) Doctors	296,578	332,243	281,914	405,046	434,204
b) Nurses	3,367	2,801	2,695	2,988	1,538
c) Volunteers	4,511	3,340	3,566	2,608	2,402
Medical Emergencies Attended per 100 inhabitants *	7	8	9	9	11
Total Encounters	3,834,809	4,036,311	4,068,365	4,162,822	4,580,324
Encounters per 100 Inhabit.*	94	96	93	93	112
% of Encounters by medical & dental personnel	74.9	79.6	75.6	70.7	70.5
Nurses	17.1	16.1	18.8	21.0	17.1
Rural Health Aides	8.1	4.7	5.6	5.52	4.9
Midwives and volunteers	---	---	---	---	---

Source: Monthly reports from health facilities, 1984 and Malaria Division

* Based on 85% of population served by MSPAS

T A B L E VIII
RURAL HEALTH AIDE ACTIVITIES
EL SALVADOR 1979-1984

DESCRIPTION	Y	E	A	R	S	
	1979	1980	1981	1982	1983	1984
Total Persons Served	479,669	354,598	226,819	284,310	302,364	204,155
Morbidity Attendance*	271,142	196,870	116,829	138,470	134,335	133,123
Preventive Services (a+b+c+d+e)	35,028	23,873	14,930	17,512	17,378	15,714
a) Pregnancies	8,712	5,908	3,613	4,351	4,245	3,914
b) After Childbirth	3,694	2,298	1,528	2,012	2,176	1,996
c) Children less 1 year	12,335	8,910	5,998	6,886	7,035	6,548
d) Malnourished Children	4,793	3,004	1,765	1,874	1,519	1,329
e) Birth Control	5,494	3,753	2,006	2,389	2,403	1,927
IV- Contraceptives Provided	13,128	10,293	6,388	8,557	8,114	5,932
V- Educational Activities	368,376	234,974	156,035	211,932	227,754	217,882
VI- Missed Appointments	9,331	6,684	3,539	3,834	4,440	4,271
VII- Dwelling Unit Visits	313,058	203,017	134,445	175,530	192,278	177,261

Source: Monthly reports submitted by Rural Health Aides

* This refers to consultations given for diarrheal infections, conjunctivitis, headaches and other problems requiring primary health services.

TABLE IX
 MATRICULATION OF MEDICAL STUDENTS
 AND
 GRADUATION OF PHYSICIANS
 EL SALVADOR
 1974-1984

Matriculation	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Univ. of El Salvador	3,246	3,242	---	3,312	3,044	1,316	---	---	1,300	1,523	2,897
Other Universities								621	1,211	1,586	577
Total Matriculated	3,246	3,242	---	3,312	3,044	1,316	---	621	2,511	3,109	3,474
Graduation	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Univ. of El Salvador	83	10	94	211	29	102	328 (293)	145 (213)	273 (90)	24 (85)	N.A. (90)
Other Universities											
Total Graduated	83	10	94	211	29	102	328	145	273	24	N.A.

Source: Five-Year Plan 1985-1989; MSPAS
 University Education in Figures, October 1984; Ministry of Education
 Figures in Parentheses from Office of the Dean, Univ. of El Salvador
 Medical School

T A B L E X
 DISTRIBUTION OF POSITIONS AND PERCENT CHANGE
 MINISTRY OF PUBLIC HEALTH AND SOCIAL ASSISTANCE
 E L S A L V A D O R
 1983 -- 1984

R E G I O N S	1 9 8 3	1 9 8 4	% CHANGE
Total *	12,610	12,615	0.04
Western Region	2,180	2,180	--
Central Region	1,138	1,138	--
Metropolitan Region	4,930	4,931	0.02
Paracertral Region	1,342	1,340	-0.15
Eastern Region	2,277	2,238	-1.71

Source: Law of Salaries, 1983, 1984

* Includes Central Office Positions

Does not include Contract Positions, Local Hires, Those Paid by International Organizations, nor Those Hired by Decentralized Organizations.

T A B L E X I
BIRTHS, DEATHS AND NATURAL GROWTH OF POPULATION

E L S A L V A D O R

1979 - 1984

Year	B i r t h s		D e a t h s		Population Growth	
	Number	Rate*	Number	Rate*	Number	Rate**
1979	174,183	39.3	32,936	7.4	141,247	3.19
1980	169,930	37.7	38,967	8.6	130,963	2.91
1981	163,305	35.6	37,468	8.2	125,837	2.74
1982	156,807	30.7	33,309	6.5	123,498	2.65
1983 (R)	144,193	30.5	32,697	6.9	111,496	2.36
1984 (P)	141,011	29.5	28,937	6.1	112,038	2.34

Source: General Office of Statistics and Census

* Rate per 1,000 population

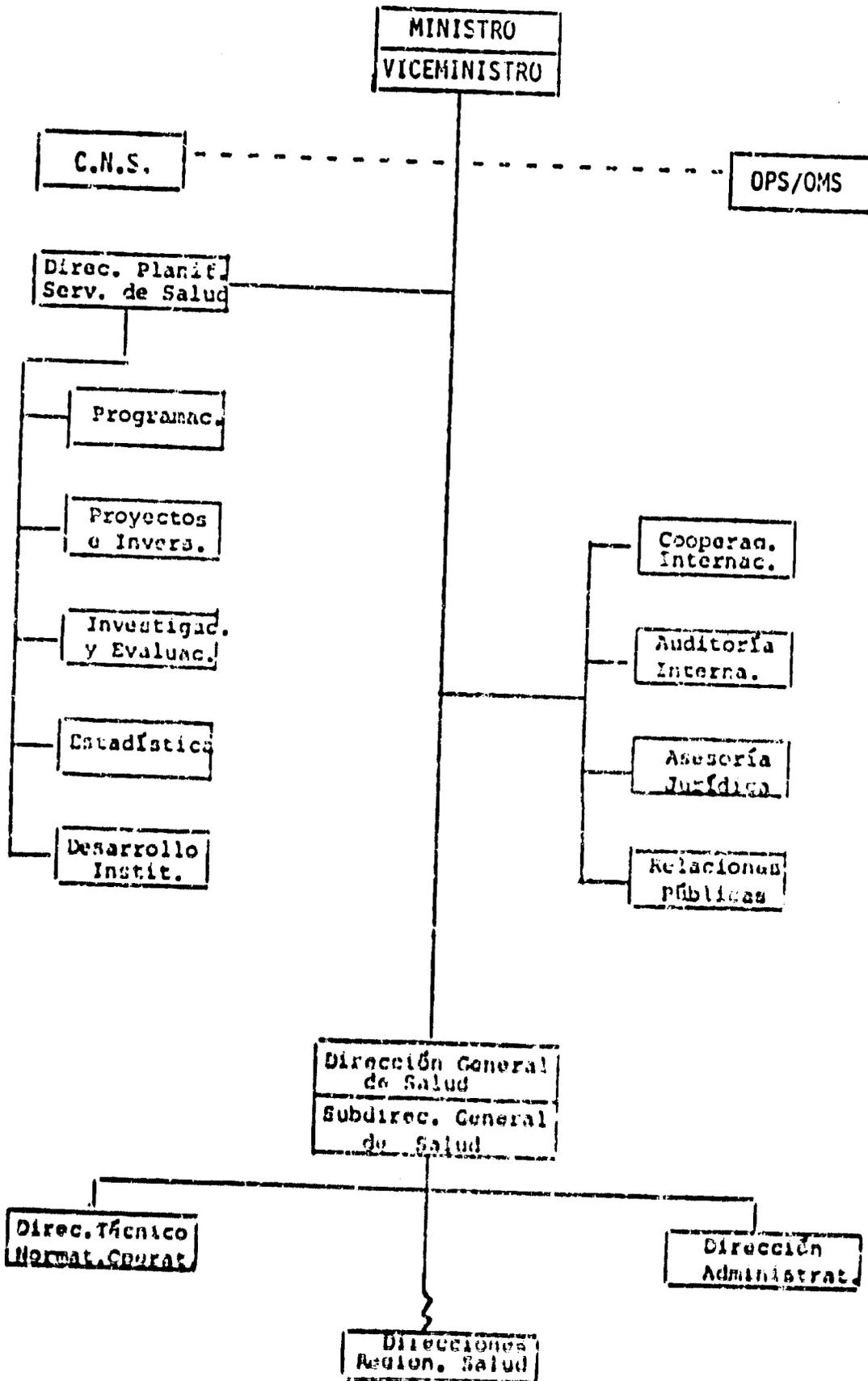
**Rate per 100 population

R = Revised Figures

P = Provisional Figures

FIGURES

ORGANIGRAMA DE NIVEL CENTRAL DEL
MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL



ESTRUCTURA DE ORGANIZACION DE LA DIRECCION GENERAL DE SALUD

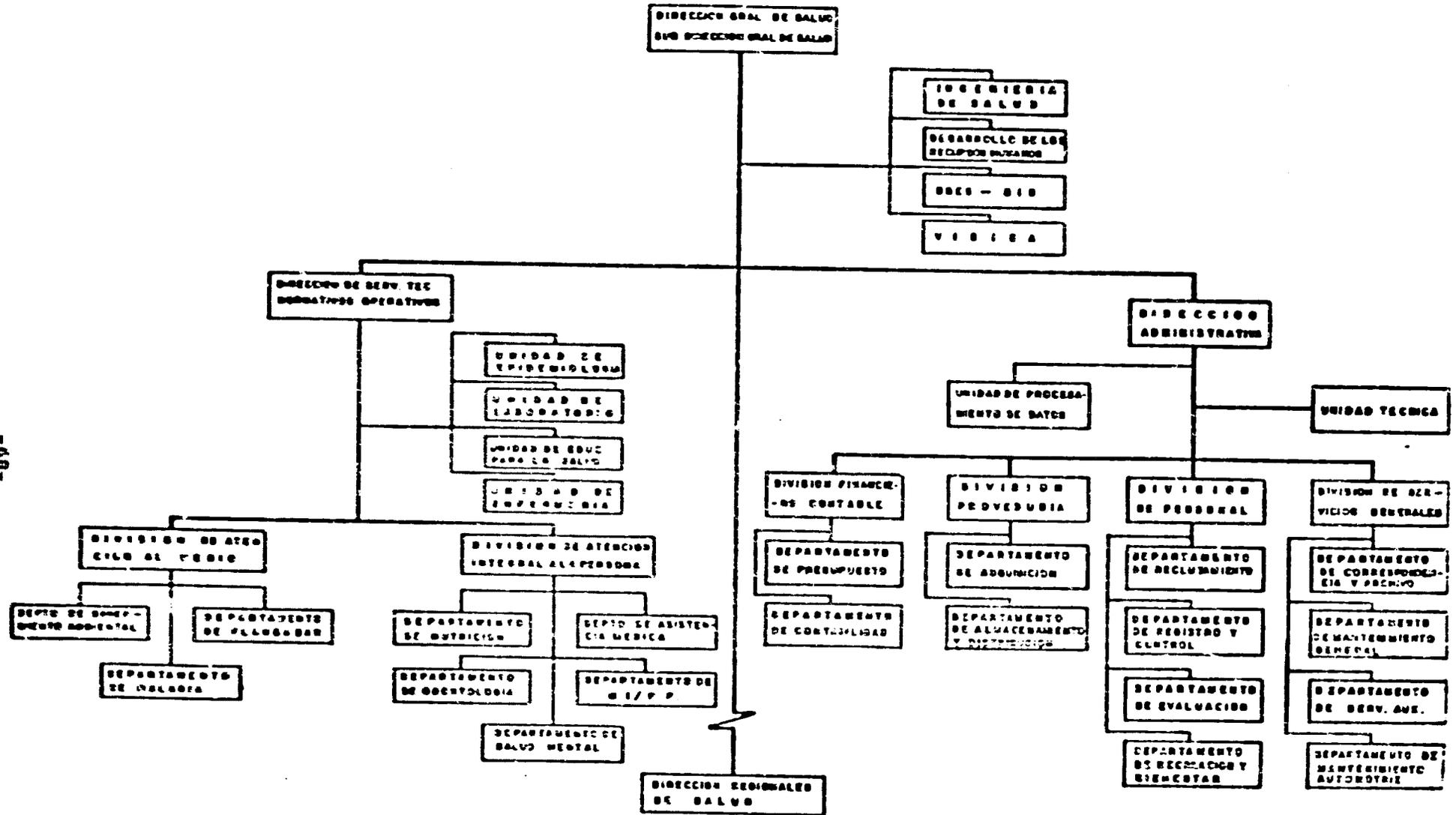
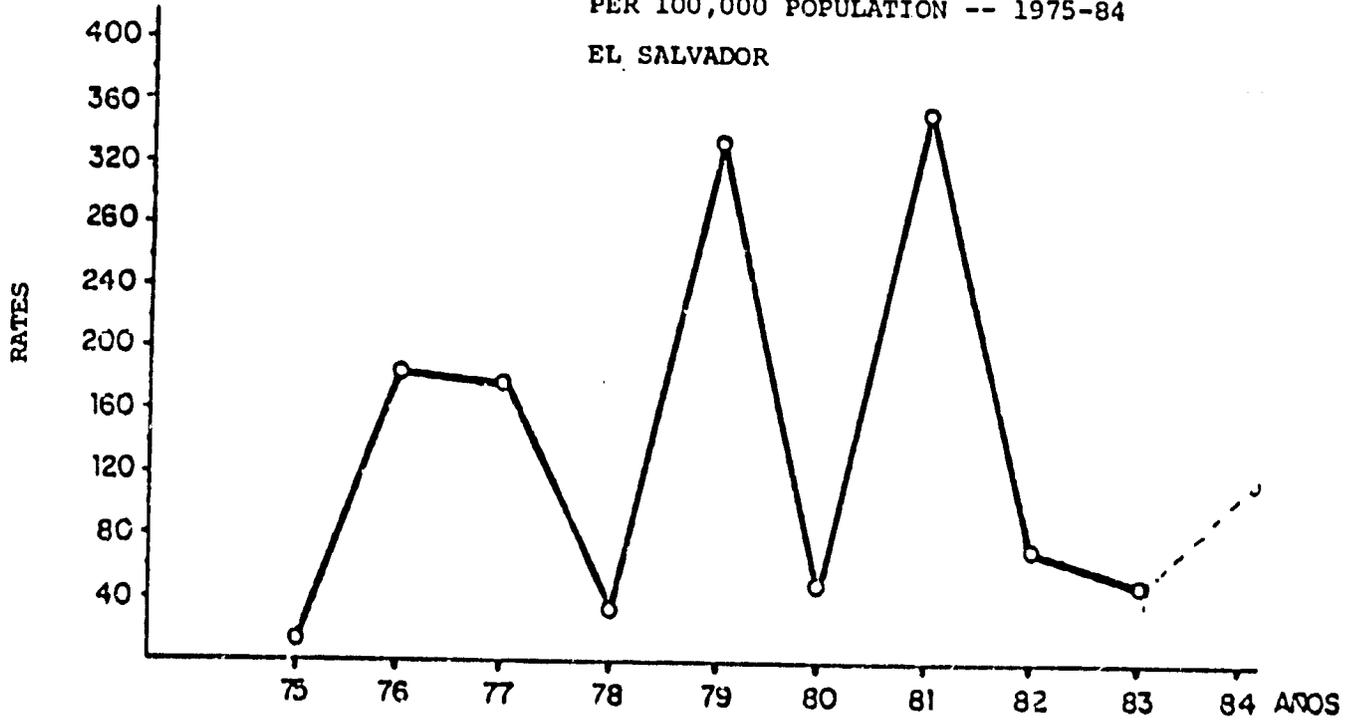


FIGURE III

CASES OF MEASLES
PER 100,000 POPULATION -- 1975-84
EL SALVADOR



Source: Epidemiology Division, MSPAS

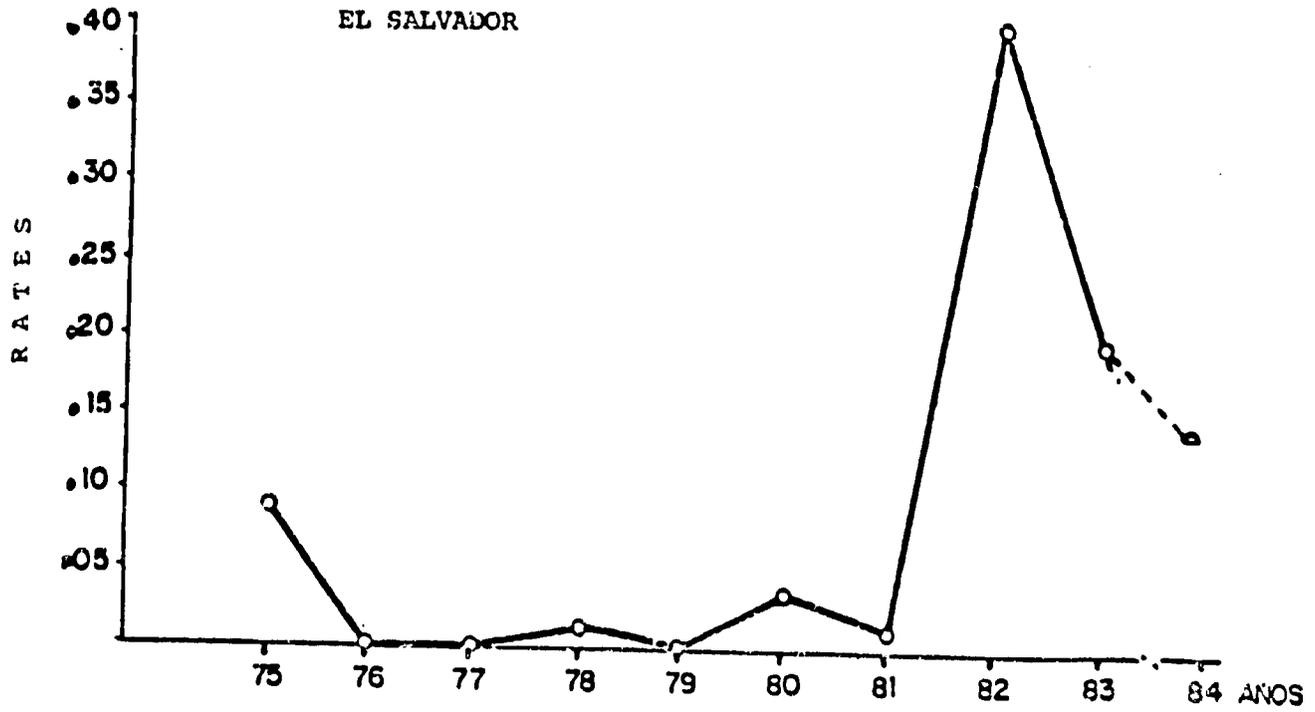
FIGURE IV

CASES OF POLIOMYELITIS
PER 100,000 POPULATION -- 1975-84
EL SALVADOR



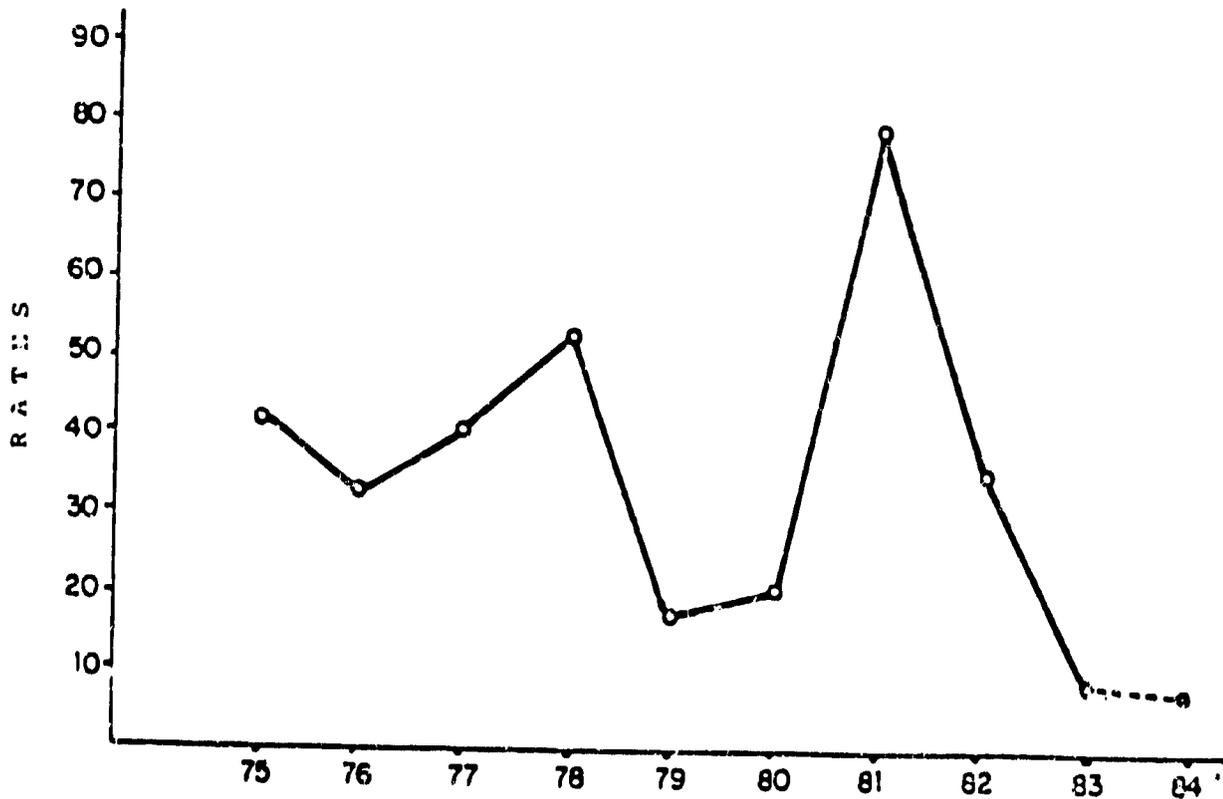
CASES OF DIPHTHERIA
PER 100,000 POPULATION -- 1975-84

EL SALVADOR



Source: Epidemiology Division, MSPAS

FIGURE VI
CASES OF PERTUSIS (WHOOPING COUGH)
PER 100,000 POPULATION -- 1975-84



Source: Epidemiology Division, MSPAS

FIGURE VII

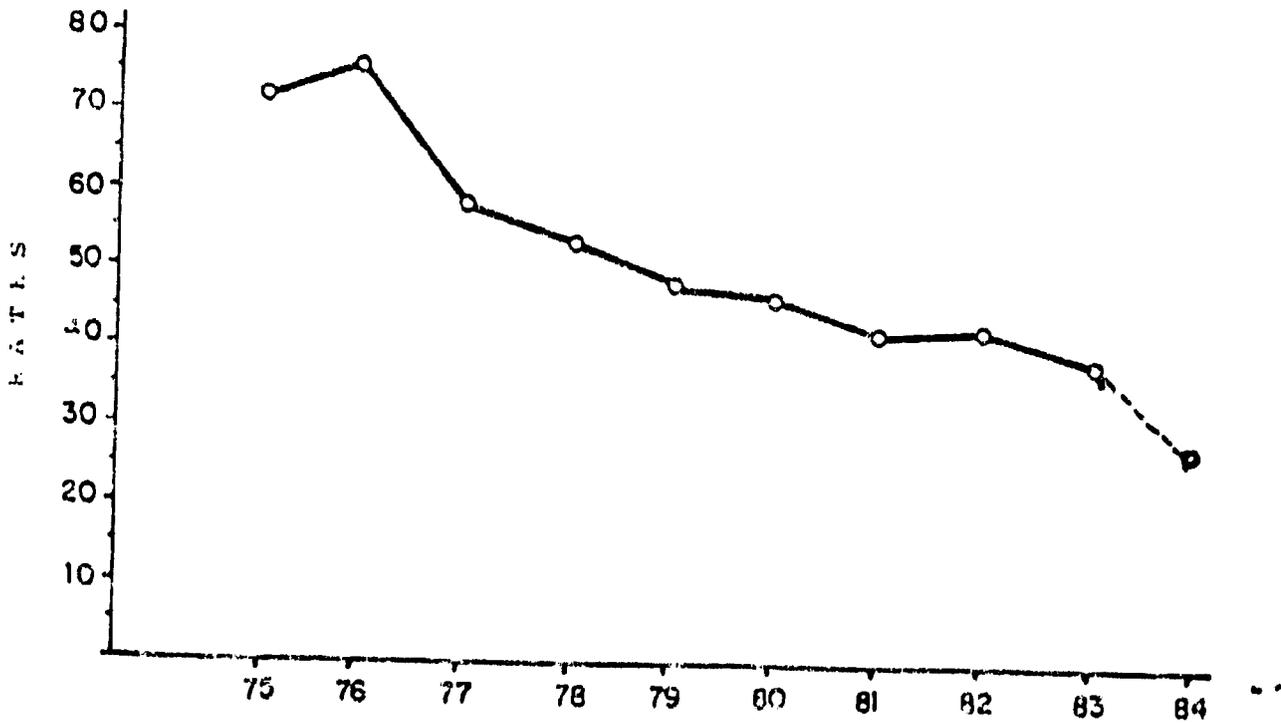
CASES OF NEONATAL TETANUS
PER 100,000 POPULATION -- 1975-84



Source: Epidemiology Division, MSPAS

FIGURE VIII

CASES OF TUBERCULOSIS
PER 100,000 POPULATION -- 1975-84



Source: Epidemiology Division, MSPAS

EL SALVADOR
HEALTH SYSTEMS VITALIZATION
EVALUATION

August, 1985

Part III
Pharmaceutical Consultant's Report
AIDA LEROY, Pharm.D.

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I. INTRODUCTION

Since 1978, El Salvador's health status as a whole has progressively deteriorated. Violence, a declining economic situation, diminished government budgetary resources, and an increasing displaced persons population have contributed substantially to this deterioration. The Ministry of Public Health and Social Assistance (MSPAS) has been experiencing severe shortages of drugs and medical supplies. The Ministry, which provides health care for approximately 85% of the population, has found it increasingly difficult to meet its mandate to maintain the health of the population. In 1983, the MSPAS sought AID assistance in meeting the most critical short-term health needs of the country. In response to this request, AID developed the Health Systems Vitalization Project (VISISA).

The overall objective of the Health Systems Vitalization Project in El Salvador was "to assist the Ministry of Health to (1) increase existing levels of primary health care and emergency medical services by meeting the critical short-term needs of the Ministry for essential goods and services; and (2) vitalize the institutional capacity of the Ministry to more effectively execute their existing systems in health supplies management, maintenance, and information management." A loan of over 23 million dollars and a grant of 1.6 million dollars were made available to the Government of El Salvador to help in financing foreign exchange and local currency costs for the project.

II. PURPOSE OF CONSULTANCY

The purpose of this assignment was to evaluate the current status of the Salvadoran pharmaceutical logistics system, assess changes since the beginning of the Health Systems Vitalization Project, determine the relationship of project inputs (purchase of pharmaceuticals, technical assistance) to such changes, and make recommendations for the focus of remaining efforts and any potential future efforts.

Specific objectives for this consultant were to:

1. Assess the MOH basic drug list as it relates to prevalent morbidities and the WHO Essential Drug List.
2. Assess the impact of donations to and purchases by or for the MOH from all sources of pharmaceuticals in El Salvador since project inception.
3. Analyze the present decision-making process regarding the selection of pharmaceuticals to be procured and how much to procure. This analysis included assessing the relationship of procurement decisions to current usage (satisfied demand) and unsatisfied demand for such goods at service points.
4. Determine the average time required for delivery of pharmaceuticals to the country once a decision to procure has been made.

5. Review consumption of pharmaceuticals and requests to destroy such items (representing losses, usually due to passing of expiration date).

III. CONSULTANT ACTIVITIES

A variety of activities were carried out to perform this assignment. A combination of direct interviews, on-site inspections, analysis of documents, review of Delphi questionnaire results, and use of on-site surveyor interviews for a pilot group of health facilities was utilized. (See Table 1)

A. Interviews and On-Site Inspections

The objective of the direct interviews and on-site inspections was to obtain first-hand information regarding the MSPAS pharmaceutical supply system. Specifically, information was obtained on the existing supply system, its problems as perceived by the MSPAS personnel, and strategies to improve the system. On-site inspections of the central MSPAS offices, warehouses, hospitals, health centers, and health units provided this consultant with subjective impressions regarding the status of the pharmaceutical supply system, prevalent morbidities, level of training of health care workers, availability of drugs of choice, and utilization characteristics. In all cases, MSPAS personnel interviewed (see Appendix A for list of persons interviewed) were open, cooperative and dedicated. Their cooperation greatly facilitated the flow of information requested.

B. Document Analysis

The objective of the analysis of documents was to obtain aggregate information to supplement interviews and on-site inspection information. These documents dealt primarily with morbidity and mortality statistics from the health regions, various editions of the Ministry's basic drug lists, procurement award records, procurement regulations, inventory reports by the Health Monitors from their activities at the central and regional warehouses, and various AID background reports. Many of these documents were reviewed prior to interviews and inspections when possible. Others were obtained during the interviews. The analysis of these documents together with the interviews and visits provided the basic framework for subsequent comments and recommendations concerning the pharmaceutical supply system.

C. Review of Delphi Questionnaire Results

The purpose of the Delphi questionnaire was to obtain rankings on a scale of 0-3, by health facility and health workers, regarding use and importance of drugs listed on the 1978 edition of the MSPAS - basic drug list (Cuadro Básico). The objective of this consultant's review of the questionnaire results was to identify those products whose mean score was 2.0 and greater in either use or importance and make suggestions for the format of a second round of rankings. The results of the second Delphi round will permit the MSPAS to compare the perceptions of in-the-field health workers about essential drugs with the WHO Essential Drug List, prevalent morbidities, and the proposed updated Cuadro Básico.

D. Health Facility Surveys

The objective of the field survey of health facilities was to obtain objective and subjective information regarding health facility activities and their relationship to availability and use of pharmaceuticals. A surveyor-administered questionnaire and data collection instrument was developed by Kraus and LeRoy by modifying the questionnaire previously used by Klassen and Dabbs to focus on specific morbidity, patient load, and treatment issues affecting pharmaceutical utilization (See Appendix/B).

The health facilities surveyed were not randomly selected. They were chosen to serve as a pilot group that will be included in a future survey of a census of health facilities. The pilot group does include hospitals, centros de salud, unidades de salud, and puestos de salud in all five regions (See Appendix C). The persons to be interviewed, or from whom information was obtained, were facility directors, enfermera jefes, bodega or pharmacy supervisors, and statistics personnel.

The questions asked on the questionnaire can be grouped by subject as follows:

1. General health facility information regarding facility hours, volume of patients, type and number of personnel, unanticipated closures of the facility, etc.
2. Morbidity information (types and numbers of cases).
3. General treatment patterns for prevalent morbidities.
4. Opinions regarding availability of pharmaceuticals.
5. Review of Kardex or other records to obtain monthly movement statistics for the eight study drugs.

The study drugs were selected because they are frequently used and of high importance for the prevalent morbidities (See Appendix D). Six of the drugs were purchased with VISISA funds and two products were not. By comparing the sources and relative availability of drugs, it may be possible to measure the impact of VISISA products.

IV. DESCRIPTION OF CURRENT SYSTEM

The results obtained from the activities previously described are presented in terms of a detailed description of the current pharmaceutical supply system in El Salvador. Insights and observations were obtained in every case through a synthesis of information collected from various sources during this consultancy. In most cases, validation of impressions was contingent upon obtaining confirmation from various sources. This approach minimizes the error introduced through subjective interview techniques employed in potentially non-representative samples.

A. Drug Selection: Essential Drug Formulary (Cuadro Básico)

The procurement of pharmaceuticals is dependent on the selection of what to buy and how much. The World Health Organization has promoted the development of a formulary of essential drugs to be used as the basis for pharmaceutical procurement and use in public health systems.

The Government of El Salvador's Ministry of Health has been utilizing a drug formulary (Cuadro Básico) that was developed in 1978, as the basis of procurement, warehousing, distribution, and prescribing decisions. This list includes over 800 products, many of which are obsolete, duplicative, irrational combinations of drugs, or have a low benefit-to-risk ratio.

Although there is no official unit or division responsible for the development and maintenance of a formulary of essential drugs, the head of the Division of Asistencia Médica (Dr. Vitelio Rodriguez) has developed a draft update of the Cuadro Básico in 1984. This Cuadro Básico has not yet been officialized. The 1984 Cuadro Básico contains about 360 generic entities or 560 different pharmaceutical presentations. This number of products is still greater than the ideal for a formulary of essential drugs. It contains a number of non-essential products that could be considered for elimination. (See Table 2). Although there is opportunity for refinement, in general, this Cuadro Básico was rationally developed.

The 1984 Cuadro Básico has been reviewed by a number of prominent medical specialists on behalf of their specialty's professional society. These specialists reviewed lists of products related to their specialties and based on their experience recommended additions or deletions to the lists. The comments from these groups still need to be critically evaluated.

AID/El Salvador has contributed to the refinement of the drug selection process, by the efforts of Dr. John Massey, who instituted an innovative approach for obtaining in-the-field input regarding perceptions of a pharmaceutical's use and importance. A Delphi process was initiated to evaluate the 1978 edition of the Cuadro Básico. A questionnaire was distributed to 120 health facility directors, physicians, nurses, and/or others. Each respondent was asked to rank each product on a scale of 0-3 in terms of frequency of use and importance. The means, standard deviations and variances were calculated for each product for all facilities and by health facility type. Additional lists, by facility type, were compiled of all products that received a mean rank of 2 or greater in either frequency of use or importance and were distributed for a second round of rankings.

To fully exploit the value of this Delphi process it may be useful for those products that consistently maintain a ranking of two or greater to be compared with the proposed 1984 Cuadro Básico, the WHO Essential Drug List, the MSPAS statistics on prevalent morbidities, and this consultant's therapeutic criteria for essential drugs. Where there is agreement among each of the sources on appropriateness of the selection of a given product, this should provide strong support for the inclusion of that product on the formulary of essential drugs.

The updated 1984 edition of the Cuadro Básico has not yet assigned priority and level of use indicators to each pharmaceutical product. Prior editions of the MSPAS Cuadro Básico have included these elements and there are plans to assign priority and level of use indicators to each product. These assignments, if carefully applied, will allow for the rational allocation of limited funding to high priority drugs with greatest utility at the primary health care level.

The current process for determining the quantity of drugs to be procured is being performed by procurement personnel based on previous year's statistics on movement of drugs within the health care system and budgetary limitations. The decision of how much of a pharmaceutical product to procure is a critical component of the procurement and distribution processes and dependent on the selection of essential drugs. The quantity of each drug to be procured must be based on number of cases of morbidities to be treated and alternative drugs available. Inaccurate estimates of how much to procure have led to shortages of essential drugs and overstocking (and waste) of other products in the health system. Additionally, the inability to identify adequate quantities of pharmaceuticals to be allocated to each health facility contributes to the maldistribution of pharmaceuticals from the central warehouse.

Currently, there is no attempt to correlate types and numbers of morbidities treated with need for pharmaceuticals. As mentioned previously, estimates of need for pharmaceuticals are supplied by each hospital and health region, using the 1978 edition of the Cuadro Básico, based on the previous year's consumption statistics. Consumption patterns are influenced, however, by availability of pharmaceuticals rather than real need. The absence of appropriate pharmaceuticals in adequate quantities leads to the under-treatment of diseases and the attendant secondary therapeutic ramifications.

In summary, therefore, an official division or unit within the Ministry of Health should be formed to assume the technical/therapeutic responsibility for the selection of essential drugs, the assignment of priority status, the morbidity-based estimation of quantities of drugs needed at each health facility, and the monitoring of drug use. This commitment by the MOH to a technical and therapeutic basis for the pharmaceutical logistics process is essential to the safe and effective use of pharmaceuticals in El Salvador.

B. Procurement Process

The procurement process begins in June of each year with the distribution of the 1978 Cuadro Básico to hospitals and health region directors. The regions prepare their requests of products and quantities needed for the year (June to June) by consolidating requests from all the health facilities in the region. Hospitals prepare their own requests. These requests are based on the previous years' information on movement of drugs. Unsatisfied demand is not taken into account. These requests are scheduled to be returned by August, although many are not returned until September. The procurement office consolidates the requests and calculates total quantities and costs. This total cost must be adjusted to fit within the available budget.

This past year, upon recommendation by the VISISA project, a procurement committee was formed consisting of the Director General, the head of procurement, the chief of Medical Assistance, the chief of the Operations, and the Sub Director. This Committee recommends which products can be cut back or eliminated. In principle, products of lesser importance or those that can be obtained locally are those that are eliminated. The Minister of Health approves the program for purchase.

After the Minister's approval, the procurement office prepares the requests for bid. The "Ley de Proveduria de Salud" de Abril 1992 governs the procurement process. See Appendix E for the Condiciones Generales del Concurso (General Provisions for bids). Noteworthy provisions are: the requirement IV-7 regarding shelf-life; Provisions VI-b) and VI-c) providing guarantees related to compliance with contract terms and product quality, and options afforded to the Adjudication Committee; Provision XVIII requiring quality control analysis to be paid for by supplier and penalties for poor quality; and Provision XIX establishing penalties for lack of compliance. In my opinion the general provisions for bids are progressive and if enforced, adequately protect the government of El Salvador.

The requests for bids are published in the newspapers. This bidding period is generally 45 days. After bids are received they are opened and the bidding data is transferred to a master bid analysis sheet. This process takes a minimum of 30 days. The bid analysis sheets are reviewed by the Adjudication committee, consisting of the Chief of Procurement, the Directors of various Ministry of Health programs, one or two pharmacists, two physicians, and ad hoc specialists. This committee requires up to fifteen days to adjudicate all bids for a particular procurement cycle.

The criteria for selecting successful bidders are:

1. Preference for products produced nationally or in Central America.
2. Lowest price.
3. Only bidder.
4. Better or acceptable quality.
5. Better suited for specific needs or institution.
6. Better adapted to the bid specifications.
7. Good clinical and administrative experience.
8. Good experience with previous supplies.
9. Better terms of delivery.
10. More convenient forms of payment.
11. Others.

After the Adjudication Committee selects the successful bidders they pass a resolution recommending that contracts be negotiated with these bidders. The resolution is distributed to interested parties and after 15 days the Contracting process begins. This process may take between fifteen days and four months to develop the contracts. The extreme variability in time required to develop these contracts appears to be related to the manpower capacity of the legal department. The "Corte de Cuantaa" must certify each contract. Product delivery times range up to twelve months after the contract signing date.

Inconsistent requirements for handling of shipping documents have resulted in significant delays in retrieval or loss of pharmaceutical products. Shipping documents have been sent either to the bank, the Minister of Health, the contracting office, or the procurement office. This lack of coordination results in significant delays in retrieving shipments from customs while trying to locate the necessary documents.

A requirement of the "Corte de Cuentas" is that after shipments are received and withdrawn from customs they must be taken to the central warehouse and each individual unit of the product must be inspected and counted. If several large shipments arrive at the same time, shipments may not be entered into stock for several days to weeks. This situation occurred early this year with shipments arriving from AID/VISISA purchases and from Colombian-financed purchases. In the absence of the recorded receipt of a pharmaceutical delivery into the stock, these products are not available for distribution and use within the health care system.

There are no systematic procedures for order tracking. There are two employees in the Procurement Department that are responsible for order tracking. Presently, this tracking is done on an ad hoc basis when the delay of an order comes to the attention of the procurement office. Routine tracking of orders would identify potential delays early in the procurement process and allow for more rapid resolution of problems.

The overall MSPAS procurement cycle can be shortened through automation and systematic tracking procedures.

C. Warehousing

The Ministry of Health's central warehouse is in a deteriorated facility. It is divided into eight small storage depots. Each depot is staffed with a warehouse manager, a recordkeeper, and a stevedore. These individuals follow varying procedures for organizing and operating their depots. Some depots had no logical placement of products, no clear identification of product location, the Kardexes were not up-to-date, and discrepancies were noted.

Several large shipments of drugs were either deteriorated, expired, or lacking adequate labeling. These items were taking up considerable warehouse space. There was no clear policy for disposition of these items.

The filling of orders begins with a review by the chief of the warehouse who evaluates the quantities requested and authorizes the quantities of drugs to be distributed. This evaluation is based on existing stocks and a Master Distribution List. The concept of a master distribution list or system of allocation of pharmaceuticals based on morbidity and number of patients treated is an important tool for managing the distribution of pharmaceuticals. The warehouse's master list, however, is based on budgetary considerations and prior year's consumption experience. Therefore, deficiencies and overstocking of drugs occurs frequently. On-site visits to hospitals and health centers revealed deficiencies of needed drugs and excessive allocations of seldomly used drugs.

There has been no training of warehouse personnel in stock management, inventory control, recordkeeping, and order filling. Minimum re-order points are not established for each product. Hence, dwindling stocks are depleted without any action.

A prevalent practice contributing to the irrational management of pharmaceuticals regarding ordering of drugs is characterized by a comment by a MSPAS official, "they ask for ten in order to get two when they really need one." This practice results in inflated requests, and either stockpiling of drugs in some facilities (leading to expired drugs) and artificial depletion at the central warehouse or arbitrary reductions in quantities of drugs distributed from the central warehouse and shortages of drugs at the health facility level.

Donated drugs pose a problem to the Ministry of Health for several reasons. First of all the drugs that are donated are often not used for the prevalent diseases encountered. Health workers are not familiar with their use characteristics and adverse effects. Secondly, these products are shipped with relatively short shelf lives. They reach their expiration dates before being distributed. The principal outcome of these characteristics is that the drugs are not used and thus remain in storage areas taking up much needed space. A more subtle outcome is that if a non-essential donated drug is used, the public health workers will become accustomed to using that drug. Ideally, all donations should be coordinated centrally to maximize the benefit of the donation to be public health needs.

In conclusion, to maintain the optimal effectiveness of pharmaceuticals, they must be systematically stored in a manner that provides appropriate environmental (temperature and humidity) conditions and allows for easy retrievability. Warehouse workers should be formally trained in stock management, recordkeeping, and specific requirements related to the handling of pharmaceutical products. A master distribution system based on therapeutic considerations should be implemented. Donated drugs should be centrally coordinated and closely interfaced with the system for therapeutic allocation of pharmaceuticals. Together, these efforts will result in a more efficient and effective pharmaceutical supply system in El Salvador.

D. Distribution Process

Rational selection of drugs, realistic estimates of quantities of drugs needed, efficient procurement, adequate warehousing and accurate inventory control are important components of the pharmaceutical logistics chain, but if the drugs do not reach the patient who needs the drug then the system has failed.

In El Salvador, there are several levels of distribution--from the central warehouse to the health facility or storage depot, from the storage depot to the pharmacy, and from the pharmacy to the patient. Distribution from the central and regional level to the pharmacy is dependent on transport. Lack of transportation is a major problem in El Salvador, as it is in other developing countries. However, the current civil strife further impedes the routine transport of drugs to rural health facilities.

Access to pharmaceutical orders in urban areas appears to be adequate as a result of use of routine deliveries or use of health facility personnel in retrieval of orders. The more remote areas of the country, however, were experiencing more sporadic access to pharmaceutical shipments.

The most feasible method for improving the distribution of pharmaceuticals from the central warehouse to the health facilities needs to be carefully analyzed. In some developing countries, it has been suggested that private distribution firms be contracted to distribute Ministry of Health pharmaceuticals. Pharmaceuticals for the private sector pharmacies seem to reach remote areas, and certain foods, beverages, and sundries reach outlets in the most remote rural areas.

The most significant link in the pharmaceutical distribution chain is that of getting the drug dispensed from the pharmacy to the patient. The dispensing process was observed in two unidades de salud and one centro de salud. In each case, the chief of the pharmacy was a technical secretary with no formal training in pharmacy. These individuals had to make decisions regarding which prescriptions and how much to dispense. For example, in observing several patients' prescriptions being filled, usually, one or two were filled completely, one was not filled due to lack of the drug, and the fourth was partially filled. Unfortunately, this decision process was made without regard to therapeutics. Most often, antibiotics were the target of rationing, so that a patient requiring seven to ten days of treatment for an infection would be given three days worth of an antibiotic and be told to return in three days or purchase more himself. Characteristically, as patients begin to feel better, their compliance with treatment diminishes. This added inconvenience of having to return for additional drug usually prevents full treatment. For a drug such as an antibiotic where incomplete treatment can lead to development of resistant bacteria and sequelae of the undertreated bacterial infection, this rationing of antibiotics is counter-productive.

Regarding the physical dispensing of solid dosage forms of pharmaceuticals, this was usually done by counting out the drugs in the dispenser's hands. This practice is not hygienic and should be replaced by using a counting tray and spatula. Traditionally, U.S. manufacturers provide pharmacies in the U.S. with complimentary counting trays and spatulas. It would be worthwhile to attempt to secure these items.

The lack of trained pharmacy workers dispensing pharmaceuticals increases the risk of dispensing errors and impedes the ability of the worker to provide patients with adequate instructions on how to take their medication, possible drug and disease interactions, and other considerations for effective therapy. Furthermore, there were deficiencies noted in prescription labeling. Instructions for use were incomplete and not securely affixed to the medication containers.

The end-point distribution of pharmaceuticals to the patient is the distribution point of ultimate significance in a health care system. Pharmaceuticals must reach the patient and be taken properly for a pharmaceutical supply system to be a success.

E. Pharmaceutical Availability

The availability of pharmaceuticals throughout the system was variable in terms of types of products and quantity. However, in each of the health facilities visited in the San Salvador area (two hospitals, one centro de salud, two unidades de salud) adequate quantities of AID/VISISA drugs were evident. The central warehouse had received nearly 80% of the AID-financed products. Of 50 products selected for inspection, 44 (88%) showed movement out of the central warehouse to hospitals and regions. Stocks of four products were totally depleted at the central warehouse, although large stocks of these products were available at several hospitals.

The VISISA products were in good condition in contrast to the recent arrival of drugs purchased from Colombia. The Colombian products were of poor quality, damaged in transit, and lacking adequate labeling. For example, when vials of penicillin powder were reconstituted, they formed a hard, undissolved precipitate at the bottom of the vial, a clear yellow liquid above it, and a foamy layer on top. One product did not list any information on the ingredients or strength. Many boxes arrived damaged.

In terms of time to procure the AID-financed products, the majority of products (52%) arrived within 120 days of the PIOC date. An additional 22% arrived within 210 d, and 26% has not arrived as of May 15th. This remaining 26%, however, had a PIOC date of February 22, 1985, thus as of May 15th, was still within 90 days of the PIOC.

In contrast, the Ministry of Health's pharmaceutical procurements take up to seven and a half months to call for bids, adjudicate bids and award contracts. Then up to twelve months may pass by before the product is delivered. The average procurement process takes eighteen months. This time measurement does not include the 60-90 days associated with obtaining estimates of need from hospitals and regions.

Although, the VISISA procurements have proceeded expeditiously, there had been delays associated with the Ministry's identifying the products to be procured and the quantities. At one point, AID had received several lists of drugs to be procured. The Ministry of Health leadership changed, and thus the selection process lacked organization. With assistance from the VISISA project, a Procurement Committee was formed to decide on the list of drugs to be procured and quantities. In October of 1984 a consensus was reached and a formal request was presented to AID. By the end of October 1984 a PIOC was issued.

With respect to the emergency pharmaceutical procurement in 1983, the PIOC was issued November 28, 1983 and shipments arrived beginning in March of 1984. Similarly, these procurements averaged 120 days from PIOC to arrival in country. The products procured were primarily anesthetics and adjuncts to anesthesia.

The VISISA products usually entered into the Central Warehouse within days of arrival in country. This is in spite of the GOES requirement that each individual unit of drug be inspected and counted.

The types of drugs purchased are generally those necessary to treat the prevalent morbidities in the MSPAS health system. The adequacy of quantities of drugs purchased is difficult to assess without information on the number of cases to be treated. There were two examples of the purchase of excessive quantities of drugs. In one case, 18,000 vials of insulin was purchased, supposedly in response to an extreme shortage of insulin. However, the actual demand for insulin has not been sufficient to move the product quickly enough to beat the expiration date. When this fact was brought to the attention of the Ministry they did mobilize to distribute the insulin. In the second case, 180,000 vials of streptomycin were purchased. It entered the Central Warehouse in March 1985 and has had no movement whatsoever. The demand for this product is limited to treatment of tuberculosis at the TB Hospital and additionally is now considered second-line treatment. These examples serve to underscore the need for an accurate assessment of actual demand for pharmaceuticals.

Pharmaceutical availability is dependent upon supply as well as demand. Demand is a function of number of patients and the prescribing practices of the health provider. An in-depth analysis of prescribing practices was not feasible during this evaluation; however, from limited observations, a considerable amount of overprescribing is common. This is evident by the three to four prescriptions generated with each patient/health provider encounter. Patients treated for common cold symptoms were being prescribed an antibiotic (questionable efficacy and partially filled), an expectorant (questionable efficacy), a decongestant (symptomatic treatment), and an analgesic (symptomatic treatment). Patients with diarrhea are routinely prescribed oral rehydration salts (only 1-2 packets), an analgesic (symptomatic treatment), kaolin and pectin with or without an antibiotic (ineffective).

These examples of prescribing, if constant throughout the system, describe a situation that will be aggravated by increased availability of drugs. However, this is a complicated situation with underutilization of potentially curative or sustaining drugs, overutilization evident by multiple, symptomatic treatment, and inappropriate utilization characterized by giving drugs when none are needed, giving the wrong drug, and wrong combinations of drugs. In simple terms there should be "more of less"--sufficient quantities of essential drugs--and continuous training of prescribers in rational drug therapy.

V. SUMMARY LIST OF RECOMMENDATIONS

The following is a summarized list of recommendations by major topic. A detailed discussion of recommendations is presented in the next section.

Drug Selection

1. Create a Pharmacy and Therapeutics Unit within the Ministry of Health and grant this Unit sufficient status and power to act on all pharmaceutical/therapeutics issues.
2. Revise the Cuadro Básico using Delphi results, WHO Essential Drug List suggestions, and specialists' recommendations, and officialize this updated edition for 1985-86.
3. Assign level-of-use indicators for each pharmaceutical product contained within the updated Cuadro Básico.
4. Prioritize pharmaceutical products in terms of their relative therapeutic importance to the country.
5. Develop and disseminate therapeutic prescribing information for all drugs available through the public health system.
6. Purchase reference books and relevant periodicals on clinical pharmacology and therapeutics for the Ministry of Health's Pharmacy and Therapeutics Unit.

Procurement

1. Use the most up-to-date formulary of essential drugs available to select drugs for procurement
2. Implement an automated system to determine the quantities of drugs to be procured based on morbidities of the population served, quantities required for each anticipated treatment course, and the estimated number of patients requiring treatment.
3. Develop a procedure for measuring unsatisfied demand.
4. Enforce consistently and uniformly provisions regarding contract compliance.
5. Develop systematic order tracking procedures.
6. Develop a sampling procedure to inspect shipments received.

Warehousing

1. Develop a systematic plan for placement of pharmaceutical products in the central and regional warehouses.

2. Develop policy for disposal of deteriorated or expired drugs.
3. Develop an inventory control system that is easily updated daily.
4. Base the "Master Distribution List" on factors such as type of facility, types of morbidities treated, number of patients treated, and numbers of prescriptions.
5. Develop a list of pharmaceuticals acceptable for substitution when drugs of choice are out of stock or backordered.
6. Develop a drug product locator system to identify and redirect stockpiled items or drugs which are approaching their expiration date.

Distribution/Dispensing

1. Develop and conduct training programs for individuals in charge of warehouses, storage depots and pharmacies.
2. Develop therapeutic guidelines on minimum and maximum quantities to be dispensed.
3. Develop ordering policies for warehouses and depots requiring strict adherence to actual quantities needed of pharmaceuticals.
4. Establish hygienic dispensing policies and secure counting trays.
5. Develop a mechanism for affixing prescription labels more securely.
6. Investigate feasibility of contracting for distribution of pharmaceuticals to private commodity distribution companies.

Pharmaceutical Availability

1. Develop procedures to collect and analyze data on pharmaceutical prescribing/use characteristics and morbidity patterns.
2. Develop educational campaigns directed to patients and prescribers and geared toward modifying inappropriate prescribing/use patterns.
3. Centralize and coordinate the receipt of pharmaceutical donations at the MSPAS Pharmacy and Therapeutics Unit level.

VI. DESCRIPTION OF RECOMMENDATIONS

A. Drug Selection

Recommendation #1: Create a Pharmacy and Therapeutics Unit within the Ministry of Health and grant this committee sufficient status and power to act on all pharmaceutical/therapeutics issues.

Condition/Problem: The Ministry of Health has not demonstrated a sufficient level of commitment to rationalizing the use of pharmaceuticals within the public health program.

Observation: The proper management of pharmaceutical supplies demands procedures and safeguards to assure rational use. Specifically, there should exist technical/therapeutic involvement in every aspect of management--beginning with the selection of drugs that will treat the prevalent morbidities, including the determination of quantities realistically needed to treat the prevalent morbidities, and ending with the development and monitoring of treatment norms and compliance. Likewise, appropriate "level of use" and priority designations need to be identified for each pharmaceutical product. At present these activities have not been clearly made the responsibility of any single unit with sufficient expertise to carry them out.

Action Recommendation: Create a Pharmacy and Therapeutics Unit within the Ministry of Health responsible for the development of an essential drug list, determination of quantities to be purchased, designation of level of use indicators, development of treatment norms, performance of ongoing research on drug utilization, and development and dissemination of unbiased prescribing information. This unit should be vested with sufficient status and power to act to allow it to function as the principal authority on pharmaceutical issues. This Unit should be headed by a well-respected physician, specially trained in clinical pharmacology and with experience in the public health system.

Anticipated Benefit: The management of pharmaceutical supplies will be approached rationally. The drugs selected and quantities purchased will be more in line with reality. Warehousing and distribution procedures will be more efficient and work in concert with the objectives of appropriate drug therapy.

Recommendation #2: Revise the Cuadro Básico using Delphi results, WHO Essential Drug List suggestions, and specialists' recommendations, and officialize this updated edition for 1985-86.

Condition/Problem: The list of essential drugs or Cuadro Básico being used by the MSPAS for procurement, warehousing and distribution decisions is a 1978 edition. This list includes over 800 products. Therefore it is neither current, nor a list of essential drugs. A revision of the Cuadro Básico was performed in 1984 but has not been sufficiently refined and officialized.

Observation: The 1984 revision of the Cuadro Básico has reduced the number of products by over 30%. This Cuadro Básico has also been reviewed by specialists. The Delphi process that is currently being performed will provide in-the-field opinions on the use and importance of pharmaceutical products. While this procedure should not be used as the sole basis for identifying the national list of essential drugs, it is a politically astute method for obtaining input from the field.

Action Recommendation: A final version of the 1984 Cuadro Básico must be developed and supported by the MSPAS. The National Cuadro Básico must be approved by a high level Formulary Committee comprised of representatives from the MSPAS, pharmacy and medical associations, health region directors, and ad hoc specialists.

This high-level Cuadro Básico Committee should coordinate the revision of the Cuadro Básico, critically evaluate the recommendations from the medical specialists' associations, compare the products receiving a ranking of two or greater from the Delphi process with the 1984 Cuadro Básico, the WHO Essential Drug List, and prevalent morbidities. The resultant Cuadro Básico should receive official MSPAS endorsement and, if necessary, laws or regulations should be promulgated.

Anticipated Benefit: A current, rationally developed list of essential drugs will be standardized for use at all points of the pharmaceutical logistics system. Health workers and medical specialists, will be more accepting of a Cuadro Básico developed with their extensive involvement. Official endorsement and mandate for use of the Cuadro Básico will demonstrate the importance of an essential drug program.

Recommendation #3: Assign level of use indicators for each pharmaceutical product contained within the updated Cuadro Básico.

Condition/Problem: Pharmaceutical products are not currently controlled for distribution because of the degree of training necessary to use these products safely.

Observation: Because of the nature of the diseases they treat, the therapeutic/toxicity ratio, and the need for extensive diagnostic and monitoring facilities, certain pharmaceuticals should not be stocked at facilities staffed by health workers with limited training. Each health facility level should be assigned a list of drugs appropriate to its activities, based on health worker training, diagnostic and monitoring capabilities, and type of morbidity treated..

Action Recommendations: Determine which products should be used at each facility type. Compare with data obtained through the Delphi questionnaire. Assign a level-of-use indicator for each product and mandate adherence to level of use policy.

Anticipated Benefit: As drugs are distributed to health facilities based on their ability to administer and monitor them, risks of therapeutic failure and therapy-induced problems will be minimized. Health facility workers at the lower levels will be more familiar with the products that are available to them and hence use them more effectively.

Recommendation #4: Prioritize pharmaceutical products in terms of their relative therapeutic importance to the country.

Condition/Problem: When financial resources are limited or the Ministry of Health is asked to furnish a list of priority drugs (as for the AID-financed

pharmaceutical procurement) there is no pre-established list of priority products.

Observation: The absence of a prioritized list of pharmaceutical products leads to arbitrary decisions as to which items to procure and in what quantities.

Action Recommendation: Prioritize the Cuadro Básico in terms of first priority--drugs needed to treat morbidities prevalent at primary health care levels; second priority--drugs needed to treat morbidities prevalent at secondary and tertiary health care levels; third priority--drugs needed to treat specialized conditions; and fourth priority--drugs of high cost or limited therapeutic value indicated only for symptomatic relief.

Anticipated Benefit: When limited resources are available, pharmaceutical products of greatest need can be targeted for priority procurement. This rationalization of resources through prioritization will allow for procurement of high priority pharmaceutical products with greatest utility at the primary health care level. Likewise, limited resources will not be wasted on non-essential items.

Recommendation #5: Develop and disseminate therapeutic prescribing information for all drugs available through the public health system.

Condition/Problem: Health workers in the field do not have access to current, complete and unbiased prescribing information.

Observation: Frequently, pharmaceutical products are prescribed and used inappropriately. Although there are many factors affecting the rationality of drug use, an important factor is the inaccessibility of current prescribing information to the prescriber. Of particular importance is information on appropriate indications for use, dosages, contraindications, precautions, adverse effects, and duration of treatment, etc. Each health facility worker responsible for prescribing and dispensing of pharmaceuticals must have access to easy-to-read, current, unbiased prescribing information.

Action Recommendation: Develop prescribing information for each product in the Cuadro Básico. This information should be presented in a tabular, easy-to-read format (see Figures 5 and 6). It should be printed and bound in an easy-to-carry reference booklet and distributed to every health facility worker. Separate booklets for each health facility level can be produced with information pertinent to the drugs available for each level.

Anticipated Benefit: Increased access to current, complete and unbiased drug information will result in improved drug selection, prescribing, dispensing, and utilization.

Recommendation #6: Purchase reference books and relevant periodicals on clinical pharmacology and therapeutics for the Ministry of Health's Pharmacy and Therapeutics Unit.

Condition/Problem: Personnel within the Ministry of Health lacked access to current pharmaceutical reference materials and journals to assist in decision-making regarding pharmaceutical products and for developing prescribing information.

Observation: The task of making rational decisions regarding use and importance of drugs becomes extremely difficult without access to current pharmaceutical information. Relevant journals will provide the most current information regarding drugs while reference books will provide a pharmacologic foundation for decision-making.

Action Recommendation: Purchase reference books and relevant periodicals for the Ministry of Health.

Anticipated Benefit: Improved decision-making regarding pharmaceuticals.

B. Procurement

Recommendation #1: Use the most up-to-date formulary of essential drugs available to select drugs for procurement.

Condition/Problem: Procurement decisions last year were based on the 1978 edition of the "Cuadro Básico". This "Cuadro Básico" includes over 800 pharmaceutical products.

Observation: A current formulary of essential drugs should be the basis for procurement decisions. Drugs not included on the essential drug formulary should not be a component of the standard procurement package. Similarly, the formulary of essential drugs must identify each drug's priority based on importance of the product to the health system. Hence, when limited funds are available, the essential drugs of most importance can be procured.

Action Recommendation: Base procurement decisions on the most current formulary of essential drugs, selecting top priority pharmaceuticals first.

Anticipated Benefits: Procurement efforts will be focused on high priority, essential drugs.

Recommendation #2: Implement an automated system to determine the quantities of drugs to be procured based on morbidities of the population served, quantities required for each anticipated treatment course and the estimated number of patients requiring treatment.

Condition/Problem: Quantities of drugs to be procured is not based on therapeutic considerations of drug requirements.

Observation: Currently, estimates of drug needs are developed based on consolidation of information from the health facilities on movement of drugs during the previous year. Frequently, these estimates are substantial over- or underestimates of true need. Data is available on morbidity frequencies (of the most prevalent diseases) and number of patients treated. Treatment norms can be developed and used to identify quantities of drugs required to

treat the most prevalent morbidities. Combining this information together and applying an automated approach can provide . more therapeutic focus to estimating quantities to be procured.

Action Recommendation: Utilize an automated system to calculate quantities of drugs required to treat prevalent morbidities in the population served, based on average quantities per case treated, number of patients requiring treatment and the corresponding cost.

Anticipated Benefits: Quantities of drugs to be procured will be more in concert with the incidence of diseases in the population served. Additionally, the procurement department will no longer need to spend several weeks to consolidate drug needs from the health facilities and estimate the corresponding costs.

Recommendation #3: Develop a procedure for measuring unsatisfied demand for pharmaceuticals.

Condition/Problem: There is no mechanism for measuring the extent of unmet demand for pharmaceuticals.

Observation: The objective of the public health system is to treat prevalent diseases. The extent of this inability to do so should be known by health officials in order to better plan for procurement and to respond to agencies willing to donate pharmaceuticals.

Action Recommendation: Develop a procedure for the collection of information on unsatisfied demand. For example, a carbon copy of a prescription not filled can be collected or a ledger can be kept by drug indicating the quantity of drug not dispensed. Analyze this information to identify priority drugs not available for use.

Anticipated Benefits: Decisions on quantities of drugs to be procured can be made taking into consideration unsatisfied demand for pharmaceuticals.

Recommendation #4: Enforce consistently and uniformly provisions regarding contract compliance.

Condition/Problem: Evidence of pharmaceutical vendor non-compliance with respect to drug quality was observed.

Observation: Adequate provisions exist to protect the Government of El Salvador in situations of non-compliance by suppliers. In spite of these provisions, it was evident at the Central Warehouse that deteriorated products had been supplied by vendors and no action had been taken by the Government.

Action Recommendation: Enforce contractual provisions regarding supplier performance in terms of product quality, packaging and shipment.

Anticipated Benefits: Reduced wastage of limited financial resources for pharmaceuticals. Replacement of products of inadequate quality or financial remuneration. Deterrent effect on subsequent procurement from suppliers.

Recommendation #5: Develop systematic order tracking procedures.

Condition/Problem: The procurement department does not systematically track orders.

Observation: Although two individuals are assigned to track orders, they perform this function on a problem-specific basis. There is no systematic process to track all orders, identify those that are delayed, and resolve the problem.

Action Recommendation: Develop a system (manual or automated) to systematically track all orders and a procedure to resolve delays.

Anticipated Benefits: More expeditious deliveries of needed pharmaceutical products. Earlier warnings of potential delays.

Recommendation #6: Develop a sampling procedure to inspect shipments received.

Condition/Problem: Whenever a shipment of pharmaceuticals is received, the Central Warehouse has its employees count and inspect each individual package unit.

Observation: This inspection process takes many days to complete, particularly with large or multiple shipments, thus delaying the availability of needed pharmaceuticals. A sampling of shipments for inspection would provide sufficient indication of the quantity and integrity of the shipment more efficiently.

Action Recommendation: Establish inspection procedures that incorporate a statistically valid sampling process to verify the quantity and integrity of products received.

Anticipated Benefits: More efficient introduction of pharmaceutical products into the Central Warehouse stock.

C. Warehousing

Recommendation #1: Develop an organized, logical plan for placement of pharmaceutical products in the central and regional warehouses.

Condition/Problem: Placement of pharmaceuticals within the central warehouse does not follow a logical order. The location of each drug is not well-identified. Generic products with different trade names are not placed together.

Observation: Each storage depot in the central warehouse is organized differently. Some were logically organized while others had no discernible order. Although the experienced depot managers are extremely familiar with their own depots, other depot staff are often not familiar with the organization of the depot. Generic products with different trade names were

not grouped together. For example, generic acetaminophen and Tylenol were placed in separate areas of the depot.

Action Recommendation: Develop standardized warehouse procedures for all workers to follow. All depots within the central warehouse should be logically organized. Generic products should be kept together regardless of trade name. The location of each product should be well-identified with a sign that indicates the generic name and code of the drug.

Anticipated Benefit: The productivity of employees will be enhanced by the standardization of procedures for all depots within the central warehouse. The organized placement of products in each depot and the clear identification of each product will facilitate their retrieval and inventory control.

Recommendation #2: Develop policy for disposal of deteriorated or expired drugs.

Problem/Condition: The central warehouse, as well as storage depots at the regional and local levels are cluttered with deteriorated and expired drugs.

Observation: Because of a lack of a clear policy for the disposal of deteriorated or expired drugs, these products remain in the storage depots for unlimited periods of time. The government audit agency complicates the disposal of these products because of their strict requirements regarding the accounting of commodities. Therefore, much needed space is wasted by being occupied with unusable pharmaceuticals.

Action Recommendation: Assign responsibility for the disposal of deteriorated or expired products to the Central Warehouse manager. Develop efficient procedures for the identification, accounting, and disposal of these products at all health facility levels.

Anticipated Benefit: Improved space management.

Recommendation #3: Develop an inventory control system that is easily updated daily.

Problem/Condition: At all health facility levels, the Kardex or inventory control system is not maintained routinely.

Observation: Movement of pharmaceuticals into and out of each storage depot and pharmacy is kept track of on a loose sheet of paper, by aggregating prescriptions dispensed and by counting quantities of drugs from shipping/delivery receipts. This information is then transferred to a kardex when time permits. Therefore, the kardexes are not current.

Action Recommendation: A system or procedure for maintaining the kardex or other inventory control method must be developed. This system must be easy to maintain and kept current. Duplication of effort should be minimized. If a computerized system is employed at the central and/or regional warehouses, it is important that correct, up-to-date information be input into the system.

Anticipated Benefits: The up-to-date knowledge of actual stock levels will facilitate ordering and management of stock.

Recommendation #4: Base the "Master Distribution List" on factors such as type of facility, types of morbidities treated, number of patients treated, and numbers of prescriptions.

Problem/Condition: A master distribution list is developed each year identifying the maximum annual quantities allotted to each health facility. This list is frequently inconsistent with actual needs. For example, the maternity hospital was allotted a large quantity of an antitubercular drug, while being allotted a small quantity of a frequently used antibiotic used for postpartum infections.

Action Recommendation: Develop the master distribution list on a technical basis by calculating number of patients to be treated, type of facility, types of morbidities treated, norms of treatment, etc.

Anticipated Benefits: The types and quantities of drugs allocated to each health facility will be more consistent with requirements.

Recommendation #5: Assign a pharmacist to analyze and modify drug orders.

Problem/Condition: When stocks of pharmaceuticals are depleted, arbitrary reductions are made in the quantities of drugs shipped to health facilities.

Observation: Decisions to reduce the quantities of drugs shipped to these facilities often result in a lack of critical drugs available for treatment of important illnesses. Additionally, when unneeded drugs are shipped to these facilities the products deteriorate over time and are ultimately unused. The individual charged with the responsibility for making shipment decisions is formally untrained in either pharmacy or medicine.

Action Recommendation: Assign a pharmacist or a person with medical training to review drug shipment requests. This assignment should at least be made at the central and regional warehouse levels. Ideally, drugs dispensed at the hospital and primary health care levels should also be under the supervision of trained personnel.

Anticipated Benefits: Decisions regarding distribution of drugs will be predicated on more rational criteria. Availability of needed drugs will be improved.

Recommendation #6: Develop a drug product locator system to identify and relocate stockpiled items or drugs which are approaching their expiration date.

Problem/Condition: Shortages of a particular pharmaceutical may be experienced at one depot/pharmacy while another depot/pharmacy has excessive quantities of that pharmaceutical. Conversely, an excessive amount of a drug, that is approaching its expiration date, may exist at the central warehouse or some other depot/pharmacy and be completely wasted due to deterioration.

Observation: Pharmaceutical orders may not be filled due to depletion of stock at the central or regional warehouse level, while the pharmaceutical may be stockpiled at a local depot of pharmacy. Certain health facilities significantly over-order products to guard against future unavailability resulting in the over-supply of products at certain pharmacies or depots and the potential for loss due to expiration of these products.

Action Recommendation: Develop a "Critical Drug Locator System" which tracks the inventories of certain critical products at each warehouse, depot or pharmacy. Expiration dates of lots shipped must be monitored by geographic location and health facility. When a product has been identified as being overstocked or reaching its expiration date, then efforts should be made to re-distribute the pharmaceutical to locations able to utilize the product.

Anticipated Benefit: Improved utilization of pharmaceutical products and less wastage.

D. Distribution/Dispensing Process

Recommendation #1: Develop and conduct training programs for individuals in charge of warehouses, depots and pharmacies.

Condition/Problem: Inappropriate dispensing and pharmaceutical stock management decisions are being made by untrained warehouse, depot and pharmacy workers.

Observation: Although pharmaceuticals are commodities and as such have similar requirements as other commodities in terms of stock management, their unique pharmacologic characteristics require specific technical knowledge to appropriately prescribe, dispense, and store them. For example, certain antibiotics if taken improperly will not only fail to cure the infection but will allow for dangerous antibiotic resistance to develop. Other drugs should not be taken concurrently or by patients with certain diseases. Some drugs if stored improperly can lose their potency or form toxic chemicals. Many factors need to be considered in the handling of pharmaceutical products.

Action Recommendation: Assign qualified personnel to manage warehouses, depots, and pharmacies. Consider assigning newly graduated pharmacy students to a year of social service. Develop a training program for warehouse, depot, and pharmacy managers.

Anticipated Benefits: More rational handling of pharmaceutical products. Better efficacy, less toxicity, less waste.

Recommendation #2: Develop therapeutic guidelines on minimum and maximum quantities to be dispensed.

Condition/Problem: Warehouse, depot, and pharmacy personnel, with no medical or pharmacologic training, make decisions regarding the maximum quantities of pharmaceuticals to be distributed.

Observation: This practice often leads to insufficient quantities of curative drugs being dispensed. Many times this practice coincides with the hoarding of these curative drugs. Lack of pharmaceutical knowledge contributes to the arbitrary decisions that are made regarding the distribution of drugs.

Action Recommended: Develop policies that outline guidelines for the distribution of appropriate quantities of pharmaceuticals.

Anticipated Benefits: More effective treatment of illnesses. Less waste of pharmaceuticals.

Recommendation #3: Develop policies requiring strict adherence to "actual quantities needed" when ordering pharmaceuticals from the warehouses and depots.

Condition/Problem: Pharmaceuticals are frequently over-ordered to compensate for reductions in quantities actually sent.

Action Recommendation: Develop clear guidelines for the ordering of appropriate quantities reflecting actual needs.

Anticipated Benefits: More rational distribution of pharmaceuticals to meet actual needs.

Recommendation #4: Establish hygienic dispensing policies and secure counting trays.

Condition/Problem: Solid dosage forms of pharmaceuticals is often done by counting out the drugs in the dispenser's hands, an unhygienic practice which should be discouraged.

Action Recommendation: Obtain counting trays through either purchase or donation for each health facility pharmacy.

Anticipated Benefits: Reduced opportunity for contamination of pharmaceutical products.

Recommendation #5: Develop a mechanism for affixing prescription labels more securely to medications dispensed.

Condition/Problem: Prescription labels are not securely attached to prescription containers, thus instructions for use are easily lost.

Observation: Patient compliance to drug treatment regimens is hindered by unclear or missing instructions.

Action Recommendation: Develop pre-printed prescription labels that can be securely attached to prescription containers.

Anticipated Benefits: Better compliance with therapy and thus increased efficacy of therapy.

Recommendation #6: Investigate feasibility of transferring responsibility (partially or totally) for distribution of pharmaceuticals to private commodity distribution companies.

Condition/Problem: Distribution of pharmaceuticals in El Salvador is hampered by lack of transport vehicles, personnel problems, budgetary constraints, maintenance problems, and difficulty in obtaining spare parts. Thus, pharmaceuticals are sporadically distributed to more remote areas of the country.

Observation: In several developing countries, the possibility of transferring pharmaceutical distribution activities to the private sector is being explored. It has been observed that pharmaceuticals for private sector pharmacies, and certain foods, beverages (soft drinks, beer), and sundries reach retail outlets in the most remote rural areas. Since these activities have business/financial ramifications for these firms, they must be conducted efficiently, reliably, and securely.

Action Recommendation: Conduct a feasibility assessment of the transfer of partial or total responsibility for distribution of pharmaceuticals to private commodity distribution companies. Identify potential distributors. Obtain estimates of costs to distribute and insure pharmaceuticals. Compare with current transportation costs and resources.

Anticipated Benefits: If the distribution of pharmaceuticals could be performed more reliably and efficiently, with safeguards (insurance) at a cost competitive with current MSPAS distribution cost, then needed pharmaceuticals may become more consistently accessible to all health facilities. Additionally, this partnership between the government and the private sector is a progressive step toward making a more socially and economically beneficial health care program.

E. Pharmaceutical Availability

Recommendation #1: Develop procedures to collect and analyze data on pharmaceutical prescribing/use characteristics and morbidity patterns.

Problem/Condition: Currently, there is no methodology being employed to collect and analyze data regarding pharmaceutical prescribing/use characteristics and morbidity patterns.

Observation: In order to complete the circle on rationalizing the pharmaceutical supply system, actual prescribing/use characteristics must be known, and evaluated and feedback must occur to both pharmaceutical supply managers and prescribers. The information obtained from this analysis can be used to better estimate types and quantities of drugs required and to identify conditions contributing to inappropriate utilization of drugs.

Action Recommendation: Develop simplified procedures for collecting pharmaceutical use and morbidity data. For example, for pharmaceutical information, a copy of each prescription can be collected and forwarded to a central point for data consolidation, or create a patient profile for each patient that is forwarded monthly for consolidation, or collect gross statistics on drug usage by facility.

For morbidity data, rubber stamps can be developed with diagnosis codes of the most frequently occurring morbidities and used to record diagnoses on the daily register of diseases. Other procedures may be more practical and need to be investigated.

Additionally, a methodology must be developed to analyze the pharmaceutical use and morbidity data and utilize the results to make pharmaceutical supply and prescribing decisions.

Anticipated Benefit: Decisions regarding pharmaceutical supply and prescribing will be predicated on more realistic information on needs for pharmaceuticals. Inappropriate use of pharmaceuticals can also be identified and modified.

Recommendation #2: Develop educational campaigns directed to patients and prescribers and geared toward modifying inappropriate prescribing/use patterns.

Condition/Problem: Considerable inappropriate use of pharmaceuticals (overuse, underuse, contraindicated combinations of drugs, disease contraindications) is occurring in the Salvadoran public health system.

Observation: Inappropriate use of pharmaceuticals has multiple ramifications. Use of unneeded pharmaceuticals depletes already scarce resources, causes drug-induced illnesses requiring additional drugs and other treatment, and is costly financially and in terms of human resources. Inappropriate prescribing/use of pharmaceuticals can be modified through educational efforts directed at prescribers and patients.

Action Recommendation: Develop educational campaigns utilizing posters, radio announcements, and newspaper articles directed toward patients; and seminars, printed material, prescribing pattern information, etc. for prescribers.

Anticipated Benefits: Modification of patient demands for pharmaceuticals and improved compliance. More appropriate prescribing by prescribers. The ultimate benefit will be safer and more efficient and effective pharmaceutical prescribing/use.

Recommendation #3: Centralize and coordinate the receipt of pharmaceutical donations at the MSPAS Pharmacy and Therapeutics Unit level.

Condition/Problem: There has not been sufficient coordination of donated pharmaceuticals within the MSPAS.

Observation: Donated drugs present problems to the MSPAS for several reasons. They are not indicated for the prevalent diseases. Health workers are not familiar with their use characteristics and adverse effects. Donated drugs have relatively short shelf lives. Additionally, health workers become accustomed to using the donated drug and if it is a non-essential product, they will want to continue to use it. If the pharmaceuticals are truly needed, essential items, then MSPAS resources can be redirected to cover other pharmaceutical needs.

Action Recommendation: Establish a committee to evaluate possible donations of drugs in terms of being on the essential drug list, utility for prevalent diseases, safety, familiarity with product characteristics by health workers, adequate shelf-life, and relationship to other products supplied by MSPAS. Coordinate all MSPAS donations and, if possible, donations to all providers of health care in the country.

Anticipated Benefit: Improved utilization of MSPAS and donated pharmaceuticals through coordination. Less waste due to infrequent use of drugs with short shelf-life or health workers lack of knowledge of the drug. Elimination of the potential for health workers becoming accustomed to using non-essential drugs.

TABLE 1

SUMMARY OF METHODOLOGIES

	Interviews	On-Site Inspections	Analysis of Documents	Delphi	Pilot Survey
1	X	X	X	X	X
2	X	X			X
3	X	X	X		X
4	X		X		
5	X	X	X		

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TABLE 2

REASONS FOR DELETIONS

- A - absorption not reliable
- B - mixture deteriorates rapidly
- C - dosage form not essential
- D - strength not essential
- E - toxicity vs. benefit ratio too high
- F - ineffective or of dubious efficacy
- G - not drug of choice
- H - irrational combination of drugs

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TABLE 3

**Recommendations for Deletions
from the 1984 Cuadro Basico**

<u>No.</u>	<u>Code</u>	<u>Drug Name</u>	<u>Dosage Form and Strength</u>
1	A	Ac Acetil salicilico	Supositorios 50mg
2	B	Ac Acetil salicilico	Jarabe 150mg/ml
3	C	Paracetamol	Supositorios 100mg
4	E	Derivados de Pirazolona + espasmolitico	Tab 0.50g
5	G	Oxiquinacina metan - sulfonato de magnesio	Amp 2g/ 5ml
6	D	Hidrocortisena Succinato Sodico	Frasco Amp 500mg/ml
7	D	Prednisolona	Tab 20mg
8	G	Dexametazona	Tab 0.5mg
9	G	Betametazona (acetato)	Vial 40mg/10ml
10	E	Difenoxilato	Liquido
11	G	Metoxiflurano	Frasco 125 cc
12	D	Tiopental sodico	Polvo para uso EV 10g
13	D	Tiopental sodico	Frasco vial 5g
14	D	Bromuro Pancuronium	1 mg/ml
15	D	Lidocaina	5% frasco amp.
16	G	Clorfeniramina maleato	Amp. 10mg/ml
17	F	Combinacion antihistaminica y descongestivo nasal	Jarabe oral
18	G	Sulfato sodio	Polvo 5 y 1g sobres
19	E	Anfetamina	Amp de 10cc
20	D	Lomustine	Capsulas 10mg
21	D	Furazolidona	Tab 50mg
22	D	Metronidazole	Tab 250mg
23	C	Sulfisoxazole	Susp-
24	D	Estreptomina	Amp 5g
25	D	Ampicilina	Tab o Cap 250mg
26	G	Cloxacilina	Frasco Amp polvo 500mg
27	C	Cefaclor	Oral cap 500mg
28	D	Amikacina	Frasco vial 50mg/cc
29	D	Cloranfenicol	Cap 500mg
30	C	Tetraciclina (Doxiciclina)	Amp vial 100mg
31	G	Espiromicina	Tab 500mg
32	C	Mandelato Metenamina	Susp 0.50g/5cc
33	C	Mebendazole	Susp 100mg
34	G	Piperazina	Tab 500mg
35	G	Piperazina	Jarabe 500mg/5cc

TABLE 3, continued

**Recommendations for Deletions
from the 1984 Cuadro Basico**

<u>No.</u>	<u>Código</u>	<u>Drug Name</u>	<u>Dosage Form and Strength</u>
36	C	Clorpromazina	Jarabe 25mg/5ml
37	C	Clorpromazina	Gotas 4%
38	C	Haloperidol	Gotas 2mg/ml
39	C	Biperiden	Amp 5mg/ml
40	D	Fenobarbital	Tab 20mg
41	E,F,G	Belladona, Ergotamina y Fenobarbital	Grageas
42	C,G	Dehidroergotamina	Sol Gotas 2mg
43	C	Alcaloides Dehidrogenados del Cornezuelo	Gotas 1.5mg
44	F	Metocarbamol	Grageas 400mg
45	C	Orfenadrina	Amp 60mg/2cc
46	C	Thioridacina	Sol concentrado 30mg/ml
47	G	Corticoesteroide (Fluorinado)	Crema 0.01%
48	G	Corticoesteroide (Fluorinado)	Locion 0.01%
49	G	Corticoesteroide (Fluorinado)	Unguento
50	G	Corticoesteroide (Butirato)	Crema
51	C	Podofilina	Pomada 25%
52	G	Dinitrato de Isosorbide	Sublingual 5mg
53	C	Propranolol	Tab 10mg
54	D	Verapamil	Tab 40mg
55	A	Isoproterenol	Tab 20mg
56	G	Reserpine	Amp 1mg/1ml
57	G	Metaraminol (Bitartrato)	Frasco vial 1% 10cc
58	G	Efedrina Sulf	Elixir
59	F	Papaverina	Cap 150mg
60	F	Papaverina	Iny. 30mg/ml vial 10cc
61	G	Dipiridamole	Grageas 75mg
62	G	Dipiridamole	Iny. 10mg/2cc
63	E	Metoclopramida	Jarabe 5mg/5cc
64	E	Difenidol	Tab 25mg
65	E	Difenidol	Amp 20mg/ml 2cc
66	E	Difenoxilato	Liquido
67	E	Sulfato Sodico	Sol 15 a 45g (adultos)
68	E	Senosidos	Tab 7.5mg
69	F	Kaolin/Pectina	Suspension

TABLE 3, continued

**Recommendations for Deletions
from the 1984 Cuadro Basico**

<u>No.</u>	<u>Code</u>	<u>Drug Name</u>	<u>Dosage Form and Strength</u>
70	F	Enzymas Digestivos con Ac. Biliarios, Pancreatina y Amilasa	Grageas o Capsulas
71	H	Teofilina, Efedrina, Fenobarbital	Tab
72	H	Teofilina, Efedrina, Fenobarbital	Jarabe
73	F	Cicloheximetil Amonio	Amp 4mg/2cc
74	F	Cicloheximetil Amonio	Jarabe 4mg/5cc
75	F	Cicloheximetil Amonio	Tab 8mg
76	G	Efedrina	Tab 30mg
77	G	Efedrina	Elixir 15mg/5cc
78	G	Efedrina	Iny. 50mg/ml
79	E	Sal Ferrosa	Jarabe 125mg/5ml
80	E,G	Cloranfenicol con esteriodo	Colirio
81	E,G	Cloranfenicol con esteriodo	Unguento
82	E	Sulfacetamida con Corticoesteroides	Colirio
83	E	Sulfacetamida con Corticoesteroides	Unguento
84	D	Tiroides desecado	Tab 32mg
85	D	Noretisterona - Medroxiprogesterona	Tab 500mg
86	C	Yodo	Jabon Liquido
87	C	Gluconato calcio 10%	Frasco vial 5cc
88	D	Acido ascorbico	Tab 500mg
89	D	Retinol	Cap o Tab 60mg (200,000 IU)
90	D	Retinol	Sol ingerible 15mg/ml (50,000 IU)
91	C	Ac. nicotnico	Inyectable 100mg/2cc
92	F	Sulfamidados	Crema
93	F	Sulfamidados	Ovulos

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EL SALVADOR
HEALTH SYSTEMS VITALIZATION
EVALUATION

AUGUST, 1985

PART IV
HUMAN RESOURCE CONSULTANTS REPORT
HECTOR CORREA, Ph.D

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ACKNOWLEDGEMENTS

The assessment team would like to express its appreciation for the administrative and logistical support provided by the Ministry of Health and the staff of the Agency for International Development Mission to El Salvador. We especially want to thank Dr. John Massey, Health Officer and Mr. Donald Enos, Director of Human Resources/HA of AID. We are grateful to our Salvadoran colleagues for their openness and cooperation. Special thanks to the Westinghouse Team and George Kraus who were so helpful in supplying information and making introductions.

EVALUATION TEAM COMPOSITION

A four person team was selected for the mid-term evaluation of the VISISA Project. The Team Leader and Health Administrator is Laurence McGriff, M.A., M.I.M. Mr. McGriff is involved in private sector international health projects. The Pharmaceutical Section was prepared by Aida LeRoy, Pharm.D. Dr. LeRoy has served frequently as a consultant for PAHO, AID and other organizations. The Health Manpower/Human Resource Section was written by Hector Correa, Ph.D., a professor of Economics at the University of Pittsburgh. Dr. Correa served as a member of the team that conducted a health resources assessment in El Salvador in 1984. Andrew W. Nichols, M.D., M.P.H., is a professor of Community Medicine at the University of Arizona. Dr. Nichols also conducted an assessment of health sector policy and programs in August, 1984. He updated the previous report and reported on the health status of the Salvadoran population.

ACRONYMS

AID	United States Agency for International Development
GOES	Government of El Salvador
ISSS	Salvadoran Social Security Institute
MCH	Maternal and Child Health
MOE	Ministry of Education
MOH/MSPAS	Ministry of Health
ORT	Oral Rehydration Treatment
PAHO	Pan American Health Organization
PHC	Primary Health Care
TBA	Traditional Birth Attendant
UNFPA	United Nations Fund for Population Activities
WHO	World Health Organization

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I. RECOMMENDATIONS OF THE HEALTH ADMINISTRATOR

- A. Technical assistance is needed to continue the revitalization of the Salvadoran health infrastructure.
1. Continued long-term technical assistance is needed in health supply management. Progress has been made but this is still an area that needs a lot of improvement. The advisor should work closely with ENG counterparts in the move to the new warehouse in Matazano, in streamlining regulations and procedures, and in installing the MIS. The advisor should have a team of local people capable of conducting inventory and expediting and training staff in the health centers and posts.
 2. Short- to medium-term technical assistance is still needed in the biomedical area to consolidate gains, reinforce technology transfer and continue to build MSPAS capabilities in training, maintenance and repair and to help in developing specifications for new equipment, installation, etc.
 3. Short-term assistance in vehicle maintenance is needed to keep up the momentum and make sure that the MOH continues to properly use the systems that have been set up.
 4. The health planning function should change into a follow-up on the trauma study in developing trauma management and primary care programs. A team consisting of a physician, nurse, sociologist, and specialist in trauma/emergency medicine could carry out the project.
 5. One organization should be responsible for ordering, writing the specifications, installing and implementing the systems. In the past, one group would make recommendations, another group would add their own items to be procured, AID would order the materials, and yet another organization would be responsible for installation and implementation.
- B. Primary care and prevention should become a major focus of future programs. Although some of the Ministry of Health people see the value in this, many have no idea what primary care really is and cannot see beyond the traditional curative approaches to health care.
- C. Develop a national program in trauma management based on the recommendations from the national trauma study.
- D. Commodities are still needed but emphasis should be on those drug, supplies and equipment that are absolutely essential (see Leroy report). Emphasis should also be on long-term infrastructure building, helping MSPAS continue to develop the expertise to control and manage the logistics of getting goods out into the field.

- E. The Ministry of Health should commit the human resources required to make the project work and realize the need for mid-level managers who can be trained and will stay. This means allocating the time and financial resources to a project. It also indicates the need for a major management evaluation of the Ministry, their personnel needs at each level (e.g., fewer people but higher salaries to attract and keep better, more qualified personnel), salary levels, job descriptions, etc.
- F. Now that a decision has been made regarding MIS, AID should provide technical assistance to make sure that the systems are developed and implemented.
- G. Facilities and Health Care Financing
1. MSPAS should conduct a study of the health financing system and explore options discussed in this paper: making one system, privatizing part of the system, encouraging alternative care systems in the private sector, increasing local (health facility) income by expanding the "Patronato" either according to ability to pay or through the establishment of "in-kind" payment for services. They should examine ways to create incentives to keep physicians in the system. The study should examine policy implications and practical ways to make the changes within the Ministry.
 2. MSPAS should establish a performance based budgeting system in all health facilities so that the budget relates directly to the need and the actual services delivered. Cost per service or unit delivered, standards and criteria should be developed.
 3. The MOH should get professional (rather than physician) management for the hospitals and within the Ministry itself.

II. RECOMMENDATIONS OF THE EPIDEMIOLOGIST

In order of priority, the recommendations are ranked as follows:

A. Highest Priority

1. That there be held in El Salvador a conference on Community Oriented Primary Care to bring together all participants currently concerned about this subject in El Salvador and be coordinated by the MSPAS. Funding should be sought from AID/ES and PAHO and the conference should be held prior to the final development of the AID/ES Project Proposal for implementation in FY 87.
2. That a substantial effort be made to identify, train and support volunteers to serve in areas where there are no MSPAS facilities, these volunteers to be selected by their communities and to function as Rural Health Promoters. Other volunteer service, including that in MSPAS facilities, is also recommended.
3. That there be developed in El Salvador a Rural Health Promoter Program ("Promotores de Salud Rural"), to be composed of volunteer health workers selected by their communities, trained and supported by the MSPAS and other cooperating agencies, and certified by the MSPAS.
4. That the Rural Health Aide Program be evaluated with a view toward coordinating it with a new program of Rural Health Promoters, all of whom would be volunteers, and then to expand the Rural Health Aide Program selectively so as to provide supervision and direction for Rural Health Promoters in the field.

B. Very High Priority

1. That the "Patronato" system be strengthened by whatever means are necessary, consistent with the culture and compatible with the organization of the health care delivery system in El Salvador.
2. That consideration be given to the possibility of instituting minimal charges for medications prescribed and dispensed by MSPAS facilities.
3. That an expanded latrine construction program be undertaken, with assistance from AID and in conjunction with private voluntary organizations working in El Salvador utilizing new and innovative designs.
4. That an aggressive program of eliminating mosquito breeding areas be continued and enlarged in an expanded effort to reduce the incidence of malaria in El Salvador.
5. That all future AID awards to El Salvador be made as grants rather than loans for any health related project other than those directly contributing to the productivity of the Salvadoran economy.

C. High Priority

1. That there be a continuing expansion of health education activities as an integral part of MSPAS activities in El Salvador, that this include increased training programs for nurses and nurse auxiliaries, and that the potential involvement of volunteer workers in the effort be explored.
2. That training in primary care, nutrition and disease prevention for physicians be markedly increased, possibly with USAID assistance, and that the preventive medicine and training capacity of the National University Medical School be restored.
3. That continuing education be made available to all health professionals in El Salvador in whatever manner is most productive and that a certification process for those meeting all requirements be considered. This should be accomplished by taking the program to the people and reinforcing the structure already available in the ministry to achieve this purpose.
4. That medical education in El Salvador be both supported and constrained so that quality schools may survive, but that this be accomplished in such a way that it does not result in a serious oversupply of physician manpower.
5. That the final evaluation be performed as scheduled and that it be used to assess program progress, make recommendations for changes in program direction and prepare an independent evaluation of program success.

D. Priority

1. That a community needs assessment process be initiated at the local level by health care providers, including social service year physicians with the supervision of their medical school faculties, under the direction and leadership of the MSPAS and in coordination with designated social scientists. (Note: Very high priority if real supervision is possible.)
2. That limited and appropriate program evaluations be undertaken at the local level with the guidance of the Ministry of Health, participation by local providers, and with the assistance of relevant social scientists.
3. That the Rural Nutrition Center Program be evaluated with respect to its potential for self sufficiency in the Salvadoran setting. To the degree that this is possible, the program should be selectively continued in the future, utilizing locally produced foods wherever possible; to the degree that self sufficiency to some degree is not possible, the program should be combined with other efforts (such as the proposed Rural Health Promoter Program) or terminated.

4. That active development of potable water supplies continue at the projected rate, including installation in the zones of conflict, that an emphasis be placed on system maintenance and revenue generation, and that AID be a participant in this process.

III.

RECOMMENDATIONS OF THE PHARMACOLOGIST

A. Drug Selection

1. Create a Pharmacy and Therapeutics Unit within the MOH and grant this Unit sufficient status and power to act on all pharmaceutical and therapeutical issues.
2. Review the Cuadro Basico using Delphi results, WHO Essential Drug List suggestions, and specialists' recommendations, and officialize this updated edition for 1985-86.
3. Assign level-of-use indicators for each pharmaceutical product contained within the updated Cuadro Basico.
4. Prioritize pharmaceutical products in terms of their relative therapeutic importance to the country.
5. Develop and disseminate therapeutic prescribing information for all drugs available through the public health system.
6. Purchase reference books and relevant periodicals on clinical pharmacology and therapeutics for the MOH's Pharmacy and Therapeutics Unit.

B. Procurement

1. Use the most up-to-date formulary of essential drugs available to select drugs for procurement.
2. Implement an automated system to determine the quantities of drugs to be procured based on morbidities of the population served, quantities required for each anticipated treatment course, and the estimated number of patients requiring treatment.
3. Develop a procedure for measuring unsatisfied demand.
4. Enforce consistently and uniformly provisions regarding contract compliance.
5. Develop systematic order tracking procedures.
6. Develop a sampling procedure to inspect shipments received.

C. Warehousing

1. Develop a systematic plan for placement of pharmaceutical products in the central and regional warehouses.
2. Develop policy for disposal of deteriorated or expired drugs.
3. Develop an inventory control system that is easily updated daily.

4. Base the "Master Distribution List" on factors such as type of facility, types of morbidities treated, number of patients treated, and numbers of prescriptions.
5. Develop a list of pharmaceuticals acceptable for substitution when drugs of choice are out of stock or backordered.
6. Develop a drug product locator system to identify and redirect stockpiled items or drugs which are approaching their expiration date.

D. Distribution/Dispensing

1. Develop and conduct training programs for individuals in charge of warehouses, storage depots and pharmacies.
2. Develop therapeutic guidelines on minimum and maximum quantities to be dispensed.
3. Develop ordering policies for warehouses and depots requiring strict adherence to actual quantities needed of pharmaceuticals.
4. Establish hygienic dispensing policies and secure counting trays.
5. Develop a mechanism for affixing prescription labels more securely.
6. Investigate feasibility of contracting for distribution of pharmaceuticals to private commodity distribution companies.

E. Pharmaceutical Availability

1. Develop procedures to collect and analyze data on pharmaceutical prescribing/use characteristics and morbidity patterns.
2. Develop educational campaigns directed to patients and prescribers and geared toward modifying inappropriate prescribing/use patterns.
3. Centralize and coordinate the receipt of pharmaceutical donations at the MSPAS Pharmacy and Therapeutics Unit level.

IV. RECOMMENDATIONS OF THE MANPOWER PLANNER

A. Health Manpower

1. Physicians

- a. Physician education should continue to place more emphasis on primary health care, prevention, outpatient care, nutrition, community education and trauma management. A medical educator should evaluate the present curricula and make recommendations on strengthening these programs, including supervision and practical experience in primary care settings.
- b. Recommendations have been made previously regarding: the limitation of enrollment, extending and improving continuing education, writing job descriptions for health personnel and the geographic redistribution of health personnel. Implementation is either planned or in progress and they should be followed up to see that they are done.
- c. Physicians in their year of social service should receive closer supervision.

2. Nurses

- a. Earlier recommendations regarding nursing curriculum fell into the following areas: more primary health care, maternal/child health, nutrition, community education; more attention to diagnostic skills and the treatment of common diseases, and more attention to skills for managing facilities. Diagnosis of the curriculum is in process with the assistance of PAHO.
- b. Follow-up should see if assistance is needed in acquiring or producing training materials to implement the above programs. Previous recommendations commented on the need for additional audiovisual equipment, improved libraries and more medical supplies.
- c. Continuing education should be extended and improved.
- d. Better supervision and support of social service year nurses was recommended previously and not implemented.
- e. The geographic redistribution of nurses away from the metropolitan areas was recommended and is part of the MOH Five Year Health Plan. Follow-up should determine what specific steps are to be taken.

3. Nurse Auxiliaries

- a. Previous recommendations on curriculum were made to increase diagnostic skills, treatment of common diseases, and with more

attention to maternal and child health. These were to be implemented after the nursing curricula is in order. Follow-up should determine what steps are being taken and when to do this.

- b. A related recommendation to the one above regarding the improvement of libraries has not been implemented. A complete inventory should be taken and recommendations made as to how to improve libraries and teaching materials, texts, etc.
4. Medical Technologists. Recommendations regarding their functions and job descriptions have not been implemented.
5. Traditional Birth Attendants need continuing education on the advantages of breast feeding.

I. The Terms of Reference

The scope of work for the analysis of the human resources component of U.S. AID Health Systems Assistance in El Salvador has four basic reference documents:

- A) The Health Systems Vitalization Project No. 519-0291 approved September 23, 1983;
- B) The report on the "Implementation Assessment" of the Project prepared by L. Klassen, C. Dabbs, J. Heiby and G. Huger, dated February 1984;
- C) "Health Resources Assessment and Projections for the Future in El Salvador" dated January 1985; and
- D) "Health Status Assessment and Health Policy and Program Review" by A. Nichols, dated April 1985.

Only the third of these four documents pays exclusive attention to human resources. For this reason it will be presented last in this chapter, as an introduction to its detailed analysis which follows later in this report.

The purpose of Project 519-02 91 is to provide:

"essential medical drugs and supplies, equipment, and related services, to strengthen the MSPAS's ability to carry out its planning/management/budget, quality control, logistics, maintenance and training functions, and to utilize existing MSPAS resources more effectively. The project will also increase the MSPAS' emergency medical services 'quick response' capacity." (Project Paper pg. 7 - MSPAS Ministry of Public Health and Social Assistance).

This brief statement suggests, and a more complete study of the Project shows that the Project includes only minor components dealing with health personnel development.

The Implementation Assessment covers:

- 1) An assessment of the implementation of the Project 519-02 91, and
- 2) An evaluation of MOH "facilities and personnel regarding the levels of activity, staffing, supervision, supplies/logistics, and clinical skills". (Report) This evaluation report concludes that:

"The results of our assessment indicate that it is advisable to assign project resources to additional training and support of patient care in addition to the provision of drugs and supplies. Dr. Heiby was impressed with the potential of an investment in this area to substantially increase the effectiveness of the drugs

and supplies supplied by the Project. This is particularly true of smaller facilities where social year physicians are not closely supervised.

This training and support could take a number of forms:

- 1) An initial, formal training course for social year physicians focused on the practical management of the most common health problems, under the actual circumstances of rural service, is recommended.

The assessment does not provide a basis to recommend a specific curriculum. In general, though, the results do support emphasis on patient management that is as comprehensive as local conditions will allow. Training should address patient education, especially the role of the mother in her children's treatment for illness or preventive services. Practical approaches to patient followup should also be included, along with explicit training in making referrals appropriately. The training should be organized by health problems, selecting the most common or important 15 or 20 clinical situations that the physician faces. Case studies would be useful in this approach. The most appropriate role of the nursing staff in each situation should also be discussed.

Ideally, some form of training should be provided before social year service begins. It is possible that this could be done through the medical schools themselves.

- 2) Ongoing training is equally important. Much could be accomplished through written materials, including open-ended questions similar to those used in this assessment, combined with written feedback. Another idea would be a series of case study discussions written by MOH authorities, including consideration of management under less than ideal conditions and mailed periodically to each social year physician.

Brief workshops would be most costly, but probably also more effective. These could be periodic, focused on specific clinical issues, and carried out at the regional level.

- 3) Individual supervision of social year physicians by more experienced MOH professionals offers a good opportunity for effective training. Any training program should certainly incorporate these supervisors.

The project might include direct efforts to support field supervision by qualified clinicians with transportation, time, and higher level oversight sufficient to permit in-depth training in real patient care problems for each social year physician in his own clinic.

- 4) The shortage of reference materials in MOH facilities was noted by a large number of social year physicians. Practical materials dealing with patient management, especially under rural conditions, would be a valuable and relatively inexpensive addition to the project. Nurses as well as physicians could benefit from up-to-date references. Medical and nursing schools could make effective use of a wider range of materials". (Report)

The terms of reference for the "Health Status Assessment and Health Policy" report were rather broad. Its objective was "to assess the overall health status of the Salvadoran population to make recommendations for policy and program reorientation". The idea was to establish a set of expanded program plans which would provide a basis for policy development at the conclusion of the Vitalization Project No. 519-0291.

The following recommendations were made with respect to human resources in the Report:

- 1) training in primary care, nutrition and disease prevention for physicians be markedly increased, possibly with U.S. AID assistance, and that the preventive medicine and training capacity of the national University Medical School be restored;
- 2) continuing education be made available to all health professionals in El Salvador in whatever manner is most productive. This should be accomplished by taking the programs to the people and reinforcing the structure already available in the Ministry to achieve this purpose;
- 3) the Rural Health Aide training program be reinstated and that a large-scale effort be undertaken to identify and support acceptable candidates for the program; and
- 4) medical education in El Salvador be both supported and constrained so that quality schools may survive, but that this be accomplished in such a way that it does not result in a serious oversupply of physician manpower.

A comparison of the recommendations on human resources of the reports by Klassen et al and by Nichols shows that they cover somewhat different ground. Klassen et al refer mainly to the social service year of newly graduated physicians, while Nichols has a broader view of physician education. He also refers to the continuing education of all health professionals and the need to reinstitute the training of Rural Health Aides.

As mentioned before, the "Health Resources Assessment and Projections for the Future in El Salvador" is the only analysis among the four reference documents that pays special attention to human resources. The recommendations included in it refer to the following areas:

- 1) General Recommendations on Human Resources;
- 2) Recommendations on Physicians;
- 3) Recommendations on Nurses and Nurse Auxiliaries;

- 4) Recommendations on Health Personnel that work in Rural Areas: Rural Health Aides and Traditional Birth Attendants; and
- 5) Recommendations on other health professionals such as medical technologists.

These recommendations will be described in the following chapters of this Report, and their implementation will be evaluated. There it will be seen that they include the recommendations presented in the Klassen et al and Nichols reports.

A general observation on the recommendations and their implementation should be made at this point. Perhaps the most important basis for the recommendations made are the conversations held with the health administrators, physicians, nurses, etc., that is, persons that live with the day-to-day problems and limitations of the Salvadoran health system; as a consequence, they have valuable insights, suggestions and plans of action for their solution. From this it follows that the recommendations of the authors of the reports reflect those initiatives, suggestions, and plans of the health personnel in El Salvador.

The recommendations made in the reports indicate that Salvadoran health staff are fully aware of the problems and limitations in Human Resource Development. The main contribution in particular of the "Health Resources Assessment and Projections for the Future in El Salvador" Report is in the systematic presentation of these recommendations. This presentation made it possible to call to the attention of higher officials of the MOH possible solutions to Salvadoran health problems. It will be seen below that this seems to have generated an implementation process in several areas.

II. General Recommendations of the "Health Resources Assessment and Projections for the Future in El Salvador" Report and Their Implementation

Table II-1 presents a summary description of the General Recommendations of "Health Resources Assessment and Projections for the Future in El Salvador", and the status of their implementation.

Table II-1

General Recommendations of the "Health Resource Assessment and Projections for the Future in El Salvador" Report

Recommendations	Implementation Status
1. National Conference of Human Resources Planning (Appendix 1)	One completed One planned
2. Maintenance of salaries to scholarship holders	Not implemented

The seminar to outline the process of development of human resources in health took place in November-December 1984 as part of the implementation of the first recommendation mentioned in the Table. This seminar went beyond the original recommendation in that it had a wider scope, and made recommendations not only dealing with Human Resources Development, but with other short- and long-term problems. For this reason a second seminar is now being planned that will take a more in-depth look at human resources development issues.

The second recommendation mentioned in Table 2-1 has not been fully implemented. However, three long-term scholarship recipients in Health Planning, Health Administration and Educational Administration are presently in the U.S. on fifty percent salary, but these cases are rather exceptional. The limitation of financial resources of the MOH is a reason for non-implementation. The basis of the problem is that in most of the cases the MOH would have to appoint a temporary replacement for the employees on leave, and with this, its cost for a specific service would be doubled. On the other hand, most scholarships do not provide assistance great enough to cover the family obligations that professionals in the middle of their careers are likely to have.

III. Recommendations on physicians of "Health Resources Assessment and Projections for the Future in El Salvador" and Their Implementation

Table III-1 includes a summary of the recommendations made with respect to physicians and their implementation status. It shows that out of 12 recommendations, 10 have received some attention.

Table III-1

Recommendations on Physicians of the "Health Resources Assessment and Projections for the Future in El Salvador" Report

Recommendations	Implementation Status
<u>Formal education</u>	
<u>Content and Methods</u>	
1. More attention to PHC, prevention, out-patient care, nutrition, community education	Implemented
<u>Year of Social Service</u>	
2. Better supervision of students	Not implemented
3. Rotation of students in all types of facilities	Not implemented
4. More attention to PHC	Implemented
5. More attention to administration of small health facilities	Implemented (Appendix 2)
<u>Faculty</u>	
6. Seminars on PHC	Implemented
<u>Facilities</u>	
7. Additional equipment	Provided (Appendix 3)
8. Improved libraries	Provided (Appendix 4)
<u>Enrollment</u>	
9. Limitation of numbers enrolling	Planned
<u>Continuing education</u>	
10. Should be extended and improved	Continuous effort
<u>Employment</u>	
11. Job descriptions for health personnel	Planned
12. Geographic redistribution of health personnel	Planned

Recommendations 1, 4 and 5 which deal with content and methods and social service used in the education of physicians have received attention. To address the first, the University of El Salvador has reached an agreement with the MOH and the San Salvador Municipal Government, which permits medical students to obtain practical experience in PHC by providing medical assistance in semi-rural health facilities around San Salvador. The School of Capacitation of the MOH has completed the preparation of materials to be used

in a workshop to prepare trainers, and which is taking place at the time of this writing (June 10-14 1985 in San Salvador). These trainers will provide orientation to medical students in their year of social service using the materials presented in the seminar.

The implementation of the sixth recommendation has been completed with seminars held by the School of Medicine on curriculum content in the context of PHC. These seminars were held under the auspices of PAHO.

The seventh and eight recommendations deal with the provision of equipment and books to the Medical School. Their implementation was made possible by a direct financial contribution of USAID using PD&S funds. In addition, U.S. AID will soon conduct an assessment of needs for possible inclusion in the follow on funding of the current Health Project.

The recommendations on the limitation of enrollment in the school of medicine and on the employment of physicians are taken into consideration in the MOH Health Plan 1985-89. Specifically, the number of physicians that the MOH plans to hire per year is 84. This number is in complete agreement with one of the alternatives presented in Table 8 of the "Health Resources Assessment and Projections for the Future in El Salvador" Report. The number of physicians to hire is, in principle, related to the number of students in the medical schools. However, it should be noted that the problem of the number of students has not been directly faced.

The recommendation to extend and improve continuing education has also received some attention. The "Health Resources Assessment and Projections for the Future in El Salvador" Report does not give any specific recommendations and the MOH and the School of Capacitation are carrying out continuing education programs.

The two recommendations on employment whose implementation is planned by the MOH refer to aspects of the health system which are more under the control of the MOH. As a consequence, it is likely that they will be implemented.

Recommendations 2 and 3 have not been implemented and should receive attention after recommendations 1, 4, and 5 reach a more advanced stage.

In summary, it can be concluded that the recommendations with respect to physicians have received a substantial level of implementation, considering the short period that has elapsed since they were presented in final report form.

IV. Recommendations on Nurses and Nurse Auxiliaries of the "Health Resources Assessment and Projections for the Future in El Salvador" and Their Implementation

IV.1 Recommendations on Nurses

A summary of the recommendations on nurses and on the status of their implementation is presented in Table IV-1. This table shows that there has been some implementation of eight of the eleven recommendations. In addition, there is some activity with respect to another one, and finally that the implementation of one is in the Health Plan 1985-1989 of the MOH.

Table IV-1

Recommendations on Nurses of the "Health Resources Assessment and Projections for the Future in El Salvador" Report

Recommendations	Implementation Status
<u>Formal education</u>	
<u>Content and Methods</u>	
1. More attention to PHC Maternal/child health, nutrition, community education	Diagnosis of current curriculum in process with assistance of PAHO (Appendix 5)
2. More attention to diagnostic skills, treatment of common diseases	
3. More attention to skills for managing health facilities	
<u>Year of Social Service</u>	
4. Provision of supervision and support	Not implemented
<u>Faculty</u>	
5. Increase number with graduate education	Scholarships have been requested (Appendix 6)
<u>Facilities</u>	
6. Additional audiovisual equipment	Provided (Appendix 7)
7. Improve libraries	Provided (Appendix 8)
8. Additional medical supplies	Implemented
<u>Enrollment</u>	
9. Limitation of number	Implemented in MOH schools Planned
<u>Continuing Education</u>	
10. Should be extended and improved	Continuous effort
<u>Employment</u>	
11. Geographic redistribution	Planned

In a process that seems to be completely justified, the activities that are being proposed with respect to recommendations 1 to 3 are limited to the preparation and initial steps for an evaluation of the existing curriculum.

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This will provide a solid basis for its revision. This process is similar to the one being used with respect to recommendations 4 and 5 on physicians summarized in Table III-1.

The fifth recommendation in Table IV-1 states that the number of professors in the School of Nursing that have graduate education should be increased. To implement this recommendation, scholarships for faculty members have been requested. However, as mentioned in recommendation 2 in Table II-1, the main problem is the inability of the GOES to pay the salaries of employees on study leave.

The recommendations to provide additional audiovisual equipment to the School of Nursing and library materials to improve its libraries have been implemented. Direct assistance of USAID, using PD&S funds, made this possible. Concerning recommendation eight, the medical supply situation is improving through implementation of the current USAID Health Project.

The limitation of the number of students has, in the case of nurses, taken more specific steps than in the case of the physicians. This is possible because the main schools of nursing organizationally are part of the MOH, while this is not the case for those of medicine. The decision of MOH has been to limit new entrants to 30 students per year per school. However, no controls have been established for the private schools.

In addition, the number of nurses that the MOH should be hiring is specified in the Health Plan 1985-1989. It should be observed that this number is less than that considered advisable in the alternatives presented in the "Health Resources Assessment and Projections for the Future of El Salvador" Report.

The recommendation in the Report with respect to continuing education for nurses has the same limitation as that made for physicians, i.e., it lacks specificity. As a consequence, it is not possible to evaluate the degree of its implementation. On the other hand, a continuous effort is being made with respect to in-service training, teachers training, etc.

The geographic redistribution of the nurses in order to reduce their concentration in urban areas has not been implemented. However, some changes in the distribution of personnel are included in the MOH Health Plan 1985-1989.

A study of Table IV-1 shows that only recommendation 4 has not received any attention. Current operations suggest that some action will be taken with respect to the content and methods to be used in the nurses' year of social service after the overall curriculum of the school is overhauled. The time sequence for the operations seems to be quite reasonable.

An activity that was not included among the recommendations of the Health Resources Assessment and Projections for the Future of El Salvador" Report, but that deserves attention in the analysis of the activities that have taken place in the last year in relation to the development of Human Resources for Health is the assistance that U.S. AID provided to the construction of the new building for the School of Capacitation. Financing of more than C/ 1,000,000. was made available using P.L.480 funds. (See Appendix 9)

In conclusion, it can be said that the implementation record of the recommendations for nurses seems to be quite acceptable.

IV.2 Recommendations on Nurse Auxiliaries

The recommendations of the "Health Resources Assessment and Projections for the Future in El Salvador" Report and their implementation status are presented in Table IV-2.

A comparison of the implementation status of the recommendations on nurses with those of nurse auxiliaries clearly shows that the simultaneous implementation of the two sets of recommendations might be beyond the capability of the departments of the MOH that are responsible for implementation. For this reason, first priority has been given to the recommendations on nurses. Once the recommendations related to nurses reach a stage in which they require less attention, the recommendations on nurse auxiliaries will be addressed.

Table IV-2

Recommendations on Nurse Auxiliaries of the 'Health Resources Assessment and Projections for the Future in El Salvador' Report

Recommendations	Implementation Status
<u>Formal Education</u> <u>Content and Methods</u>	
1. More attention to diagnostic skills, treatment of common diseases	Will be implemented after curriculum for nurses is modified
2. More attention to maternal/child health	
<u>Faculty</u>	
3. Fill teacher vacancies	Implemented
<u>Facilities</u>	
4. Improve libraries	Not implemented

Table IV-2 shows that the only recommendation that has been implemented is the one suggesting the filling of open teaching positions. It is possible that the fact that the Report mentioned the need to appoint personnel to some teaching positions contributed to the action taken by the MOH.

As mentioned earlier, USAID has an assessment of teaching/learning materials planned for the near future. This level of health worker training is included in it. With this assessment, information needed for the implementation of the fourth recommendation will be collected.

V. Recommendations on Medical Technologists of the "Health Resources Assessment and Projections for the Future in El Salvador" Report

The recommendations on medical technologists and their implementation status are presented in Table V-1. The information presented has a pattern similar to that observed before with respect to physicians and nurses. This means that activities have been initiated in the School of Medicine of the University of San Salvador to modify the curriculum used in the preparation of the medical technologists. When they are completed, they will be put in practice. Once more it should be mentioned that this seems to be the most acceptable procedure.

Table V-1

Recommendations on Medical Technologists of the "Health Resources Assessment and Projections for the Future in El Salvador" Report

Recommendations	Implementation Status
<u>Formal Education</u>	
<u>Content and Methods</u>	
1. More attention to health and education, ecological problems, nutrition, maternal/child health	Implemented
<u>Employment</u>	
2. Specify functions in health systems	Not Implemented
3. Prepare job descriptions in MOH	Not Implemented

The two recommendations made with respect to the employment conditions of the medical technologists have not been implemented. This is an unfortunate situation since, to a certain extent, the specification of the functions that the technologists should have in the health system, and the preparation of job descriptions for those activities is a logical antecedent to the development of the curriculum for their training. This is an area where additional cooperation between the MOH and the School of Medicine is required.

VI. Recommendations on Rural Health Aides and Traditional Birth Attendants of the "Health Resources Assessments and Projections for the Future in El Salvador" and Their Implementation

VI.1 Recommendations on Rural Health Aides

The recommendations of the "Health Resources Assessment and Projections for the Future in El Salvador" Report and their implementation status are presented in Table VI-1.

Table VI-1

Recommendations on Rural Health Aides of the "Health Resources Assessment and Projections on the Future in El Salvador" Report

Recommendations	Implementation Status
<u>Formal Education</u>	
1. Reinitiation of program	Implemented
<u>Facilities</u>	
2. Update training manual on breast feeding, diarrhea, oral rehydration	Partially Implemented
<u>Continuing Education</u>	Continuous effort

The Table shows that the two recommendations made for this category have been implemented. First, after several years in which Rural Health Aides have not been trained, courses for them were offered again in 1984-85 in several regions of El Salvador.

A clarification is needed with respect to the implementation of the recommendation that the training manual for the rural health assistants should be updated. A conversation with the person in charge of these courses in the School of Capacitation of the MOH showed that in a strict sense this recommendation has not been implemented, i.e., the manual has not been changed. However, the professors have been instructed to pay special attention in their courses to oral rehydration, and to give more emphasis than before to breast feeding and the prevention and treatment of diarrhea. Another new development in these courses is that they are now including some training on the development of home gardens.

VI.2 Recommendations on Traditional Birth Attendants

Table VI-2 shows that the only recommendation made in the "Health Resources Assessment and Projections on the Future of El Salvador" Report on traditional birth attendants has been partially implemented. The reason for this is that a revision of the manual used for training requires a careful study. However, as in the case of Rural Health Aides, the persons that direct the continuing education of the birth attendants have been instructed to put additional emphasis in their courses on the advantages of breast feeding.

Table VI-2

Recommendations on Traditional Birth Attendants
of the "Health Resources Assessment and
Projections for the Future in El Salvador" Report

Recommendations	Implementation Status
<u>Continuing Education</u> 1. Update manual on breast feeding	Partially Implemented

VI.3 Recommendations on Malaria Control

The recommendations on malaria control are presented in Table VI-3 together with their implementation status.

The only recommendation included in Table VI-3 does not specifically refer to the human resources of the program, but rather to the materials they need for the better execution of their activities. Needed equipment, supplies and technical assistance are now in place as a result of the USAID Health Project.

Table VI-3

Recommendations on Malaria Control Personnel of the "Health Resources
Assessment and Projections for the Future in El Salvador" Report

Recommendations	Implementation Status
<u>Facilities</u> 1. Provision of supplies and Equipment	Implemented

VII. Conclusions

As mentioned in Chapter I, the evaluation of the implementation of the recommendations made on personnel in the "Health Resources Assessment and Projections for the Future in El Salvador" Report presented several problems. Perhaps the following are the most important of these problems. The Report does not give any indication of:

- a) the relative importance of the different recommendations. They range from very general and comprehensive suggestions on national health policies to very specific diagnostic or treatment skills that might be discussed in, at most, a class session;

- b) the time period that their implementation would require;
- c) the order in which they should be implemented; and
- d) the human or financial resources needed for their implementation.

Despite these limitations of the Report, the process of implementation of many of the recommendations has already been started, and in some cases, completed. This is particularly true regarding recommendations on physicians and nurses. As already mentioned, this might be due to the fact that it includes initiatives and concerns Salvadoran health officials have had for a long period of time. The Report brought these concerns to the attention of the highest officials of the MOH and USAID. It showed that those initiatives and concerns made good sense and referred to important aspects of the health system. The Report instigated high level policy decisions which made it possible for the appropriate officials to implement the recommendations included.

Credit for the successful implementation is also due to the appropriate use of USAID PD&S and PL480 funds. This fact should be emphasized because none of the recommendations that have been implemented with USAID support had their own budget resources.

Because of the nature of the recommendations, it is not realistic to expect them to have been fully implemented since they were presented in final form in January, 1985. It is critical, however, that the implementation process continue in the future.

LIST OF RECOMMENDATIONS
for the
HEALTH SYSTEMS VITALIZATION EVALUATION

from the four reports by

L. McGriff, Health Administrator

A. Nichols, Epidemiologist

A. Leroy, Pharmacologist

H. Correa, Manpower Specialist

INTRODUCTION

This report represents the mid-term evaluation of the AID Health Systems Vitalization Project (VISISA) in El Salvador. The general objective of the evaluation is to "provide the U.S. Government and the Government of El Salvador with a current assessment of the status of health of the Salvadoran population, of human resources for health, of health services delivery in El Salvador, of pharmaceutical logistics, and of biomedical and vehicle maintenance as they relate to project progress." The project came about because of a request by the Government of El Salvador several years ago. It was experiencing shortages of medicines and equipment and deteriorating logistical systems. A small portion of the project was for needed emergency supplies but the bulk of it was for medium- and long-range needs. The project is due to be completed next year.

Five documents make up the report, each examining a slightly different aspect of the project or health care system:

1. A health administrator evaluates changes in service delivery levels and health facility usage and the specific progress of the VISISA Project.
2. A physician evaluates changes in mortality and morbidity and progress in implementing recommendations made in a previous study (August, 1984).
3. An educator evaluates progress in the health manpower area and analyzes changes that have occurred since a baseline study that was done a year ago.
4. A pharmacologist evaluates the pharmaceuticals and logistics system in general and as they relate to the VISISA Project in particular.
5. The mid-term evaluation of the VISISA Project by Kraus International is an important benchmark giving the detail of progress in technical assistance.

The reports document progress and incremental improvements that are being made in the health care system. It is either premature or not possible to relate changes in health status, health manpower or facility utilization to the VISISA Project. The VISISA Project was limited to bringing in certain critical commodities and a small amount of technical assistance. It was significant in meeting an emergency need and in supplying medicines and equipment. Progress in building institutional capability is slow but steady. There is still room for more improvement.

We have prepared under separate cover, a detailed summary of the evaluation covering all four reports. What follows are the four individual reports (1 through 4 above) and a listing of all recommendations. The Kraus Report has already been presented to AID/ES. A copy of all Appendices are included separately.

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) -- PART I

Report Symbol U-44

1. PROJECT TITLE Health Systems Vitalization			2. PROJECT NUMBER 519-0291	3. MISSION/AID/W OFFICE El Salvador
4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 85-5			<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION	
5. KEY PROJECT IMPLEMENTATION DATES		6. ESTIMATED PROJECT FUNDING		7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY 83	B. Final Obligation Expected FY 85	C. Final Input Delivery FY 86	A. Total 55.9 million	From (month/yr.) July 1984
			B. U.S. 35.6 million	To (month/yr.) June 1985
Date of Evaluation Review: September 1985				

B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., program, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
<p>1. Technical Assistance is needed to continue the revitalization of the Salvadoran health infrastructure.</p> <p><u>Action:</u> Continue TA under Project Amendment.</p>	Proj. Manager, Mission Mgmt.	Sept. 85
<p>2. Primary care and prevention should become a major focus of future programs.</p> <p><u>Action:</u> 1) Include these elements in the new project. 2) Begin health policy dialogue with MOH/COES.</p>	Proj. Manager, Proj. Office, Mission Mgmt., MOH/COES	Sept. 86 completed
<p>3. Develop a national program in trauma management based on the recommendations of the national trauma study.</p> <p><u>Action:</u> Outside the scope of the current project. The National Trauma study review of trauma data, completed in October, does not support additional AID assistance in this area and no further AID activity is planned.</p>		
<p>4. Procurement emphasis should continue on those drugs, supplies and equipment that are absolutely essential.</p> <p><u>Action:</u> Continue to develop and refine criteria for selecting essential drugs and supplies.</p>	Proj. Manager Mission Mgmt., TA Team	Dec. 86

8. INVENTORY OF DOCUMENTS TO BE REVIEWED PER ABOVE DECISIONS			10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT		
<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan (e.g., CPI Network)	<input type="checkbox"/> Other (Specify)	A. <input type="checkbox"/> Continue Project Without Change		
<input checked="" type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	_____	B. <input type="checkbox"/> Change Project Design and/or		
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify)	<input checked="" type="checkbox"/> Change Implementation Plan		
<input checked="" type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	_____	C. <input type="checkbox"/> Discontinue Project		

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER PARTNERING PARTICIPANTS AS APPROPRIATE (Name and Title)		12. Mission/AID/W Office Director Approval	
Patricia S. Gibson, DDIR HIRMA <i>Patricia S. Gibson</i> R. L. de Vivero, DPRO D. Boyd, PR <i>D. Boyd</i>		Signature: <i>R. L. de Vivero</i> Typed Name: Rubin Gomez, Director Date: 9/16/86	

A. <u>Recommendation/Action</u>	B. <u>Name of Officer Responsible for Action</u>	C. <u>Date Action to be completed</u>
<p>5. Technical assistance should be provided to ensure that the management information systems are developed and implemented.</p> <p><u>Action:</u> MIS sub-programs for supply managements and health statistics are being developed and additional TA will be included in follow-on Health Project to complete the MIS.</p>	Proj. Manager TA Team, MOH counterparts, PAHO contributions	Dec. 86
<p>6. The MOH should prioritize pharmaceutical products to reflect first, second, third and fourth priorities.</p> <p><u>Action:</u> Completed. A Basic Drug list was officially submitted by the MOH on December 20, 1985 which prioritizes pharmaceutical products.</p>	Proj. Manager, TA, MOH counter- parts and PAHO inputs.	Dec. 85
<p>7. The MOH should implement an automated system to determine the quantities of drugs to be procured based on morbidity, average quantity per treatment and patients served.</p> <p><u>Action:</u> Project TA will develop this automated system.</p>	Proj. Manager TA Team, MOH	Dec.31/86
<p>8. The MOH should place adequately trained individuals in charge of warehouses, storage depots and pharmacies.</p> <p><u>Action:</u> TA Team to train supply management personnel at all levels. MOH has appointed 5 Regional Supply Managers to spearhead improvements.</p>	MOH, TA Team Proj. Manager	June 86
<p>9. The MOH should develop policies for the central warehouse and depots in regard to ordering and reordering pharmaceuticals.</p> <p><u>Action:</u> MOH and TA Team to develop systems and policies which maintain drug flow and availability within system.</p>	The MOH, Techni- cal Assistance, Proj. Manager	June 86
<p>10. Physician education should continue to place more emphasis on primary health care, prevention, outpatient care, nutrition, community education and trauma management.</p> <p><u>Action:</u> Largely outside the scope of current and planned projects, but will urge other donors to address this issue. Trauma training will be provided under the current project to physicians already in the health system.</p>		

A. <u>Recommendation/Action</u>	B. <u>Name of Officer Responsible for Action</u>	C. <u>Date Action to be completed</u>
<p>11. El Salvador should develop a Rural Health Promotor Program (Promotores de Salud Rural) to be composed of volunteer health workers selected by their communities, trained and supported by the MOH and other cooperating agencies.</p> <p><u>Action:</u> The MOH already has developed a proposal for such a program, but it is outside the Scope of this project. Appropriate AID assistance to this program will be considered in the follow-on project 519-0308.</p> <p>12. An aggressive program of eliminating mosquito breeding areas should be continued and expanded in an effort to reduce the incidence of malaria in El Salvador.</p> <p><u>Action:</u> With PI480 funding, the first large source reduction project will begin in CY86; Regional Plans for further source reduction to be developed.</p>	<p>MOH, Proj. Manager Proj. Office, Mission Mgmt. Other donors</p> <p>MOH, TA Team. Proj. Manager, DPPO and Mission Management.</p>	<p>Dec. 86</p> <p>Sept. 86</p>
<p>PART II. <u>SUMMARY COMMENT</u></p> <p>The overall quality of the individual evaluation reports was good to excellent and followed the Contract Scopes of Work very closely. The evaluation team made a series of recommendations throughout the lengthy report, but 12 key recommendations were made in an Executive Summary. In general, these recommendations and findings have been useful to project and Mission Management. However, four recommendations went beyond the scope of the Health Systems Vitalization Project. These were Recommendations No. 2, 3, 10 and 11 of the Project Evaluation Summary Report. Recommendations No. 2 and 11 will be carefully explored in the development of, and to the extent feasible adapted into the design of, the Health Systems Management project (519-0308) which is scheduled for authorization and funding in FY 1986. Recommendation No. 3 calling for a national program in trauma management was not supported by data from the Trauma Survey; since this activity is outside the scope of the project and has less relative importance and priority in health sector development, no further AID action on this recommendation is warranted. Recommendation No. 10 referred to emphasis within El Salvador's programs of basic physician education, which is clearly outside the scope of both the current and planned AID assistance to El Salvador. While important, physician education is peripheral to the key problems impeding both the delivery of primary health care services and improvements in health status which are weak management and inadequate resources to ensure necessary availability of drugs, vehicles, medical supplies, replacement equipment and spare parts to support health care delivery.</p>		

A. <u>Recommendation/Action</u>	B. <u>Name of Officer Responsible for Action</u>	C. <u>Date Action to be completed</u>
<p>For these reasons the Mission does not accept this recommendation within the Actions-to-be-Taken framework.</p> <p>USAID, incorporating key recommendations and using data generated by the evaluation, developed a project amendment in August 1985 extending the life of the project by one year (to December 31, 1986) and providing additional funding for technical consultants, pharmaceuticals, medical supplies and equipment. This is aimed at more fully achieving the project purposes. A follow-up project, Health Systems Management, 519-0303, is being developed for FY1986 funding to further strengthen the supply management and services support systems developed under the 519-0291 project.</p> <p><u>LESSONS LEARNED</u></p> <p>The evaluation reports prepared by the Consultants have underscored the difficulty of assessing project impact on sector goal indicators within a two to three year period of project implementation.</p>		

EVALUATION COST DATA

USAID/El Salvador or Bureau/Officer _____

Form completed by J.A.Massey HR/HA 2/10/86
Typed Name Office Date

1. No. and Title of Project/Activity: 519-0291 Health Systems Vitalization
(or Title of Evaluation Report) Health Systems Vitalization Evaluation

2. Date of Evaluation Report: August 1985
Date of PES (if different): September 1985

3. Mission Staff Person Days involved in this Evaluation (estimated):
- Professional Staff 15 Person Days
- Support Staff 30 Person Days

4. AID/W Direct-Hire or IPA TDY support funded by Mission (or office) for this evaluation:

<u>Name</u>	<u>Period of TDY (Person-Days)</u>	<u>Dollar Cost: (Travel, Per Diem, etc)</u>	<u>Source of Funds*</u>
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None

5. Contractor Support, if any, for this evaluation:**

<u>Name of Contractor</u>	<u>Contract #</u>	<u>Dollar Amount of Contract</u>	<u>Source of Funds*</u>
University Research Corp. (IQC)	PDC-1406-I-08-4063-00	\$ 67,737	0291

*Indicate Project Budget, PD&S, Mission O.E. or Central/Regional Bureau funds

**IQC, RSSA, PASA, PSC, Purchase Order, Institutional Contract, Cooperative Agreement, etc.

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