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Final Report

of the

APSISA Second Evaluation

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1. Executive Summary

1.1 Overview

El Salvador recently emerged from an eleven year conflict which caused 75,000 reported deaths, provoked the out-migration of as many as one million citizens and severely disrupted the GOES's ability to finance and manage public services. From 1986-1993, USAID supported the MOH, through the APSISA Project in these areas:

First, APSISA strengthened the MOH's commodities management system, at the same time providing $40 million of drugs, supplies and equipment distributed to MOH facilities through that system;

Second, USAID secured insecticides, equipment and indispensable technical advice to help the MOH establish a world-class malaria surveillance and control mechanism. As part of a strategy to link rural cantons to nearby units and posts for basic health services, a network of 1,441 Community Health Promoters (CHPs) and 127 supervisors was created with 100 percent now financed by GOES funds.

Third, attention to decision-making and monitoring took the form of consulting help, training, computer equipment and software. This meets a portion of MOH's needs for organizational change;

Fourth, since 1992, the National Reconstruction Plan component has assigned priority to re-establishing and improving MOH services at 122 units and posts in ex-conflictive areas.

1.2 Second Evaluation of APSISA

A second evaluation of APSISA was conducted October 29 - December 1, 1993, to assess project progress measured against output indicators. The task was conducted by examining secondary data sources, project records and interviews with over 180 informants in El Salvador.

1.3 Advances towards APSISA Goals

The MOH can demonstrate the following impact achievements since the inception of the APSISA Project (1987):

	TARGET	STATUS (9/93)
Malaria Incidence rate in 1,000	less than 3 people in 1,000	Less than 1 (1992 data)
Children <1 year with complete immunizations	80 %	79 %
Children < 1 year vaccinated for measles	85 %	83 %

The 1992 figures for new malaria cases are the lowest in over 14 years. 1993 rates for vaccination coverage are at a record high. These results reflect such direct project inputs as donated syringes, cold chain equipment and paid TV and radio announcements, as well as strengthening commodities logistics management and MIS modules. Undoubtedly due to the malaria control and other positive interventions, the infant mortality rates had been declining from the 1970s (80/1,000) to the present estimate of 50 deaths/1,000. A 1993 sample of mother's birth histories suggests the current estimate is at the level of 42 infant deaths/1,000 births (FESAL).

Chart No. 1 follows the Executive Summary. Highlights are critical achievements in selected service areas of the APSISA Project, commenting on major USAID contributions to MOH assistance.

1.4 Key Conclusions and Recommendations

Findings, conclusions and recommendations are abstracted here.

1.4.1 Component A: Support for Logistics and Supply Management

Conclusion:

In 1992, USAID purchased over half of the drugs distributed to all MOH facilities. For 32 basic drugs and medical supplies, all MOH facilities are surveyed regularly and found to have an average of 76 percent of these items in stock. Working towards consolidating this gain and making it permanent, GOES funds continue to replace declining USAID contributions for volume purchases. GOES has increased its share threefold for drugs purchased, and fivefold for supplies (1992-1993). Using multiple financing sources for 1994, the MOH expects to meet 72 percent of the estimated needs for drugs and supplies at all health units and posts. The proposed Cost Recovery (CR) strategy, only at the pilot test stage, represents the MOH's permanent response for meeting a major portion of each year's estimate of the drug and medical supply needs of MOH facilities.

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Trained personnel must be in place in order for the component parts of the logistics and supplies management system to continue distributing drugs, equipment and supplies to health units and posts. In 1992, GOES offered an early retirement to its employees to shrink the civil service roles. Of the 2,000 who left the MOH, 74 were experienced key staff trained by APSISA in malaria control, logistics, drug quality control and vehicle/equipment maintenance.

Recommendations:

- Monitoring of GOES allocations to purchases of MOH drugs and medical supplies is warranted during 1994 for compliance with USAID conditions precedent to disbursements. The MOH agreed that, beginning with 1994 allocations, all drugs and supplies purchased with local currency funds, plus declining USAID contributions, will be distributed exclusively to health units and posts. The existing MOH drug stock level sampling mechanism could be modified slightly to permit monitors to spot check levels of beneficial health supplies made available by units and posts to community (CHP) sites;

- The MOH needs to look to the in-service training of people hired to fill vacancies in central and regional units which lost experienced staff in 1992. The MOH needs to be vigilant regarding the optimal placement of the new workers to assure continuity.

1.4.2 Component B: Extension of Basic Health Services

1.4.2.1 Extension of Health Services Delivery to 1,800 Cantons

Conclusion:

By December, 1993, a network of 1,441 CHPs and 127 specific/regional supervisors will be in place, extending basic services to 80 percent of the target 1,800 cantons. The CHPs' activity profile is rooted in two areas: promotion of environmental health services, and personal or family health services. The CHP directs a range of health messages to all age groups in her/his community through motivational talks. Based on the 1992 activity records, CHPs promoted latrines (112,622 talks) on a ratio of about two-to-one for talks centered on oral rehydration therapy (ORT) promotion and three-to-one regarding safe deliveries and reproductive health.

Although an estimated 20 percent of the CHP's clients are women 15 to 44 years old, CHPs task priorities do not reflect an emphasis on outreach to reproductive-aged women in proportion to their numbers. This impression is alarming, given that more than half the annual deliveries are home births, and tetanus toxoid vaccinations are reaching less than one in five pregnant women (1992 data). Fertility rates are noted to be rising nationwide, yet the 1993 FESAL data indicated that only about one in three women in rural areas uses a modern contraceptive method. The

MOH should be doing more to make Family Planning services available at the community level in the face of this unmet demand estimate (ANSAL, 1993).

Recommendations:

- The 1994 Annual Operating Plan must present details of how APSISA funds for training and printing of educational materials will focus on maternal services programming (e.g. safe deliveries, family planning). The regions' plans for CHP supervision must state clearly that adequate resources, especially motorcycles, are being budgeted in 1994 for specific supervisors to guide CHPs and midwives.

- The MOH should require revised 1994 project work plans from the Divisions of MCH/FP, Community Health and Health Education. The plans must specify complementary programming and training actions.

1.4.2.2 Malaria Control Program Support Cantons

Conclusion:

A continued strong performance is expected of the MOH Malaria Control program in 1994 and beyond, assuming budgeting keeps pace with operating expense increments (vehicles, supplies). Adequate supervision and technical support for four newly appointed Zonal Coordinators is the missing element in decentralizing surveillance and subsequent decision-making on malaria control at regional levels. (Their well-experienced predecessors resigned in 1992.)

Recommendation:

The MOH needs to ensure that adequate technical supervision is available for the Malaria Program Zonal Coordinators in 1994, as the linchpin to activate decentralized decision-making. As APSISA technical expertise will be helpful during the transition, national staff and advisors ought to draft alternate plans to assure that staff are well prepared to conduct decision-making at local levels.

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1.4.3 Component C: Strengthening Planning, Programming, Management

1.4.3.1 Short-Term Technical Assistance

Conclusion:

The APSISA project provided short-term assistance (1992-1993) to help the MOH move towards unifying central, regional and local approaches to programming planning. A revised planning methodology was suggested in 1992. Training of some central and regional staff began in 1993. This may achieve some integration of active planning and budgeting in the 1995 cycle. A more long-term planning exercise, such as restructuring the MOH, might require 3-5 years of technical assistance support. As A.I.D. resources are limited, a more limited planning exercise may be appropriate.

Recommendation: Limited Strategic Planning Exercise

A short-range intervention would be a well-designed exercise in the strategic planning of health services, involving a core group (not more than 15-20) of central, regional and local staff. The purpose of the exercise, over 12 months, would be to enable the core group to demonstrate competency in planning through integrating the use of available data and tools. To focus the exercise, the MOH needs to select a critical area for improved services programming.

Compelling topics include:

- development of a strategy to improve the delivery of preventive services for women 15 to 44 years old (see Chapter 3, p. 37 or Chapter 9, p. 83); or

- under the CR strategy, consider lessons learned, such as on the ProSalud Project in Bolivia where a package of services were identified in which community-level experiments have shown results in strengthening the local self-financing of health care delivery.

1.4.3.2 Information Systems Development

USAID/ES secured 738 person months of technical assistance from two U.S. contractors (1987-94) to create the logistics and supply system, its information modules and the epidemiological surveillance MIS. Information flow was charted, 34 computers secured and installed, software adapted, and 496 workers were trained to use computers.

Data generation and design of MIS flow have proliferated within the MOH (1987-1993), driven by donor reporting requirements. Resources, MOH-wide, are not being managed in a way which will enable diverse systems to converge and be useful to decision-makers. There is an

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urgent need to take a fresh, coherent approach to re-align donor-driven MIS initiatives operating in the MOH today.

Recommendations:

- High Price Option: A call needs to be made for rational approaches to information systems planning. Additional technical assistance would be needed to diagnose the current MIS scene, inventory the sub-systems in place or under development, and sketch the requirements (time, materials and actions) in order to move the MOH nearer to convergence of its MIS modules than is the case today (see also Section 7.3.1). The MOH and A.I.D. might consider asking the Pan American Health Organization (PAHO) and the World Bank to coordinate the use of existing technical assistance resources to structure this exercise.

- Lower Price Option: As priorities permit, direct the current MIS advisors to halt work in progress to complete the needs inventory.

1.4.3.3 Applied Research and Investigation

Conclusions:

Thirty operations research studies have been completed and form a base of useful data for community health staff in the regions. An opportunity is present to enable graduating physicians to conduct this type of applied research during their year of Social Service. Appropriate technical assistance is not currently available. (Contract coverage expired for the pertinent APSISA advisor.)

Recommendation:

Allocate modest funds for short-term help by in-country experts in community health to strengthen study designs and dissemination of results. This may attract more MOH participants and users.

1.4.4 Component D: National Reconstruction Plan

1.4.4.1 Training of CHPs

Conclusion:

496 CHPs have been trained and placed in an equal number of cantons identified within the National Reconstruction Plan's 115 municipalities, benefiting 605,000 citizens. The pace of rehabilitating units and posts is accelerating; of 80 installations planned, work is at or near completion at 41 sites; work is in progress at 15 more; the remaining 17 sites are to be

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completed in 1994. Several FMLN-lead communities today refuse to re-establish links with the MOH. Progress is judged to be appropriate for the physical works and equipment procurement tasks. No recommendation is offered. Health region staff, accepting new CHPs in their PRN areas, need to review 1994 budget forecasts to assure CHPs and their supervisors are assigned adequate direction, transport, supervision, tools and supplies.

1.4.4.2 Financial Management, Cost Recovery and Budgeting Recommendations

Conclusions:

Amendment 6 called attention to the over-arching issue: how will the MOH continue to finance and manage the activities started with APSISA resources? The MOH's response to date is expressed partially by establishing a well-designed CR scheme. Short-term technical assistance was provided to bring elements of the design together. Chronically troublesome areas include:

- The MOH's lack of attention to mounting recurrent costs which are now subsidized by external financing sources;

  The MOH is highly dependent on international sources of funding, particularly USAID:

  - During the last five years, USAID's financing of the MOH represented 21 percent of the total MOH resources and 36 percent of the general funds allocated by the GOES;

  - In 1990, USAID's funding represented 122.9 million *colones* (20% of the total), of which U.S. $15.1 million represented operational costs of the MOH (23% of the total operational costs);

  Fragmentation exists at the MOH in the execution and monitoring of the investment and operational budgets which has recurrent cost implications. The Health Engineering Division (Division de Ingenieria de Salud) is the group in charge of investment projects (proyectos de inversion). This unit operates totally independently from the MOH's division charged with monitoring the operational budget;

  This division of functions promotes a lack of integration between the investment (capital) budget and the operational budget, which reduces the possibility of establishing a system to monitor and control recurrent costs. In other words, one division is responsible for the development, evaluation, financial resource development and implementation of new investment projects. Other divisions monitor and control the operational budget;

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None of the units or divisions at the MOH have historically been involved in the analysis and monitoring of recurrent costs. These costs have been generally ignored or neglected;[1]

- Financial information modules, which track expenditures, but do not give management adequate data for decision making on planning and budgeting, cost control, pricing or resource management.

Recommendations:

USAID required that the 1993 APSISA Evaluation exercise include frank assessment and critical review of the MOH's efforts to design a viable CR scheme. The effort to date was judged to be at an early stage. During the present evaluation, USAID insisted that ideas be offered for improving the sustainability strategy, viz., for strengthening the CR scheme. Chapter 7 reviews CR developments and presents suggestions for aligning the strategy, not yet set in concrete, with mainstream health care financing practices. Among leading recommendations are:

- In order to accelerate CR implementation, assign short-term technical assistance to help the MOH prepare, during first quarter 1994, the elements for the 1995 preliminary health budget;

- APSISA should participate and coordinate with the main donor responsible for the development and implementation of the governmental accounting system, the operational budget system and the management information system so that these systems consider/include a cost component which MOH facilities will require in order to obtain the kind of cost information vital for decision making;

- Develop a set of well-defined objectives to guide the resource allocation decisions needed to make the CR strategy viable;

- In all training courses for budget and finance staff, use communications techniques to nurture in MOH staff a business-like attitude towards organizational change. Exercises which require managers to analyze services production and cost data, and then formulate action responses to help achieve service targets, will lay groundwork for mounting a robust national CAR strategy;

- Evaluate the progress of the CAR program each semester, and measure market elasticity so as to adjust prices as necessary.

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[1]Fiedler, John L., Luis Carlos Gomez, William Bertrand, ***Antecedentes y Situacion Actual del Sector Salud de El Salvador: Documento Evaluativo para la Evaluacion Propuesta del Sector Salud***, April 1993.

1.5 Lessons Learned

1.5.1 Independence from External Aid for Drugs and Supplies

A decision to meet half the MOH's needs for drugs and supplies each year and build a system to dispatch them, during times of civil unrest and financial crisis, nurtured dependency on external aid. Shock therapy, viz., insisting that GOES funds be used to purchase commodities, has produced results, so far. In 1994, the MOH will use local currency to meet 72 percent of estimated drug requirements.

1.5.2 "Blind Spots" in Implementing Policy Reform: Safe Deliveries

The MOH has consolidated the work of community-level resources who provide a range of health promotion and direct services to rural communities. Notable gains were secured in vaccinating children under 1 year against the diseases of early childhood. There was a visible return on efforts to reduce the burden of malaria and keep it in check. Targets were clear and resources well-organized.

The 1991 health policy reform spoke to alignment of MOH services with the needs of the most vulnerable groups: children under 5 years old and pregnant women 15 to 44 years old. Child health indicators have improved, but attention to maternal care has not kept pace. Service responses, even with an outreach network in place, are still inadequate compared to the magnitude of maternal health care needs. Decision makers do not see that MOH attention to safe deliveries and family planning is seriously fragmented. Critical review of this "blind spot" was missing in both the MOH's and the project's internal assessments and routine reporting.

1.5.3 Financial Management and Cost Recovery Strategy

From inception, APSISA managers needed to have put the spotlight on the chair of commodity procurement, logistics and support services through a CR strategy. Lead time is needed to create awareness on how the MOH will continue to provide basic services in the face of declining donor support. After more than 6 years of A.I.D. subsidy, the MOH has not developed a recurrent CR. Currently, the status of efforts to identify options for the replacement of donor support for APSISA initiatives is only at an embryonic stage.

CHART N°1

MINISTRY OF PUBLIC HEALTH AND SOCIAL WELFARE
APSISA PROJECT
EVIDENCE OF PROGRESS IN OUTPUT MEASUREMENT

INDICATOR	EVIDENCE OF PROGRESS	COMMENTS
GOAL: HELP MOH TO INCREASE ACCESS TO AND AVAILABILITY OF BASIC SERVICES AND REDUCE INFANT MORTALITY.		
INCREASED G.O.E.S ALLOCATION FOR PRIMARY CARE		
G.O.E.S. ALLOCATIONS TO THE MOH (1991-1993) FOR DRUGS, SUPPLIES AND SERVICES INCREASED TO PRIMARY HEALTH CARE.	MOH ALLOCATIONS CONTINUE TO INCREASE FOR DRUGS AND SUPPLIES: YEARS — PERCENT INCREASE FOR DRUGS — PERCENT INCREASE FOR SUPPLIES 1991-1992 — 21% — 251% 1992-1993 — 193% — 443% MOH INTENDS TO ASSIGN G.O.E.S. FUNDS IN 1994 TO COVER 72.3% OF OF PLANNED DRUG PURCHASES.	. MOH COMPLIED WITH USAID's CONDITIONS OF INCREASING GOES FUNDS FOR PURCHASES OF DRUGS AND MEDICAL SUPPLIES
VACCINATIONS		
- 80% OF CHILDREN < 1 YEAR WILL RECIEVE COMPLETE SET OF VACCINATION	VACCINATION RATES (9/93) 79% OF CHILDREN < 1 YEAR COMPLETELY VACCINATED	. COMBINATION OF INPUTS FROM APSISA AND OTHER RESOURCES HELPED MOH MOVE VACCINATIONS COVERAGE NEAR TARGET 1 YEAR BEFORE PACD.
- 85% OF CHILDREN < 1 YEAR RECIVE MEALES VACCINATION	83% OF CHILDREN < 1 YEAR VACCINATED FOR MEASLES	. CONTINUOUS REINFORCEMENT NEEDED (MOH WORKERS'S TRAINING, EPI AND COLD CHAIN SURVEILLANCE) TO MAINTAIN GAINS, AND MOVE TOWARDS UNIVERSAL COVERAGE.
MALARIA CONTROL		. FIRST RATE MALARIA CONTROL PROGRAM ESTABLISHED, EXCEEDS W.H.O. MINIMUM CRITERIA.
- REDUCE MALARIA INCIDENCE AND MAINTAIN AT A RATE UNDER 3 CASES PER 1,000 PEOPLE	LESS THAN 1 CASE PER 1,000 PEOPLE REPORTED IN 1992	. NUMBER OF MALARIA CASES REPORTED IN 1992 WAS LOWEST IN TEN YEARS.
	COST EFFICIENCY OF MALARIA CONTROL: 1985: 60,000 HOUSES SPRAYED EACH QUARTER 1993: 12,000 HOUSES SPRAYED EACH QUARTER	. 80 PERCENT REDUCTION IN VOLUME OF RESOURCES REQUIRED (INSECTICIDES, EQUIPMENT, TRAVEL/TRANSPORTATION) TO CONTROL MALARIA (1985-1993).

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CHART Nº 1
(CONTINUED)

MINISTRY OF PUBLIC HEALTH AND SOCIAL WELFARE
APSISA PROJECT
EVIDENCE OF PROGRESS IN OUTPUT MEASUREMENT

INDICATOR	EVIDENCE OF PROGRESS	COMMENTS
'INCREASED SERVICES AT COMMUNITY LEVEL:		A) ALL CHPs PAID BY G.O.E.S. SINCE 1992.
MOH INTENDS TO PLACE ONE COMMUNITY LEVEL WORKER IN EACH OF 1,800 CANTONS, BEFORE SEPTEMBER, 1994	CADRE OF MOH'S COMMUNITY HEALTH PROMOTORS INCREASED, WITH APSISA SUPPORT: 1990 579 1991 679 1992 992 1993 1,441 (Before 12/93) PROGRESS IN COVERAGE OF RURAL AREAS: 1987 - CHPs IN 12 % OF CANTONS 1993 - CHPs IN 57.5 % OF CANTONS	B) COMPETENCY BASED TRAINING PROVIDED (1991-1993) TO 1,241 PROMOTORS: BETWEEN OCTOBER-DECEMBER 1993, WILL REACH 200 MORE. C) WITH DECENTRALIZATION, REGIONAL STAFF TAKE CHARGE OF CHP SELECTION, TRAINING, ROUTINE SUPERVISION AND RESUPPLY. AS CHP NUMBERS INCREASE, REGIONS REQUIRE ADDITIONAL MOTORCYCLES/VEHICLES FOR CHP SUPERVISORS. 1994 BUDGET EXERCISE NOT YET SYNCHRONIZED TO ADDRESS SUCH EMERGING NEEDS. D) WHEN BULK OF PROMOTER ACTIVITIES (1992) IS EXAMINED, PROMOTION OF SAFE DELIVERIES/ POST-NATAL CARE LAGS BEHIND OTHER SERVICES. MOH STRATEGY IS NEEDED: EMPHASIZE ADEQUATE MATERNAL CARE AS PRIORITY WORK FOR PROMOTERS, MIDWIVES AND THEIR SUPERVISORS. E) PROMOTORS TRAINED BY NGOs INCREASING IN NUMBERS WITHOUT REFERENCE TO LOCATIONS OF MOH PROMOTORS. MOH EXPRESSES HELPLESSNESS TO TAKE STEPS TO AVOID DUPLICATION.
LOGISTICS AND IMPROVED SUPPLIES MANAGEMENT ALL MOH FACILITIES OPERATING WITH STOCK OF BASIC MEDICINES MAINTAINED AT 90% OF SUPPLY REQUIREMENTS.	STOCK LEVEL PERCENTAGES OF BASIC DRUGS (BASED ON SAMPLING ALL LEVELS OF MOH FACILITIES): NOVEMBER 1991: 58% NOVEMBER 1992: 63% APRIL 1993: 76%	WITH TECHNICAL ASSISTANCE, MOH ESTABLISHED ROBUST SYSTEM FOR COMMODITY PROCUREMENT, DISTRIBUTION AND RESUPPLY ORDERING. UNDER MOH DECENTRALIZATION, REGIONAL STAFF TAKE STEPS TO MINIMIZE DRUG STOCK -OUTS, BASING RE-ORDER DECISIONS ON REVIEW OF MIS DATA BASE ON DISEASE TRENDS, SERVICES PRODUCTION AND PAST USE LEVELS.

1. Background

1.1 Project Background

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

USAID/ES provided vital support to MOH activities, first, through the VISISA Project (1983-1987) and continuously to date via the APSISA Project. The latter can be sketched in two phases:

- 1987-1991, in which two U.S. technical assistance contractors with 859 person-months labor, helped the MOH to establish its logistics/supplies management and related information systems, and channel commodities ($25 million) to MOH facilities and helped the MOH to establish other initiatives in basic care delivery; and,

- 1991-1994, in which one contractor is providing 357 months labor and helping to stream drugs, supplies, vehicles and equipment ($15 million) to Health Units, Health Posts and community sites. Assistance was offered in malaria control, community health, oral rehydration, and health planning.

Amendment 6 (June 1991) to the bilateral agreement enables the second APSISA phase to consolidate earlier systems, building gains and assisting the MOH to plan to carry on services initiatives once external funding is to be withdrawn in 1994, unless extended.

1.2 Purpose and Method of the Evaluation

A team of three evaluators conducted the second evaluation of the APSISA Project during the period October 29-December 1, 1993. The evaluation's stated purpose was "to measure output level indicators, attainment of the project purpose and contributions to the project goal." The team interpreted its mandate to be: to assess APSISA outputs as enumerated by the indicators set down in the project's log frame (revised, Amendment No. 6, June, 1991).

The task began ~~in the~~ at the contractor's headquarters in Reston, Virginia, with a two-day team building exercise. USAID/ES/HPN and the U.S. contractor, Clapp and Mayne, Inc., oriented the team during the first days in-country and through frequent contacts. USAID guidance

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emphasized that the evaluation should target APSISA's efforts to develop a CR strategy to meet the project's recurring costs and report on this under "Sustainability Issues."

The evaluation was conducted adhering to two source documents:

- Scope of Work (Section C. "Statement of Work," pages 7-9); and,
- USAID/ES/DPP "Mission Evaluation Policy and Procedures."

Documents and files on the APSISA project were examined at the offices of the MOH, USAID/ES and Clapp and Mayne in San Salvador. The team interviewed over 180 informants at the GOES central, regional and local levels, international organizations, and NGOs.

For each of the three evaluators, a brief sketches is presented in Annex D, identifying the expertise and APSISA focus areas of each person.

1.3 APSISA and Impact Indicators

This section highlights APSISA's contributions towards desired indicators of the project's impact.

Indicator 1: Reduce Infant Mortality Rate (IMR) to 42/1,000 live births

Update: Baseline (1975-1980): IMR of 87.3/1,000 live births (1)

Updated (1985-1990): IMR of 57.4/1,000 live births (1)

Best estimate(1992): IMR of approx. 50/1,000 (2)

Comment:

The MOH and public health experts hold the opinion that the infant mortality rate has been in decline since the 1970s, resulting from a confluence of factors, among which stand out for mention:

- A multi-pronged initiative (1980-1993) by MOH and its collaborators to control the national incidence of malaria. This development no doubt contributed greatly to reducing the portion of infant deaths in a here-to-fore endemic malaria area; and,

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- Early efforts in the 1970s and 1980s to upgrade the knowledge of empirical midwives with attention to referring high-risk deliveries to superior levels of attention; and perhaps marginal economic improvements in the ability of some sectors of the economy to secure more outpatient, especially prenatal care.

Overall, vital statistics for the decade 1980-1990 show a picture of declining mortality rates for the age groups under 15 years old. Due to improved coverage efforts by many actors in the health sector, the diseases of early childhood which can be prevented through vaccination diminished in magnitude during the 1990s in comparison with the profile of the 1970s. Consolidation of these gains requires:

- disciplined allocation of MOH and private resources;
- effective support for the networks of outreach to the vulnerable age groups (children under 5 years and women 15 -44 years old) to improve coverage rates; and,
- continuing efforts for the MOH to manage available resources towards realistic immunization and risk-reduction targets.[2]

Indicator 2: 80 percent of children less than 1 year old will have received the recommended set of four vaccinations (BCG, DPT, measles, and polio)

Update: 1992 Coverage for children < 1 year was at 51 percent.

1993 Coverage is at 79 percent for children under 1 year old (Current to 30/09/93).

Indicator 3: 85 percent of children less than 1 year old will have received a measles vaccination.

UPDATE: 1993 Coverage for children <1 year is at 83 percent.

Comments:

The latest figures available (79 percent for complete vaccination coverage for children under 1 year; and a figure of 83 percent for measles vaccination coverage) is supplied by the MOH Statistical Department. Coverage data is calculated using age-specific population data supplied by the Ministry of Planning, which serve as projections continually updated from the most recent

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[2]Clapp & Mayne, "Evaluation of Activities, 1992-1993," Section 4, "Achievement of Indicators to Sept 30, 1993.

OPS/OMS, San Salvador. Personal communication (11/93).

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National Census (1970s). Updated population figures are not yet available from national sources. The MOH Statistics Department estimates for 1993 are thought to be low because of this calculation limitation.

During 1992, national authorities assisted by the U.S. Centers for Disease Control and Prevention (CDC), conducted the National Fertility Survey, which included questions on coverage rates for selected childhood vaccinations for children under 5 years old. The findings gave even more credibility to the MOH's performance in terms of vaccination coverage for children under 5 years old. Such a stratified random sampling provides a valuable estimate of the vaccination coverage levels of children under 5 years old in communities sampled. While the two sets of data do not refer to identical indicators, it is possible to make some generalizations from data presented below.

A picture emerges, supported by the FESAL sampling, that the completed vaccination coverage rates for young children are even higher than the figures reported by the MOH's Statistics Office.

Results of Stratigied Sampling of Completed Vaccinations for Children < 5 Years (1992, FESAL/CDC)

	Total (%)	Rural (%)	Urban (AMSS) (%)
BCG < 5 years old	87.4	83.4	92.4
DPT & Polio < 5 years old	82.0	80.3	88.9
Measles < 5 years	86.3	84.3	90.8
Complete Set of four vaccinations for > 8 months old	75.3	72.3	83

(Source: FESAL, 1993, pages 26-27.)

It would be difficult to attribute accurately the project's contribution to these latter gains. Project records demonstrate that since 1987 APSISA resources have strengthened the MOH commodity logistics management systems, through which vaccines are distributed from San Salvador to lower operational levels. The presence of the network of CHPs working with Health Post and Health Unit professionals to mobilize vaccination campaigns has contributed to campaign completion, and its contribution is becoming more marked as the network of

promoters expands. The satisfactory coverage results, approaching MOH targets, reflect contributions from many sources, including MOH, UNICEF, USAID and other external resources.

Public health documentation points to an aggressive profile of childhood immunization campaigns by MOH with UNICEF support during the decade of the 1980s. Informed sources reported to the APSISA evaluation team that, despite the intensity of civil unrest at the height of the 1979-1990 conflict, opportunities were structured nationwide for the vaccination campaigns to be activated, in concentrated form, during "cease fire" periods. The cumulative effect no doubt contributed overall to declining rates of morbidity and mortality for children under 5 years old.

Indicator 4: Reduction of the incidence rate for malaria to a level of, and maintained at, less than three cases per 1,000 inhabitants.

Malaria incidence in El Salvador over the last 10 years represents a marked decline: from a rate of 20.1 cases per 1,000 population in 1980 to 0.84 recorded at the end of 1992. The reduction has been achieved employing multi-pronged strategies of malaria control: stratification of endemic areas, concentration of control measures on aggressive treatment at the source of infection, improved organization of laboratory and community-based detection and treatment resources, and gains in environmental health management. Worthy to note is the volunteer labor provided to the Malaria program's success by 2,954 community-level trained resources (72 percent of whom are women).[3]

Indicator 5: "A Greater Percentage of the Population has access to Primary Health Care."

The indicator used consistently in APSISA project documentation is the number of CHPs trained and at work in the cantons of the health regions. The actual status is that 1,241 CHPs are at work, current to November 29, 1993. With the addition of 200 CHPs who are being trained by staff in the health regions during October-December, the number of CHPS to be in place by December 31, 1993, will be 1,441.

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[3]Clapp & Mayne, "Evaluation of Activities: Results Achieved through September 30, 1993."

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2. Component A: Logistics and Supply Management

In this chapter, the output indicators specified by the project's Log Frame, serve as the outline for commenting on measures of improvement, resulting from APSISA's interventions within the MOH's logistics and supply management areas. **Chart No. 2 highlights key sub-components, work completed and actions which need to continue.**

2.1 Selection and Procurement of Drugs and Medical Supplies

Indicator: 90 percent of open MOH care facilities have at least minimum stock levels (appropriate to the level of facility) of selected drugs and medical supplies (20-30 items on basic drug list).

During November, 1993, the APSISA project managers and Clapp and Mayne staff convinced the evaluation team to accept that this indicator was intended to be understood as follows: 90 percent of selected drugs (appropriate to the level of facility) should be in place at all health facilities.

Status:

100 percent of open MOH care facilities have at least 76 percent of selected drugs (MOH Monitoring Report, 5/93; Clapp and Mayne Monitoring Report, 4/93.)

Many factors are involved in the pursuit of attainment of this indicator, among them the selection, procurement, warehousing and distribution of drugs and medical supplies. The Technical Unit for Drugs and Medical Supplies (UTMIM) of the MOH selects these commodities with the advice of the Technical Therapeutic Committee which consists of medical personnel of MOH hospitals, medical educators and a clinical pharmacologist. Selection is based on morbidity statistics, market availability of medicines, consolidated regional requests, price and population characteristics.

The sixth version of the Basic Drug List prepared by the UTMIM and the Technical Therapeutic Committee with technical assistance from Clapp and Mayne and OPS, was published in April, 1993. The list, distributed to all MOH health facilities, contains 284 basic drugs identified by five levels of use (health promoters, health units and posts, health centers and hospitals, specialized hospitals and drugs for restricted use). Of these, 32 presentations were chosen as essential for use in health units and posts. The new list contains 76 fewer drugs than the previous list of 1986. Assuming that drug efficacy is not compromised, the new, shorter basic drug list should permit a greater quantity of drugs to be purchased and distributed.

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CHART N° 2

MOH LOGISTICS AND SUPPLY MANAGEMENT SYSTEM
MAJOR SUB-COMPONENTS: PROGRESS REPORTED

SUB-COMPONENT	EVIDENCE OF PROGRESS	ACTIONS TO CONTINUE
Selection and Procurement of Drugs	. GOES funds will cover 72.3 % of planned drug purchases in 1994	. MOH seeks incremental GOES allocations/year for purchases of drugs and supplies.
	. New competitive bid process produces lower unit costs, enabling more purchases with same budget.	. MOH seeks to meet growing demands for drug items through competitive buying.
	. Drug selection now based on need, not solely on volume of past use.	. Re-order needs of units, posts continuously reviewed by MOH monitors.
Warehousing and Distribution	. Inventory Control MIS in use at Central and Regional Levels.	. MOH staff, APSISA advisors, monitors proceed with MIS maintenance/refinement.
	. Distribution based on need, not past patterns of flow.	. MOH monitors and Regional staff review commodity flow to Units, Posts.
Biomedical Equipment and Maintenance	. Planned installations completed. Regional staff perform preventive maintenance for lab equipment.	. MOH monitors to verify maintenance compliance.
	. 163 lab technicians/supervisors trained in care of equipment.	. Regional maintenance staff to assess lab personnel's maintenance efforts and assist.
Vehicle Maintenance and Management	. Staff at 3 of 5 Regional now performing vehicle maintenance locally.	. Training required for six mechanics to fill current vacancies.
	. New cost control measures instituted for maintenance expenses.	. Central and Regional vehicle supervisors review planned use of funds.
Water and Drainage Systems	. 64 installations completed, 6 in progress, 15 contracted.	. Regional staff and MOH monitors review needs for maintenance/upgrading at Units and Posts.
MIS Logistics Management	. Six software applications developed and observed in use	. Develop more needed systems, such as cost control for general maintenance

Also released in April was the second version of the Basic Medical Supply List and the second edition of the Drug Formulary. All three of these documents form the basis of drug and medical supply selection by the UTMIM. As a further aid to health care providers at all levels, the UTMIM, in collaboration with PAHO, in April published a Pharmacotherapeutic Guide for Ambulatory Patients.

All four of the documents mentioned above have been distributed to all MOH health facilities and are contributing to the proper selection, distribution and prescription of drugs.

It is calculated that USAID/ES through APSISA provides over 28 percent of the annual estimated drug needs of the MOH. With this assistance, 66.3 percent of drug needs are now covered. Without this assistance MOH drug supply would presently cover little more than 38 percent of the estimated needs. Even with APSISA support in drug acquisition, the yearly deficits in drug and medical supplies are formidable:

Annual Drug Needs and Availability of Funds
(in thousands of *colones*)

YEAR	GOES	PL-480	USAID	AVAIL. FUNDS	ANNUAL NEEDS	COVER-AGE
90	24,948	5,000	38,850	64,798	145,525	44.5%
91	20,949	24,056	32,000	77,004	169,880	45.3%
92	25,392	14,000	40,500	79,892	215,375	37.1%
93	74,339	18,000	68,734	161,073	242,778	66.3%

Annual Medical Supply Needs and Availability of Funds
(in thousands of *colones*)

YEAR	GOES	PL-480	AVAIL. FUNDS	ANNUAL NEEDS	COVER-AGE
90	1,454	2,700	4,154	31,670	13.1%
91	1,454	7,276	8,730	35,699	24.5%
92	5,000	9,157	14,157	40,241	35.2%
93	27,152	9,000	36,152	45,362	79.7%

Source: Clapp and Mayne

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Since all drug and medical supply needs are not being met, the MOH must select and channel drugs to areas which will benefit the most people. USAID/ES has encouraged the MOH to prioritize delivery of APSISA-purchased essential drugs to health units and health posts, causing a dramatic increase in drugs to these destinations in recent years. This emphasis on drug delivery to primary health care units was spelled out in Amendment 6 of 1991. However, as a result of MOH requests, health centers and hospitals are now included in APSISA drug distribution.

The deficit in drug supply is not a static challenge. The overall annual deficit of drug availability is fueled by population growth, inflation, devaluation of the colón and the increase in the number of referrals by an ever-growing number of health promoters.

Evidence of the drug deficit is provided by MOH and Clapp and Mayne monitors' reports and personal field observations. The evaluation team determined that the most reported shortages in health units and posts visited were vitamins, both pediatric and adult, and antibiotics. A stockout of some of the above items was observed at all primary care establishments visited. Although this is not a representative sampling, it does indicate deficiencies in drug availability.

Considering the above deficit in drug and medical supplies, it might first appear that the 90 percent essential drug availability indicator will not be achieved by the end of the project without a large increase in funding by USAID/ES and/or the MOH. This need not necessarily be the case, however. According to Clapp and Mayne, 100 percent of open MOH facilities now have 76 percent of selected drugs, and the following has been achieved: ?

- The number of essential drugs for selection, at all levels together, has been reduced from 360 to 284;

- Surprisingly, prices for many MOH essential drugs currently show a dramatic reduction - some more than 50 percent - than just a few months ago. This is a result of a new open bidding process which allows both national and international suppliers to compete with each other on the same bids instead of being separated into two bidding groups; and,

- The programming and distribution of drugs is more realistic, being now based on need (with morbidity factors taken into consideration), not on historical precedent.

Conclusion:

Based on the project documentation reviewed, it is reasonable to expect that, by the end of the APSISA project in 1994, the monitoring system for health facility stock levels of basic drugs will report stock availability at the 90 percent level for facilities sampled. This likely target might be secured with an even firmer degree of certainty through adequate MOH monitoring of the use of the *patronato* funds for local purchasing of selected drugs and supplies, as well as by

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optimizing the use of non-USAID donor resources for drug commodity purchases when offered to the MOH.

Indicator: Resources to primary health care increased: increased pharmaceutical levels to primary health care.

Status:

The increase in the assigned budget by the GOES for the acquisition of drugs and medical supplies is reported as follows (in *colones*):

Drugs Purchased With GOES Funds: 1991-1993

Year	GOES Funds	Percent Increase
1991	20,947,890	---
1992	25,392,210	21.2%
1993	74,339,200	192.8%

Medical Supplies Purchased with GOES Funds: 1991-1993

Year	GOES Funds	Percent Increase
1991	1,423,500	---
1992	5,000,000	251.0%
1993	27,152,320	443.0%

(Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The Procurement Unit of the MOH makes its purchases from both national and international suppliers. USAID/ES procures APSISA drugs from the United States via the General Services Administration. Pharmaceuticals purchased by USAID/ES for APSISA require a year or more from order to arrival. Nevertheless, timely USAID/ES purchase orders procured almost 60 percent of the total drug supply for the MOH in 1990. In 1991, the amount was about 41.6 percent: in 1992 almost 50.7 percent. For the current year, USAID/ES will provide almost 42.7 percent of the total funding available for drug purchases. According to the USAID/ES APSISA Project Manager, USAID/ES-procured drugs will be reduced by 15 percent in 1994, and the MOH already has the funds to cover this reduction.

The MOH has steadily increased its input of drugs and medical supplies, and indications are that it will continue to do so.

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Indicator: MIS drug supply and management sub-system operational at central and regional levels.

Status:

The MIS supply and management sub-system is operational at central and regional levels. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The MOH purchasing procedure has been simplified under the APSISA Project. Before APSISA, the process from purchase order to reception of commodities in the Matazano warehouse required about 18 months. The average time required now is six months. APSISA technical assistance has played a key role in streamlining the purchasing procedure, largely through the computerization of supplier registers, bid tenders, analysis of supplier offers, awards determinations, contracts and purchase orders. Through APSISA, a training manual for the above activities was developed as well as an organizational manual for the Procurement Unit.

Much the same has occurred at the regional levels. The regions now prepare computerized information regarding inventories and use data submitted by the health units and posts. This information is forwarded to the central level so that procurement decisions can be made.

2.2 Warehousing and Distribution

Indicator: Hospital pharmaceutical allocations based on demand/need, not historical levels.

Status:

The distribution of medicines and medical supplies is made at the central level to regional levels, hospitals, and health centers and from the regions to the health units and posts based on consumption (needs) and balances of each article in each establishment and of the availability in the warehouses at the central and regional levels. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

More specifically, the amount of drugs and supplies to be allocated to the regions and hospitals is determined by taking into account consolidated hospital and regional consumption records, items in stock in each establishment and in the central and regional warehouses, items in reception at central and regional warehouses and purchases in transit as well as drug prices and budget limitations. The accuracy of this allocation process is dependent on the ability of the health establishments to correctly determine needs and on the overall amount of drugs acquired and their availability at central and regional warehouses.

Indicator: MIS drug supply and management sub-system operational at central and regional levels.

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Status:

The MIS supply and management sub-system is operational at central and regional levels. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

Consumption and inventory records of drugs and medical supplies are gathered monthly by health units and posts and sent to the regional level. These are prepared manually. The regional levels prepare quarterly computerized consolidations of these data and forward them to the central level. By means of the computerized system, the central level consolidates these data and uses them to prepare distributions.

Indicator: Improved MOH policy, program planning and management capabilities as evidenced by decentralized MOH administration. Regional offices will be controlling inventory and distribution of medical supplies.

Status:

Inventory and distribution of medical supplies are controlled by a computerized system at all five regional warehouses. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

Reorganization of the Matazano warehouse began during the VISISA Project (1983-1987) and refined under APSISA. APSISA can claim credit for refining operational standards and causing them to be implemented at both the Central Warehouse at Matazano and at the regional warehouses. The Matazano warehouse is divided into discrete sections for reception, warehousing and distribution of products. A manual of organization of regional supplies was prepared and published in April of this year. All five regions now prepare computerized inventories along with distribution and consumption data from statistical information gathered by all health units and posts. With this information, the regions prepare distributions to the primary health establishments. This information is also aggregated and consolidated with that of hospitals and health centers and forwarded to the UTMIM at central level for determining new acquisitions. In addition, to the computerized information, a Kardex system is maintained at all levels. Although this might be considered a duplication of effort, it serves as a backup and provides another means to rationalize physical inventories. In any event, the Kardex system stands little likelihood of being eliminated as its maintenance is required by the GOES auditing agency, La Corte de Cuentas.

A system has been established to facilitate the transfer of surplus drugs or medical supplies from one MOH establishment with to another in short supply. This has provided a means to eliminate intra- and inter-regional imbalances. The transfer procedure is detailed in the Norms and Procedures Manual of October, 1993.

Despite the strides made in reorganization and computerization at the central and regional warehouses, some physical deficiencies were noted during field visits. At the central warehouse, bin cards noting the type of commodity, date of expiration and current balance, were observed

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in only one of the four sections of the warehouse. The lack of these in the other sections was explained as being the result of too few personnel to maintain them. Two elevators were not operating; and in one section, the overhead lights were not functioning. One small fork lift has been out of service for months due to a lack of spare parts.

The drug supply and management sub-system was noted in operation at the Western, Eastern and Paracentral regions. Inventories and distributions are computerized and managed by these regions.

At the Paracentral Regional warehouse, no bin cards were seen. Bin cards with expiration data transcribed were seen at the Western Regional warehouse, but no data were provided on distribution or physical inventory. At the Eastern Region, no bin cards were noted, but product information regarding balance and expiration date were written on the product cartons. The Paracentral Regional warehouse has been adequately remodeled including the positioning of overhead fans, but two of the air extractors were not functioning properly. There are new warehouses, vehicle workshops, a laboratory and a regional office complex being constructed by APSISA in the Central, Eastern and Western Regions. They are scheduled for completion in March of 1994.

Indicator: 20 percent increase in drugs (from the basic drug list) dispensed by health units, post and outreach workers.

Status:

From November, 1991, to April, 1993, an 18 percent increase was registered. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

From the previous table it can be noted that the overall deficit of drugs and medical supplies has decreased from 55.5 in 1990 to 33.7 percent in 1993. Anecdotal evidence supports this. In interviews at health units and posts and conversations with health promoters, it appears that, although there are scarcities still, the situation has improved. However, the reactivation of health units and posts by the MOH that were not attended during the 1979-1991 conflict and the increase in the number of health promoters, has, along with population growth, contributed to the increased needs for drugs. Despite these factors, the reported increase of 18 percent is very close to the project goal.

2.3 Facilities Management Manuals

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

Status:

Manuals were developed for: Selection of Drugs and Medical Supplies (Basic Drug List); Drug Formulary, Pharmacotherapeutic Guide for the Ambulatory Patient; Manual of Norms for the Acquisition, Reception, Control and Distribution of Donated Drugs, Medical Supplies and Equipment, Manual of Transfer and Return of Drugs and Medical Supplies; Guide for Taking Drug and Medical Supply Inventories and Guide for Maintaining Daily Tabulation of Drug Consumption, Monthly Review of Drug Consumption (all the foregoing for use in all MOH health establishments) and the Manual of Norms for Regional Supply Committees (for regional use).

Facility management manuals were observed to be in use and were updated. Of nine manuals developed, seven were distributed; and personnel were trained and are continuing to be trained in their use.

Some of the above manuals are mentioned under other sub-components. In November, 1993, MOH staff and consultants prepared a Manual for the Clearance of Merchandise from Overland Customs in San Bartolo (for use at central-level procurement) and an Administrative Manual for Regional Warehouses (for regional warehouse use, pending MOH approval).

2.4 Drug Quality Control

(The Project Log Frame contains no indicator for this action.)

The Drug Quality Control Laboratory at the Matazano complex was inaugurated in 1987 under VISISA and put into operation the following year. It is commissioned to inspect and/or analyze all MOH pharmaceuticals and medical supplies, both imported and locally obtained. According to the laboratory chief, all pharmaceuticals are inspected visually and analyzed. Because of a shortage of personnel, it can take as long as one month before a drug is analyzed depending on the number of drugs awaiting analysis. Local suppliers are charged a fee per each lot to be analyzed. This defrays reagent and incidental costs for the Laboratory. Some pharmaceuticals from the Institute of Social Security and from a few private companies are also analyzed. Approximately 3,000 drugs are inspected and analyzed each year.

To observe the possible degradation of drugs during the life of the suppliers' two-year guarantee, the Laboratory maintains a separate room where samples of analyzed drugs are stored and periodically inspected over a two-year period.

The Quality Control Laboratory is presently staffed by 18 employees. A study is underway to determine additional personnel needs stemming from normal attrition as well as from the early retirement option invoked in 1992. The Laboratory Chief estimates that an additional 15 employees are needed to conduct the routine activities of the laboratory.

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2.5 Biomedical Equipment Maintenance

Indicator: 90 percent of MOH biomedical equipment, including cold chain equipment, will be functioning.

Status:

100 percent of clinical laboratory equipment of health units and posts functioning. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

This refers to the biomedical equipment furnished by APSISA.
During a field visit by the evaluation team in the Western Region, it was noted that some laboratory equipment delivered to Health Unit Dr. Tomás Pineda Martínez on November 4 of this year arrived incomplete. A field visit in the Eastern Region revealed that biomedical equipment at Moncagua and El Transito Health Units had not yet arrived. The installation of the equipment is delayed, pending inspection and evaluation of the electric service available at the site.

Apart from the clinical laboratories serviced by APSISA, a few problems were noted in cold chain maintenance during field visits. The warehouse at the Paracentral Region has three non-functioning cold chain refrigeration units out of a total of eight. At the San Sebastian Health Unit in the Paracentral Region and the Texistepeque Health Unit in the Western Region, cold chain equipment was functioning normally but the control sheets of daily morning and afternoon temperatures were not kept up to date.

Regarding the cold chain equipment at the Matazano warehouse, a complaint was registered by the warehouse manager that frequent breakdowns occur with the refrigeration units. The power generating unit for the cold chain section has been out of commission for six months, repair parts availability being a problem. In its absence, electric power needs are provided by the Matazano main electric plant. The warehouse manager stated that the cold chain section requires another cold room (4 x 4 meters square) within the warehouse because of the increased amount of items requiring refrigeration. The need was confirmed by the Director of Procurement.

Indicator: Under decentralized MOH administration, regional offices will be maintaining all biomedical equipment.

Status:

Clinical laboratory equipment maintenance is being performed by the central level and by the Eastern, Paracentral and Western Regions. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The majority of basic preventive maintenance is performed by regional personnel. Because of this, the chief of the central-level General Maintenance Workshop estimates that only 30 percent

of the work of his technicians involves preventive maintenance, and this is concentrated in the Central and Metropolitan Regions. Corrective maintenance is provided by central-level general maintenance. Inspection and service travel is accomplished to satisfy the current maintenance requests. However, twelve staff including six trained technicians, resigned from the General Maintenance Unit (1992). MOH efforts to recruit and train replacement personnel are hampered by low salaries and low per diems (15 *colones* for day trips, 50 *colones* for overnight).

Although in 1993 the MOH ordered a quantity of spare parts (five million *colones*' worth), the chief of central maintenance complained about the current lack of replacement parts. He also noted (along with the Clapp and Mayne biomedical equipment advisor) that the APSISA petty cash fund limits were set too low: 5,000 *colones* with a single purchase limit of 500.

On inspection, the central-level General Maintenance Warehouse and Workshop were found to be clean and well-organized. A Kardex system and bin cards were present, but the buildings are old and difficult to maintain. The warehouse and sections of the workshop were poorly lighted, with no fans or air extractors. Exposed electrical wiring was obvious. Present security is a problem made evident by two recent robberies, one in August and one in November, 1993. To rectify this, the German development agency, GTZ, will finance the construction of a new warehouse and protective walls around the compound.

Indicator: MIS biomedical sub-system established and operational, including inventory.

Status:

Inventory information is currently available regarding biomedical equipment in health units and posts. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

This information is available at regional level and at the central-level General Maintenance Workshop. However, the basic inventory dates from 1990. This should be brought up to date at least quarterly, perhaps monthly. Inventory information is computerized only for hospitals and health centers. According to the APSISA biomedical equipment advisor and the chief of General Maintenance, approximately 40 percent of the listed equipment lacks an inventory number. This reflects equipment items that were donated years ago. Information regarding source, cost and date acquired is often not available. The result is that since these equipment items are not numbered in the inventory, they cannot be legally serviced or repaired.

According to the chief of the Clinical Laboratory, a set of criteria for determining the useful life of equipment items has been implemented; and when a piece of equipment is deemed to have only 1/4 useful life, it is to be replaced. According to the chief of General Maintenance, what presently happens is that the equipment is repaired until such a time it is concluded that additional repairs would be more expensive than purchasing a new equipment item.

Preventive and corrective maintenance records were computerized at the central-level General Maintenance Workshop with the technical assistance of PAHO, but they do not yet include all costs involved with maintenance (material, service and transport).

APSISA, through Clapp and Mayne, intends to create computer programs for biomedical equipment status and inventory control next year.

Indicator: Standardization policy adopted.

Status:

Standardized clinical laboratory equipment including: binocular microscopes, autoclaves, spectrophotometers, chronometers, electric drying heaters, micro- and macro-centrifuges, refrigerators and timers. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The equipment purchased by APSISA is indeed standardized but there is a host of other donated equipment of different brands from various sources present in other laboratories, particularly those in hospitals. Total standardization cannot be achieved so long as donor countries provide different brands of equipment.

Indicator: Two additional regional biomedical shops opened and operating.

Status:

Construction and equipping of the Biomedical Workshop in the paracentral region was completed. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

During a field trip to the Paracentral Region, the Biomedical Workshop was locked and the workshop chief was not available.
In the Western Region, construction is underway and is scheduled to be completed in March, 1994.

Indicator: In-service training for 100 (originally 60) biomedical technicians.

Status:

In-service training for 167 personnel responsible for use, operation and equipment maintenance. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

According to the chief of the General Maintenance Workshop, this operational/maintenance training provided by APSISA was completed in 1992. This training provided operators of the equipment the knowledge of how to perform basic preventive maintenance (cleaning, bulb changing, etc.).

Indicator: Biomedical maintenance teams have completed regularly-scheduled preventive maintenance visits to all open facilities.

Status:

Clinical laboratory teams of health units and posts have completed the program and the routines of preventive maintenance
(Clapp and Mayne Evaluation of Goals and Activities, 1992-1993)

Biomedical teams have completed, or are in the process of completing, preventive maintenance. The timing of this maintenance varies with the piece of equipment to be maintained. It requires periodic maintenance for each item, but not every item at the same interval.

Indicator: 100 health technical and laboratory personnel trained in preventive maintenance.

Status:

163 clinical laboratory personnel and supervisors have been trained in basic preventive maintenance. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The training in basic and preventive maintenance was conducted in June and July of this year by the APSISA consultant in biomedical equipment. The trainees were divided into groups of 15 to 30 persons, and each trainee completed two days of course work.

2.6 Vehicle Maintenance and Management

Indicator: Decentralized MOH administration. Regional offices will be maintaining all vehicles.

Status:

The Eastern, Paracentral and Western Regions are performing maintenance of their vehicles. The central-level Workshop performs maintenance of vehicles for the Central and Metropolitan Regions as well as for the central level. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The Paracentral Region has a total fleet of 83 vehicles including 27 scheduled for maintenance. At the time of the evaluation visit, about 10 of the 27 were undergoing maintenance, and 17 more, as well as about 20 motorcycles, were awaiting corrective or preventive maintenance. It is estimated that approximately 40 percent of the maintenance performed is of a preventive nature. There are only four mechanics plus the workshop chief available to accomplish all maintenance. Although vehicle maintenance training was provided by APSISA, none of the

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mechanics is adequately trained to maintain motorcycles. Future APSISA training should resolve this problem.

Throughout the Western Region, there are 60 vehicles in operation plus 17 scheduled for repair. There are also 58 motorcycles assigned. Of these vehicles, at the time of the evaluation visit, five were under repair. It is estimated that approximately 60 percent of the maintenance is preventive. Although the workshop has eight mechanics, occasional work is performed by outside repair shops when the situation warrants.

In the Eastern Region, there are six mechanics employed to maintain 119 vehicles and another mechanic for 97 motorcycles. The workshop chief stated that he needed six more to handle the vehicles alone.

With only six mechanics available to maintain 119 vehicles, plus 97 motorcycles, it is logical that delays will result. More trained mechanics are needed.

Because of its relative proximity, the Central Level Workshop performs maintenance for its own vehicles and for the Metropolitan and Central Regions as well, a total of 305 vehicles. According to the central-level Workshop chief, the maintenance performed is 90 percent preventive and 10 percent corrective; but this appears to be more of the ideal than the reality for the majority of the MOH operating vehicles are of 1988 vintage and would necessarily require considerable corrective maintenance.

The central-level workshop has approximately 40 mechanics. Most of them work in a large enclosed area which is poorly lighted and hot (no air extractors). Within this area is a section where new spare parts are stored. The spare parts are rarely identified by bin cards but are controlled by the Kardex system.

There is a room housing some used spare parts, but these have not yet been identified or inventoried.

Indicator: Cost control and use of monitoring procedures instituted.

Status: The cost control system is functioning. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

All workshops are charged with preparing monthly cost control forms (Form DT 102). On this form vehicle operating and repair costs are broken down as follows: operational costs, preventive maintenance costs, repair costs, repair costs resulting from accidents, repair costs involving tires and inner tubes and replacement costs for tires and inner tubes. According to Clapp and Mayne, vehicle maintenance is unique in recording maintenance costs. This should be emulated at the general maintenance unit.

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Use monitoring is maintained via Form DT 101, a register of daily trips taken by each vehicle. This form details the date, time out, odometer reading and location of departure as well as the time of arrival, odometer reading, destination and distance traveled. The form also requires the names of the operator and passenger(s) and the amount of fuel received.

Indicator: Maintenance schedule established and followed for all MOH vehicles.

Status:

Vehicle maintenance routines defined and program established and followed for all MOH vehicles. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

Vehicle preventive and corrective maintenance scheduling is centered on the contents of Form DT 104-A and Form DT 105-A. These forms detail a description of the problem(s) encountered, the state of the vehicle upon reception at the repair facility and the various dates in which: the vehicle malfunctioned, the repair request was made, the vehicle was received for repair, the needed repair parts were determined, the request for parts was prepared, the request for parts was approved, when the parts were obtained, when the repairs were completed and when the vehicle was reclaimed.

Although the scheduling tool, Form 104-A, is followed, repair time is lengthy due to a lack of qualified mechanics and lack of spare parts. At the central-level workshop, the workshop chief estimated that, if a needed part is not available from the time the part is ordered until it is received, an average of six months will elapse. Faster procurement of spare parts is required if repair time is to be reduced.

USAID/ES does not buy spare parts; they are purchased by the MOH with PL 480 funds. Each vehicle workshop, including central level, is restricted in its immediate spare parts purchase to a petty cash allowance of 5,000 *colones* with a limit for a single purchase of 500 *colones*. Workshop personnel do not handle this petty cash fund; it is maintained by the respective finance or supply units. The process of receiving approval for a purchase is slow and cumbersome and, considering the cost of many commonly used spare parts, the allowance and per item cost limit is not realistic.

The vehicle maintenance situation is sure to worsen with the aging of the MOH fleet. USAID/ES is not expected to provide more vehicles than those already committed. Without new purchases then by the MOH, the overall cost of maintenance will increase. The Clapp and Mayne transport advisor estimates that 73 new vehicles, excluding motorcycles, are needed per year, every year, in order to maintain the normal level of transport capability. There is a corresponding need to replace motorcycles, many of which were provided in 1985.

A continuing problem, which indirectly involves maintenance because it reduces the amount of space available to conduct the work, is the large quantity of old and inoperative vehicles to be discarded. Cambridge Consulting Corporation's Mid-term Evaluation (July, 1990) noted that

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103 discarded vehicles were sold at auction. Since then, there has been another substantial build-up. At the Paracentral Regional Workshop, the logistics evaluator for this present evaluation counted 17 vehicles to be scrapped. The workshop chief stated that they have been waiting three years to be removed. The problem is magnified at the central-level workshop where there are 92 abandoned vehicles. According to the Clapp and Mayne transport advisor, there is a total of 131 vehicles to be discarded in all the MOH fleet. The problem continues - and indeed grows annually with the aging of the fleet - as a result of the apparent disinterest of appropriate MOH officials and officials of the GOES auditing agency, *La Corte de Cuentas*, to cut through the system-imposed red tape to accomplish the task.

Also complicating vehicle maintenance is the lack of Spanish- language service and parts manuals, especially at the regional levels. According to the workshop chief at central level, APSISA made translations of the manuals for the USAID/ES-provided Cherokees and Comanches.

Indicator: 100 (70 originally) maintenance technicians trained.

Status:

It was not possible to complete this program owing to a scarcity of personnel. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

The principal cause of this delay in training was Decreto 111 of 1992 which prompted many mechanics to retire from their MOH employment. As of this writing sufficient numbers of replacement personnel have been hired to allow the anticipated training to be reprogrammed. Training courses began in November and will finish early next year. These courses provide training to 52 persons in one or more of the following areas: bodywork, painting and fiberglass; fuel injection repair; automotive electronics, electric systems and motorcycle repair; function, operation and repair of turbo chargers; motor rebuilding and workshop administration. In speaking with vehicle maintenance personnel at both central and regional levels, it is readily apparent that they look forward to the training courses.

2.7 Water and Drainage Systems

Indicator: 90 percent of primary care facilities have adequate, functioning water and waste disposal systems.

Status:

Water and drainage works executed in 64 establishments, six in the process of execution and 15 contracted. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

Two surveys were accomplished by APSISA to determine water and sanitation needs, one of near national scope followed by another concentrating on the ex-conflictive zones. It was discovered that some health establishments had not had functioning water or drainage service for as long as 17 years. Apart from the 85 establishments executed by APSISA, there continues to be a backlog of renovation, expansion or new construction needed.

Before 1992, regional MOH potable water and sanitation unit (PLANSABAR) offices prepared the initial plans for service renovation. When this system proved inadequate, PLANSABAR at central level took over. Regional offices, however, make final inspections and will do more maintenance in the future, but overall construction supervision will remain with central level.

There are two technicians plus the coordinating engineer for the APSISA Project in charge of construction supervision. The chief of
PLANSABAR noted that his unit lacks sufficient vehicles and fuel to conduct this supervision. At the central level, one more technician is needed as well as one draftsman.

On a field visit to the Western Region, the evaluation team noted that the Texistepeque Health Unit's water supply and waste disposal system has been completely refurbished with new toilets, sinks and elevated water cistern and pumps, both electric and manual. This represents a renovation of a basic system which, with proper preventive maintenance, should provide service for years to come.

Indicator: Routine maintenance procedures developed and functioning.

Status:

Routine maintenance procedures developed and 157 persons trained in them. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

From 1991 to 1993, six training courses in maintenance were given for 20 to 30 participants each, totalling 157 over the three-year period. This training consisted of maintaining cisterns, elevated water storage tanks, pipe, fittings, toilets, sinks and faucets.

2.8 Laboratory Facilities

Indicator: All open units have functioning laboratories.

Status:

56 clinical laboratories located in health units are found functioning. Note: the MOH has only 56 laboratories in health units, and the Project has covered the needs of all these establishments. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

Of the four clinical laboratories visited, one (Dr. Tomás Pineda Martínez) lacked objective lenses for a microscope and some parts for a spectrophotometer, two others (El Transito and Moncagua) were awaiting equipment arrival and one (San Sebastián) was utilizing the new equipment. Nevertheless, all were operating and providing from 30 (El Transito) to 200 (Dr. Tomás P. Martínez) tests per day.

2.9 MIS Logistics Management

Indicator: 45 new microcomputers operational.

Status:

34 new microcomputers operating. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

According to the Clapp and Mayne MIS advisor, there are 49 microcenters now functioning (regions, hospitals, centers) although not all a result of APSISA technical assistance. As an example of the value of the microcenters, in the Western Region before the advent of APSISA computerization, the consolidation of data from health establishments required the work of 14 people whereas now, only two persons are needed to assemble the product.

A typical microcenter - such as is found in the Eastern Region -might have five computers: two for epidemiological statistics; one for inventory data; including hospitals and centers; one for family planning data and one for community health.

Indicator: Software developed/adapted for 10 sub-systems.

Status:

21 applications have been developed/adapted. (Clapp and Mayne Evaluation of Goals and Activities, 1992-1993.)

Of these 21 applications, the following six directly refer to the logistics component: supplier registers, purchases of drugs and medical supplies, reception of drugs and medical supplies, inventories, distribution of drugs and medical supplies and procurement budget control. These have already been referred to under previous components.

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2.10 Conclusions from the Analysis

2.10.1 Selection and Procurement of Drugs and Medical Supplies

1. Considering the reduced number of drugs in the Basic Drug List, the new open bidding process and the programming of drugs based on needs, plus more efficient use of *patronato* funds and closer coordination with drug donors, the MOH is likely to attain the goal of 90 percent of basic drugs being in place at all health establishments by the PACD.

2. The MOH has steadily increased its budget for drugs and medical supplies.

2.10.2 Warehousing and Distribution

3. Hospital and regional-level distributions are now based on need but always depending on the accuracy of needs determination and availability of drugs at central and regional-level warehouses.

4. The MIS supply management sub-system is indeed operational at central and regional levels. Central-level and regions now prepare computerized information regarding drug inventories and use.

5. All five regions now prepare computerized inventories, distribution and consumption data from statistical information gathered by all health units and posts.

6. There has been an 18 percent increase in drugs dispensed by health units, posts and outreach workers. The EOPS goal of 20 percent is in sight.

2.10.3 Facilities Management Manuals

7. A total of nine manuals have been developed (seven distributed) to appropriate levels of the health system.

2.10.4 Drug Quality Control

8. The drug Quality Control Laboratory is in need of additional personnel in order to reduce the time needed for drug inspection and analysis.

2.10.5 Biomedical Equipment and Maintenance

9. The goal of 90 percent of APSISA-provided biomedical equipment will soon be reached. All equipment is expected to be installed by the PACD.

10. Biomedical equipment corrective maintenance suffers because of a lack of personnel at the Central Maintenance Workshop. Six technicians were lost to early retirement prompted by Decreto 111.

11. Also adversely affecting biomedical equipment repair is the inadequate petty cash fund and item purchase limit.

12. Approximately 40 percent of the MOH biomedical equipment lacks an inventory number and therefore cannot be legally serviced or repaired. This situation must be redressed.

13. Biomedical equipment standardization will be impossible as long as various donor countries provide various brands of equipment.

2.10.6 Vehicle Maintenance and Management

14. More trained mechanics are needed, particularly at the regional levels. This includes motorcycle mechanics.

15. Obtaining some spare parts is a lengthy process because of the unrealistic level of petty cash allowed and because the petty cash is not controlled by the vehicle workshops.

16. The present level of transport capability is threatened if the MOH does not acquire an adequate number of replacement vehicles (including motorcycles) every year.

17. Central and regional workshops are hampered by lack of space caused by inoperative vehicles waiting to be discarded.

2.10.7 Water and Drainage Systems

18. Apart from the APSISA-financed water and drainage systems either executed, in process or contracted, there is a backlog of MOH health units and posts to be renovated, expanded or reconstructed.

2.10.8 Laboratory Facilities

19. Of the four clinical laboratories visited, all were functioning. At three of the sites, the APSISA-procured equipment was either not fully installed yet, or a part was missing.

2.10.9 MIS Logistics Management

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20. Several health centers visited were designated as APSISA micro-centers for data processing. Compared to periods when data on MOH equipment and supplies were tabulated manually, work loads are efficiently reduced by the availability of trained MIS staff, hardware and software.

3. Component B: Strengthening the Extension of Basic Services Delivery to Rural Areas

3.1 Resources to Primary Health Care

Indicator: Resources to primary health care are to increase, (as evidenced by all CHPs on MOH rolls, increased pharmaceutical levels to Primary Health Care).

The indicator refers to evidence that:

1. GOES pays the salaries of the entire corps of CHPs from 1992 onwards; and,

2. GOES continues to finance an increasing proportion of planned purchases of drugs and medical supplies assigned to primary care units. Evidence of GOES compliance with Part 2 of this indicator: GOES funding for drug purchases increased 193 percent; and GOES funding for medical supplies purchases increased 143 percent from 1992-1993.

(Source: Clapp and Mayne, 1993).

Status: Increased Number of CHPs

In 1991 the MOH set a goal of providing one CHP to 1,800 cantons (85 percent of the nation's 2,100 cantons). The status of progress toward that goal is as follows:

Year	Total No. of CHPs In Place
1989	579
1990	579
1991	679
1992	992
1993	1,441 (Expected by 12/93)

(Source: Community Health Department (CHD), November, 1993.)

GOES financed the salaries of the existing cadre of 579 CHPs with counterpart funds pledged for APSISA, and 34 percent of this amount was sourced to PL-480 funds. Beginning in 1992, GOES used local currency for 100 percent of the amount for salaries of CHPS and supervisors.

Today, the Ministry's CHD seeks budget authority to finance the salaries of 300 additional CHPs scheduled for 1994 training.

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The MOH, with APSISA technical assistance, provided standardized instruction to 1,241 CHPs to date, and an additional 200 candidates will complete that training by December, 1993. The instructional modules were designed to equip CHPs completing the 12-week course with a minimum level of competency in skills in community participation and health promotion skills. APSISA funds have been used to support:

- Diagnostic work to establish the framework for selection of CHP candidates by rural communities, and development of the 12-week instructional module for CHPs; and,

- Initiation of courses to re-train all existing types of MOH-linked CHPs to achieve a common work profile.

Indicator: 25 percent increase in the number of consultations given at the primary level (Health Units, Posts and CHPs), through the increased number of CHPs and referrals.

1988 data: 216,833 family visits

1992 data: 664,993 family visits

(Source: Clapp and Mayne, APSISA Evaluation Report, 1992-1993.)

Comment:

1991 comparative data was unavailable. The MIS module for tallying numbers of services rendered by CHP was created in 1991. Cumulative data for 1993 is current only to June. The 1992 level of activity is 207 percent greater than the 1988 recorded figure.

Increased Number of Services Rendered by CHPs:

The increase in activities is logarithmic: as the number of CHPs expands, the production of community-level services increases.
Figure No. 1 speaks to the motivational talks given by CHPs to residents of their communities. Emphasis on water and sanitation overshadows the promotion of more direct mother-child services.
Figure No. 2 indicates that less than one-half of referrals given by CHPs in the first semester, 1993, resulted in a definite service to the person referred to a health unit or post.

CHPs and Promotion of Safe Deliveries and Family Planning:

Attention by CHPs to encourage pregnant women to secure pre- and post-natal attention is comparatively slight, in light of the data reported that 51 percent of the 150,200 births per year (1992 data) occur at sites other than MOH facilities. The majority are home births.

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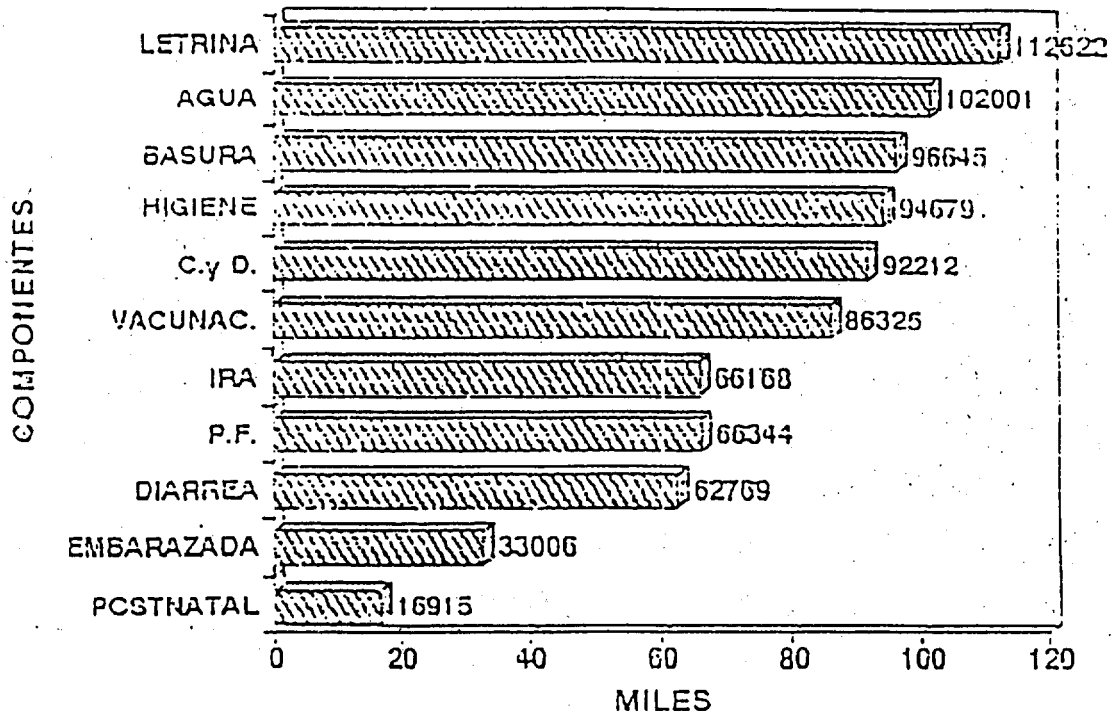
FIGURE N°1

GRAFICO No. 1

ACTIVIDADE EDUCATIVAS REALIZADAS POR PROMOTORES DE SALUD 1992



FUENTE: SISTEMA GERENCIAL DEL PROMOTOR

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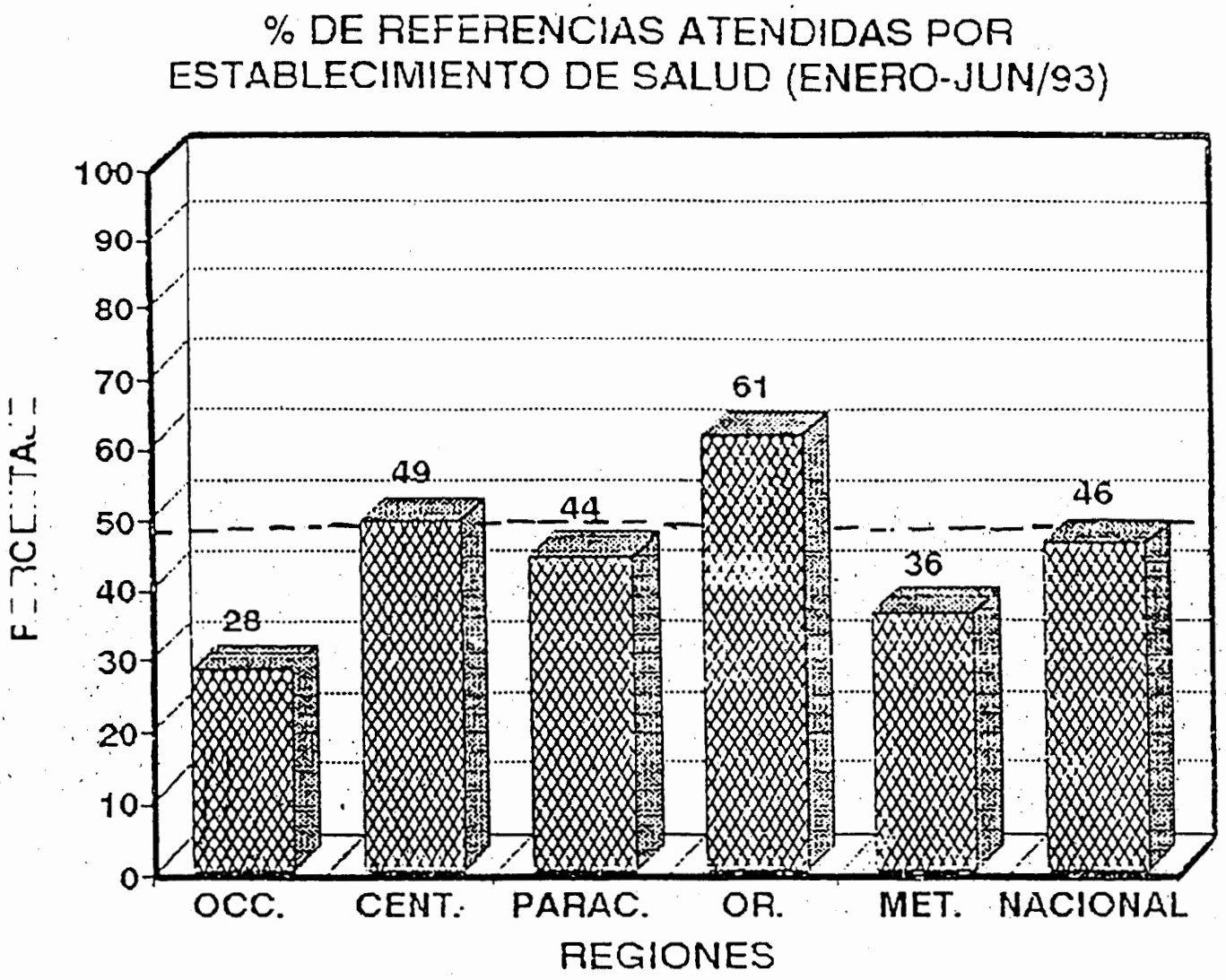
FUGURE N° 2


% DE REFERENCIAS ATENDIDAS POR
ESTABLECIMIENTO DE SALUD (ENERO-JUN/93)
100
90
80
70
60
50
40
30
20
10
0
28
49
44
61
36
46
OCC.
CENT.
PARAC.
OR.
MET.
NACIONAL
REGIONES

The lower figures for distribution of Family Planning supplies invites further inquiry. APSISA funds permit the MOH to stock condoms and pills equivalent to $300,000 annually in procurement.

Factors examined which bear upon the sustainability of the CHP services extension initiated under APSISA are noted here:

- It was reported that the CHD advises the regions on the number of CHP posts which can be funded each year, according to the MOH's budget limits. The regions' program for a number of CHPs to be trained which may be less than what they need. A demand-driven formula, based on fitting the CHP supply to the number of locations, with immediate needs assessed objectively, was not consistently reported to be in use; and,

- Health NGOs trained and installed a diffuse configuration of many varieties of community health workers. As many as 500 may be at work nationwide. The MOH presently has no regulatory control over the actions of these workers. NGOs are known to superimpose their new workers in communities attended by CHPs.

Indicator: Decentralized MOH administration, regional health offices, will be responsible for CHPs.

Status:

During 1993, five health regions have lead responsibility for organizing CHPs' selection process, instruction, supervision and resupply of commodities used. This is perhaps the MOH's clearest example of implementing decentralization.

Expanding Number of CHPs Out-pacing Support Resources?

The pace with which CHD and the regions are increasing the number of CHPs seem to be out-stripping the ability of the regions to finance transport vehicles and support items to back-up the new tranches of CHPs. It is reported that this situation prevails with regard to acquiring motorcycles for newly-appointed specific supervisors. Field visits to the Central Region seemed to confirm the statement. For a network of twelve specific supervisors in the southernmost area (Chalatenango Department) supervising nearly 120 CHPs, only four new donated motorcycles are being acquired for CHP supervisors. The remaining supervisors have no recourse other than well-used MOH motorcycles, some reported in use over eight years.

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Conclusions:

A vanguard of 1,441 well-trained CHPs will be in place by December, 1993, guided by 127 Specific and Regional Supervisors. The CHP activity profile is rooted in two areas: promotion of environmental health services and personal or family health services. Cumulative data (1992) demonstrates that CHPs provide a range of services to family members, e.g., growth and development talks, distribution of ORS and condoms. Educational talks on environmental health promotion (latrine construction, safe water, trash removal) stand out as high profile, frequently repeated tasks. An impression emerges, based on available CHP and MOH epidemiological data, that attention to tetanus toxoid vaccination coverage, safe deliveries and post-natal care lags behind as a conscious priority for community-level workers, viz., CHPs, midwives and their supervisors at health units and posts.

3.2 Support to the National Malaria Control Program

Indicator:

Improved surveillance of malaria incidence for case detection and targeting for residual spraying:

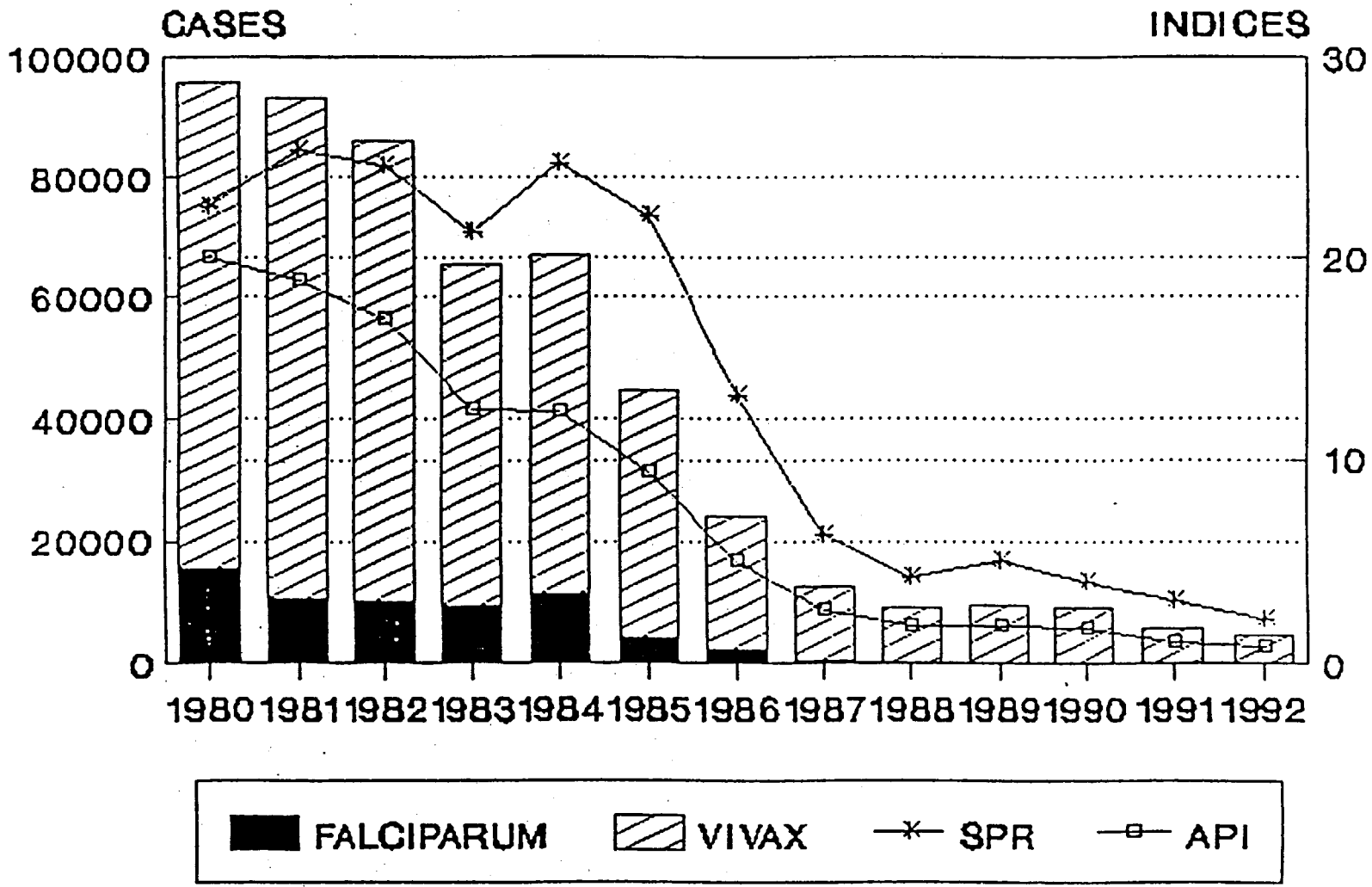
- Blood slide collection from health facilities increased by 10 percent of total no. of slides collected. (No reportable increase; 2,954 collaborators still active.)

- Residual spraying operations cover at least 90 percent of houses programmed for each of the three cycles. (The 1993 status was at a level of 77.2 percent.)

Conclusion:

The malaria incidence in El Salvador has declined remarkably from a high in the 1980s of 20.1 cases per 1,000 population to the current rate of 0.84 cases per 1,000 population (see Graph No. 2). Malaria cases recorded in 1992 were the lowest in more than a decade. The MOH's Malaria Control Program is responsible for this world-class achievement, and the APSISA Project contributed substantial material and technical resources towards the success. The program was independently evaluated in July 1992 by an external team of seasoned malariologists from CDC and OPS/OMS, citing these factors as leading to success:

MALARIA EVOLUTION - EL SALVADOR
1980 - 1992



SOURCE: Malaria Department MOH

- Epidemiological stratification of zones by risk factor;

- Reinforcement of a Malaria-specific Epidemiological Surveillance data system, which prompts local response. This MIS module is an original tool developed through the APSISA project;

- An active network of 2,954 Volunteer Collaborators (72 percent women) who attend to collecting blood samples, diagnosis and timely treatment;

- A viable MOH mechanism for the flow of referrals and counter-referrals for treating active malaria cases;

- Application of insecticides as dictated by risk factors versus the traditional rote program of spraying a large number of houses on a fixed schedule several times per year; and,

- Vector source reduction through construction of small and large drainage works by means of community, multi-sectoral actions.

Malaria Control and Cost Efficiency:

The MOH has a keen interest in the cost efficiency of delivering a community health service. Two cost saving features of the MOH Malaria Control Program should be mentioned in this regard:

- The MOH has realized an 80 percent reduction in the use of resources required to control malaria from 1985 up to 1993. By means of a mechanism to stratify geographical zones by malaria risk criteria, less staff time, insecticides, equipment and materials are required to maintain efficient control through targeted spraying. Whereas in 1985, the MOH sprayed 60,000 houses three times a year, assuming that to be an effective intervention, today it is necessary to spray only 12,000 houses three times a year to achieve appropriate source reduction.

  Project financial records state that A.I.D. purchased $1.9 million of insecticides and supplies for the Malaria Control program. No GOES-sourced insecticide purchases are contemplated in the 1994 MOH budget.

- During 1993, the MOH began investigating the efficacy of treating acute malaria cases with a three-day treatment regimen of anti-malarials instead of the standard five-day dosage. If the outcomes point to similar efficacy in resolving the illness episode, the MOH would perhaps need to purchase approximately 60 percent of the estimated volume of anti-malarials required in the prior year.

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The CDC is assisting the MOH to investigate the sensitivity of the surveillance system, with attention to the cost analysis of the MOH's response to a decreasing number of cases per year.

Decentralization of Malaria Control Responses:

In 1991, the MOH made a partial attempt at re-structuring, resulting in a decision to group organizational divisions into one of two areas: personal health services, or environmental health services. Under decentralization, the regions followed suit, and the Malaria Control Program's Zonal Coordinator in each region reports to a Regional Director for Environmental Health Services.
In four of the five regions, this position is filled by an engineer whose duties center on physical infrastructure. The Malaria Program is reported to be marginalized. Apparently, the MOH wants to reclassify the regional environmental director positions in 1994, specifying that physicians with work experience in epidemiology ought to fill the posts.

These management arrangements affect the maintenance phase of the Malaria Control Program. Four of the current zonal coordinators were only appointed to the post in 1992. Their predecessors, whose profile included as many as 12 years of Malaria Program management, resigned to take advantage of the GOES early retirement option. The new coordinators lack experience in using the Malaria surveillance data base for decision-making on local malaria control actions. For that reason, they travel to the central MOH every 15 days to analyze current data and review their preliminary action plans with the National Director and the APSISA Malaria Advisor.

Reasonable assurance of their competency is the key factor to activate timely review of malaria surveillance reports and proposed action responses at local levels. If the MOH acts to appoint qualified epidemiologists (seven have received training in malariology in Venezuela, financed by sources other than APSISA) to the regional posts early in 1994, the transfer of decision-making to the zonal coordinators can be accelerated, given the on-site advisory help of the proposed regional environmental services directors.

Conclusion:

It seems reasonable to expect a continued strong performance of the MOH's oversight of source reduction efforts, expansion of community-based treatment and MIS project sites and supervision/resupply of the decentralized malaria laboratories.

To strengthen the management skills of the Zonal Coordinators, in the long run, the MOH should rectify the deficiencies in supervision and technical help at the regional level. APSISA resources may be required to bridge this gap.

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3.3 Competency-based Training/Emergency Medical Services

Indicator: Competency-based training program established for basic health service providers and supervisors.

Twelve MOH training staff trained in curricula development and evaluation of training.

From 1989-1991, a long term APSISA advisor in Human Resources Development worked with the central MOH and leadership at the MOH National Training School. The work focused on teaching methods and practice, with an emphasis on nursing personnel. In 1991, the advisor resigned, and USAID/ES elected to redirect its support for the National Training School (NTS) to nursing studies. While APSISA records show that more than twelve MOH staff acquired training in curriculum development, the evaluators were unable to identify a link between NTS and current pre-service/in-service training of MOH workers at the Health Unit, Post or community levels. The Community Health Department and the regions organize and conduct all instruction for CHPs and their supervisors. Competency-based methods were included in preparing the CHP training modules.

Indicator: 2,000 MOH staff (doctors, nurses, auxiliary nurses, and CHPs) trained in emergency medical services. (New)

Competency-based training became synonymous only with the provision of emergency medical services to MOH civil servants:

- Four physicians were trained in Emergency Medicine procedures at the Rio Piedras University, Puerto Rico;
- 40 physicians and nurses were trained as Instructors in Emergency Medical Services;
- 2,239 physicians, nurses and auxiliary nurses from hospitals, health centers and health units were trained in Emergency Medical Services; and,
- 33 Ambulance Drivers received First Aid training.

Conclusion:

APSISA's approach to transferring skills appears to have employed competency-based training largely for CHPs and supervisors. The planned 1994 national assessment of CHP performance will have a solid reference point. Project attention to strengthening Emergency Medical Services skills for providers is reported to have been a "once only" response to MOH requests. No follow up activity is programmed for use of APSISA resources.

4. Component C: Strengthening Planning, Programming Management and Research

Indicator: Improved MOH policy, program planning and management capabilities as evidenced by:

Decentralized administration regional offices will be:

- Monitoring, planning and budgeting resources;
  - Responsible for all CHPs; and,
  - Reactive to Malaria indicators from regional level.

4.1 Health Services Planning

MOH personnel characterize the process of planning in the health sector as chaotic in the immediate past. During the 1980s, PAHO/WHO advisors offered training to MOH staff in a systematic approach to planning the delivery of services, viz., the current version of the PAHO/CENDES methods developed in Chile, entitled "Local Health Systems" (SILOS). Not much of this training took root during that time. The MOH approach to planning, at the headquarters and regional levels, was characterized by lack of uniformity in the design of service programs (many continue to be managed vertically today).

The period of APSISA's interventions covers several national administrations (1987-1993). Turnover of leadership at MOH departmental levels has been a chronic feature of day-to-day management at headquarters. Continuity of technical and management direction is regularly interrupted by unit-level personnel changes, and this situation appears to be unchanged since reported in the 1990 APSISA Evaluation. Senior MOH staff conversant with details of the APSISA-financed efforts to set up a uniform approach to planning, throughout the levels of the MOH, shift to positions in which the training received is sub-optimized.

The evaluators read samples of project documentation from the 1987-1991 period. APSISA efforts to help the MOH with the functions of planning and programming were confined to specific instances, such as developing the number of health promoter training programs to be launched in the next year. The attempt to unify the MOH's dispersed tactics in planning and programming was of a more general nature.

Amendment No. 6 (June 1991) affirmed to the APSISA project leadership and Clapp and Mayne that APSISA resources would:

- apply to policy formulation for improving services planning and delivery; and,

- support the MOH's efforts to decentralize selected responsibilities to regional levels. Renewed support to strengthening planning, programming and budgeting procedures for the MOH as a whole would take form under these headings.

Indicator: 100 participants (originally 61) receive training in health program planning, management and applied research.

The first round of training sessions reached 113 staff involved in services programming at central and regional levels. The general introduction course centered on building up staff motivation to learn planning methods. It focused on common definitions for a planning rationale and techniques. In June, 1993, a further planning course was offered to 83 staff from the five health regions. To date, 74 MOH staff have received instruction in operations research methods. The training content appeared adequate, but the MOH has no mechanism to monitor how staff apply the training received. The National Training School is reported to be inadequate to perform this function.

4.2 Decentralization

The chief responsibility which the central MOH has transferred to the health regions concerns the selection, training and ultimate supervision of men and women identified for CHP posts. Currently, the five regions are directly responsible for 1,241 CHPs and 127 Specific Supervisors.

Under the direction of the MOH Planning Department, staff at regional and local health facilities and offices have completed one cycle of planning, called "Local Programming." As will be discussed in Chapter 6 of the evaluation report, the program design exercise is not yet linked with each service unit's development of its tentative 1994 budget. The sole exception to historically-based budgeting practices is reported to be the MOH's Supply management and Logistics System, which factors epidemiological surveillance data into the decisions made for ordering basic drugs and medical supplies for Health Units, Posts and for supplies distributed to the CHPs. Otherwise, the local-level response to budgeting continues to be based on projections developed from historical cost data, although some regions and local units attempt to make more accurate predictions of travel and transportation needs and non-medical supplies. A monthly MOH Statistical Report has now been automated and is fully functioning at the five health regions. It provides data on the production of health services, disease incidence and vital events to permit regional staff to conduct monitoring and evaluation of the local programming.

4.3 Information Systems

Indicator: Computerized Management Information System with ten sub-systems operational.

- 45 new microcomputers operational; and,
- Software developed/adapted for 10 sub-systems.

To date, 34 microcomputers have been secured and installed at sites in headquarters and in the health regions. APSISA developed Micro-Centers at 5 sites nationally as an experiment to see the application of micro-computer and software use by MOH workers at Regional hospital and health center levels. The Micro-Centers are at work on tabulating hospital discharge data.

According to the contractor's long-term MIS advisor, the indicator has been met to develop a minimum of 10 software programs for relevant MIS subsystems, as well as to develop an additional 32 sub-systems, often in response to requests from MOH departments. Categories of these MIS systems include:

Procurement of basic drugs and medical supplies
Reception of basic drugs and medical supplies
Inventory management (financial aspects)
Dispatching of basic drugs and medical supplies
Procurement Department budget control
Supplies Budget
APSISA Accounting systems
APSISA Fixed Assets
Billing systems
Patient Registration
Personnel: Wage Regulations
Monthly Statistical Report
MIS on Local Programming
Vaccination Procurement
Vaccination Campaigns
Morbidity Register
Mortality Register
Epidemiological Report
Monitoring and Evaluation on Local Programming
Clapp and Mayne: Inventory
Clapp and Mayne: Documentation

Indicator: 200 MOH personnel trained in MIS operations and/or programming

Status:

The total count of persons trained up to September, 1993 has reached 496, the majority of whom are acquiring computer use skills for the first time. Of the total, 349 were trained to use MIS software applications specifically developed for one or more of the APSISA project components.

Conclusion:

The required number of people were trained.

4.4 Applied Health Services Research

Indicator: MOH capability to conduct applied health services studies established:

- Regional applied Health Services Research Committees established

Status: Research committees or groups have been established in the health regions and through the Monitoring and Evaluation teams

- 30 applied health services studies completed

Status:

Operations Research on Community Health Topics

The Community Health Department at MOH and the APSISA Long Term Advisor for Operations Research catalogued the production of ninety four reports, research monographs and related studies on topics pertinent to Child Survival services, technologies and areas of inquiry. This services-focused library, based in the CHD Department, guides central and regional staff in conducting routine duties in local programming, training and supervision.

In 1992, agreement was reached between the MOH and the University of El Salvador Faculty of Medicine so that graduating physicians, traditionally required to submit a Memoria of their Social Service Year, now receive the identical recognition for completion of an operations research study conducted at their MOH service facility for that year. Six operations research studies were completed by third quarter, 1993. Of these, four looked at the low production of pre- and post-natal services, including Family Planning promotion, at Health Posts and CHP levels.

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Seventeen studies, of which many center on inquiries about Maternal-Child services delivery at care levels close to rural families, are scheduled for completion by mid-1994.

Conclusion:

Component 3 of APSISA represents a configuration of computer equipment, technical assistance and related support costs intended to help the Ministry to improve overall planning, programming, management and related-research performance.

Some of these resource inputs are expected to strengthen decision-making within the MOH. These efforts are centered on enabling the MOH to assume financial and managerial responsibility for production of health services. The aim of that management process logically is to have the resources converge on agreed-upon objectives, such as the reduction of the number of high-risk deliveries without prior pre-natal attention.

The APSISA project provided short-term assistance (1992-1993) to help the MOH move towards unifying central, regional and local approaches to programming planning. A revised planning methodology was suggested in 1992. Training of some central and regional staff began in 1993. This may achieve some integration of active planning and budgeting in the 1995 cycle. A more long-term planning exercise, such as restructuring the MOH, might require 3-5 years of technical assistance support. As A.I.D. resources are limited, a more limited planning exercise may be appropriate.

Inputs are only now being drawn forward for decision-making regarding CR. MIS sub-systems to support various decision-making needs within the MOH are proceeding in a parallel form and not under the guidance of a coherent scheme likely to see these separate information sub-systems converge in the Planning Directorate as one consolidated set of tools with wide readership and use.

5. Component D: The National Reconstruction Plan

In June, 1992, the GOES-USAID agreement was amended (Amendment No. 7) to obligate $8 million as the portion assigned to the health sector within USAID's larger contribution of $300 million for the National Reconstruction Plan (PRN), a multi-sectoral portfolio of donor-financed projects. The specific target is to re-establish the provision of basic MOH services and supplies at 122 Health Units and Health Posts, distributed among 115 municipalities affected by the 1979-1991 conflict. During that time, as the MOH was unable to send personnel and supplies to the zone, the Archdiocese of San Salvador and international NGOs like "Doctors Without Borders" reached agreements with the FMLN to provide a limited range of basic health services to the areas. Distribution of MOH drugs to the Malaria Program's voluntary collaborators is reported to have proceeded uninterrupted.

APSISA resources are applied to these locations in the identical budget categories which characterize Components A, B and C of the larger MOH services effort. The progress reported below, current to October, 1993, follows the identical indicator measurements as for APSISA components A, B and C found elsewhere in this report.

5.1 Commodity Distribution of Medicines and Basic Supplies

Indicator: Health units and posts are stocked at a level of 90 percent of required basic drugs and medical supplies.

Status:

Based on sampling of 43 of the 122 Units and Posts, the stock level of basic medicines and supplies was recorded at 76 percent of the requirements for establishing routine services to the communities surrounding the facility (September, 1993).

GOES Funds for Drugs:

Counterpart financing for Component 4 during 1993 is recorded to be U.S. $606,000. Thirty percent ($182,000) of this is GOES' allocation to purchase drugs and medical supplies for the 122 PRN-designated Units and Posts.

Comment:

Access is hampered in reaching two remaining facilities, one in the Central Region (Health Post San Antonio Los Ranchos) and one in the Eastern Region (Health Post Las Marias). The local leadership in these communities declines to permit MOH personnel to work in the area.

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5.2 Support to Clinical Laboratories

Indicator: Ninety percent of equipment for clinical laboratories is installed and working properly at designated Units and Posts.

Status:

Sixteen laboratories are targeted for attention: They were strategically selected for their proximity to clusters of the 122 Units and Posts:

- At 13 laboratories, the needed number and technical specifications for lab equipment was documented fully. Procurement steps have been initiated;
- Additional items related to laboratory procedures are needed for the 16 sites. Of these, 10 facilities have been assessed for the number and technical specifications of the items, but full documentation is not yet completed; and,
- 147 local and regional MOH staff have been trained to operate the lab equipment and related items. This exceeded the norm of training one person from each of the 122 Units and Posts, plus regional supervisory personnel and some Health Center staff.

Indicator: The physical structure of 5 clinical laboratories will be remodelled.

Status:

Improvements were completed for 3 laboratories.

5.3 Safe Water and Drainage Systems Installed at Facilities

Indicator: Full or partial reconstruction of drinking water and drainage systems will be completed for 80 Units and Posts.

Status:

The reconstruction status of water supply and drainage systems for 80 health facilities is:

- Work is completed at 34 Units and posts;
- Work is 98 percent completed at 7 sites;
- Work is 30 percent completed at another 7 sites;

- For another 8 facilities, work specifications were prepared for contractors, to be followed by competitive bidding;

- 6 PRN-designated communities refused to permit the MOH to begin water/drainage reconstruction; and,

- Work specifications will be developed for the remaining 18 facilities during 1994.

Clapp and Mayne staff estimate that the major part of this water and drainage reconstruction will be completed before December, 1994.

Comment:

Reconstruction work is proceeding as scheduled. FMLN authorities will not permit the work to proceed in six communities (Central Region Health Posts located in Arcatao, El Dorado, El Carrizal, La Laguna, Las Vueltas, and San Antonio Los Ranchos).

5.4 Extension of CHPs

Indicator: Resources to primary health care increased through increased number of CHPs and referrals. The MOH's objective is to place one CHP in each of 1,800 cantons (approximately 80 percent of 2,100 cantons nationwide).

Status:

The designated PRN areas contain 1,069 cantons. The MOH intends to train and place CHPs in 60 percent of these cantons, requiring 639 CHPs. To date, 496 CHPs have been trained. The remaining 143 CHPs will be in place before September, 1994. Further, the MOH expects that a further 20 percent (214) of PRN cantons will be attended by health workers trained by NGOs. With this complementary arrangement, 639 cantons can be covered.

Comment:

MOH officials at central and regional levels express mixed views about the health workers trained by NGOs:

- glad to have the cantons covered by a type of community-level service provider; and,

- unhappy at the lack of uniformity of job profiles between the CHPs trained by the MOH and those trained by NGOs.

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5.5 Extension of National Malaria Control Program to PRN Areas

Indicator: Improved surveillance of malaria incidence for case detection and targeting for residual spraying.

Status:

A projection was made in 1992 that 500 volunteer malaria control collaborators would be needed to bring that program's coverage to 639 cantons. The estimated time required to complete that objective would exceed the September, 1994, PACD. A proximate target was set to identify and train only 200 malaria collaborators, establishing an equal number of malaria treatment and data collection sites, before 1994. The MOH has established 47 such units through September 1993. The MOH estimates that, of the remaining 153 collaborators required, only one half that number can be capably trained and supported before September, 1994.

Comment:

No recommendations are offered regarding any of the commodity stocks, laboratory equipment and infrastructure works items. Progress on these indicators seems current and appropriate. The number of CHPs to be trained to cover 60 percent of the 639 cantons will be reached by the PACD. Adequate coverage by Malaria Program volunteer collaborators will not be reached unless the PACD date is extended for an additional 18 to 24 months.

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6. Sustainability Issues

6.1 Cost Recovery

Indicator: MOH Cost Recovery System in Place

Status:

In compliance with Amendment No. 6 provisions, the MOH has initiated steps to activate a CR system. With APSISA technical assistance, initial work began in 1992, and is at an early stage of development.

In brief, Chapter 6 analyzes the immediate history of 1992 APSISA-funded efforts to develop an appropriate MOH CR strategy. The chapter reviews initial steps taken by the MOH:

- technical assistance in developing cost studies; and,
- pilot tests made at 6 MOH hospitals to identify categories of patient families with socioeconomic status as a basis for a sliding fee scale.

After the review, comments are offered which may help to set the CR system within mainstream practices in health care financing. Chart No. 3 highlights the Chapter's findings and recommendations.

6.1.1 Initial Stages of Implementation

A system of voluntary contributions has been in existence in El Salvador since 1975, when the first fee structure was developed and implemented. Whether it has been through the *Patronatos* or the Special Activity Funds, monies have been collected by public health care organizations as contributions by patients to the organization for the services provided. Although the practice has not been formalized by the MOH, this contribution to help defray health services costs has been traditional in El Salvador. Up to the present, little attention has been focussed on users' awareness of the importance of their contribution towards making health services available.

The fact that MOH's service users are willing to contribute to defray costs provides the groundwork to introduce, on a gradual basis, a structured fee-for-service system. Presently, the MOH is examining possibilities for introducing structured fee systems, first on a pilot basis at six MOH hospitals. The results could offer the MOH opportunities to propose more widespread introduction of fees-for-service as an element in the MOH's strategies for meeting the recurring costs of its service programs.

MINISTRY OF HEALTH AND SOCIAL WELFARE
APSISA PROJECT:
WORK IN PROGRESS ON COST RECOVERY AND REVISED BUDGETING SYSTEM

COST RECOVERY SYSTEM IMPLEMENTATION STAGES	DATE	STATUS TO DATE	REQUIRED BY APSISA	RECOMMENDED IN THIS EVALUATION	COMMENTS
1) RESEARCH & INVESTIGATION ON SERVICES COST TO MOH	NOV/91 SEPT/92	COMPLETED	YES	NONE	NONE
2) DEVELOPMENT OF PRICE LIST FOR BOTH HOSPITAL AND AMBULATORY SERVICES	OCT/92	COMPLETED	YES	MOH FACILITIES SHOULD DEVELOP RELATIVE VALUE UNITS APPROPRIATE FOR ANALYSIS OF COSTS PER PROCEDURE.	HAVING EXACT COST OF SERVICE PER PROCEDURE FACILITATES FEE-FOR-SERVICE YEARLY ADJUSTMENT
3) COST RECOVERY PROGRAM REQUEST SUBMITTED TO PRESIDENT FOR APPROVAL.	MAY/93	COMPLETED	YES	NONE	PRICE ADJUSTMENTS WERE SUBMITTED TO COVER BOTH HOSPITAL AND AMBULATORY SERVICES PATIENTS.
4) DEVELOPMENT OF SOCIO-ECONOMIC CLASSIFICATION SYSTEM	DEC/92	COMPLETED	YES	MOH SHOULD CONSIDER RE-CLASSIFICATION OF "RELATIVE POVERTY" DESCRIPTOR, DIVIDING IT INTO RURAL AND URBAN COMPONENTS	CLASSIFICATION SYSTEM WILL BE FINALIZED ONCE RESULTS FROM PILOT TEST ARE ANALYZED
5) PILOT TEST: SOCIO-ECONOMIC CLASSIFICATION SYSTEM AT 6 HOSPITALS	OCT/93	COMPLETED	YES	NONE	CLASSIFICATION SYSTEM WILL BE FINALIZED ONCE RESULTS FROM PILOT TEST ARE ANALYZED
6) PRESIDENTIAL APPROVAL OF COST RECOVERY PROGRAM	JUL 26/93	PARTIALLY IMPLEMENTED	YES	MOH MUST SEEK APPROVAL FOR AMBULATORY SERVICES PATIENTS	ONLY 20% OF ALL PATIENT-GENERATED INCOME FOR MOH FACILITIES RAISED THROUGH PATRONATOS AND INPATIENT SERVICES. 80% THROUGH AMBULATORY SERVICES PATIENTS.
7) RATES PUBLISHED IN OFFICIAL PAPER	NOV/93	PARTIALLY IMPLEMENTED	YES	MOH MUST SEEK APPROVAL FOR AMBULATORY SERVICES PATIENTS	NONE
8) NEW RATES TO BE IMPLEMENTED	...	PENDING			
9) DEVELOPMENT OF INVOICING & COLLECTION SYSTEM	MAR/93	COMPLETED	YES	1) STRENGHTEN MANUAL'S INTERNAL CONTROL PROCEDURES. IN POSTS WITH ONLY ONE SECRETARY-COLLECTOR, FUNDS SHOULD BE COLLECTED WEEKLY. PRE-NUMBERED FEE TICKETS AND INVENTORY USAGE REPORTS SHOULD BE TIED TO FEES COLLECTED; 2) REPORTS SHOULD INCLUDE INFORMATION ON: LABOR EXPENSE; LABOR EFFICIENCY PATIENT LEVEL RESOURCE INFORMATION; SERVICE VOLUME; FORECAST OF PATIENT DAYS BY SERVICE.	THE COST OF CONTROL MUST BE WEIGHED AGAINST BENEFITS.

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MINISTRY OF HEALTH AND SOCIAL WELFARE
APSISA PROJECT:
FACTORS AND CONDITIONS NECESSARY TO SUSTAIN THE COST RECOVERY SYSTEM.

THE FOLLOWING SECTION RESPONDS TO THE QUESTION:
WHAT ACTIVITIES NEED TO BE CONTINUED
TO ENSURE BENEFIT SUSTAINABILITY?

	REQUIRED BY APSISA	RECOMMENDED IN THIS EVALUATION	COMMENTS
1) ESTABLISH A QUALITY ASSURANCE PROGRAM AT HOSPITALS AND UNITS. POSTS CAN BE PART OF NEAREST UNIT.	RECOMMENDED NO	YES	MOH WILL HAVE TO JUSTIFY INCREASE IN FEES. POPULATION WILL EXPECT BETTER SERVICES.
2) MONITOR PROGRESS OF CR SYSTEM BY MEASURING ELASTICITY OF MARKET THROUGH FOCUS GROUPS	RECOMMENDED NO	YES	NO INITIAL STUDIES WERE DONE. MOH CAN STILL OBTAIN IMPORTANT FEEDBACK FROM THE COMMINITY AT LEAST TWICE A YEAR.
3) DETERMINE EXACTLY WHERE ARE MOH AND NGOs COINCIDING IN SERVICE DELIVERY.	RECOMMENDED NO	YES	TO AVOID DUPLICATION OF SERVICES. MUST COORDINATE WITH OTHER SERVICE PROVIDERS. MUST KNOW WHAT THEIR FEES ARE, WHAT IS THEIR SERVICE QUALITY.
4) TECHNICAL ASSISTANCE & TRAINING IN TOTAL QUALITY MANAGEMENT FOR HEALTH FACILITIES	RECOMMENDED NO	YES	NEEDED TO ENSURE THE EFFICIENT USE OF RESOURCES: HUMAN, MEDICAL, FINANCIAL. SHOULD INCLUDE CLINICAL PRACTICE PROFILES.
5) DEVELOPMENT OF A COST ACCOUNTING STRUCTURE	RECOMMENDED NO	YES	MOH HAS TO IMPLEMENT "GOVERNMENTAL ACCOUNTING" SYSTEM MANDATED BY MINISTRY OF FINANCE. MOH CAN STILL DEVELOP COST ACCOUNTING MODULE, IF POSSIBLE, AND LINK THIS TO THE MOH ACCOUNTING SYSTEM. IF NOT, SHOULD BE A STAND ALONE SYSTEM. DIFFICULT TO CONTROL COSTS & ADJUST PRICES WITHOUT APPROPRIATE ACCOUNTING SYSTEM/INFORMATION.
6) RELATIVE VALUE UNITS METHOD OF COSTING FOR MOH HEALTH FACILITIES	RECOMMENDED NO	YES	MORE ACCURATE MEASURE THAN PROCESS COSTING. RVUs RECOGNIZE THE RELATIVE DIFFERENCES IN THE CONSUMPTION OF RESOURCES BETWEEN VARIOUS PROCEDURES & SERVICES.
7) DETERMINATION OF OVERHEAD RATE AND ALLOCATION OF OVERHEAD TO DIRECT COSTS.	RECOMMENDED NO	TO BE IMPLEMENTED ASAP.	MOH HEADQUARTERS AND FACILITIES SHOULD KNOW EXACT PERCENT OF OVERHEAD COSTS PER PROJECT. OVERHEAD MUST BE NEGOTIATED WITH DONORS. MOH SHOULD ABSORB THE MINIMUM OVERHEAD POSSIBLE

MINISTRY OF HEALTH AND SOCIAL WELFARE

REVISED BUDGETING SYSTEM IMPLEMENTATION STAGES	DATE	STATUS TO DATE	REQUIRED BY APSISA	RECOMMENDED IN THIS EVALUATION	COMMENTS
1) BUDGET ALLOCATION DECISIONS TO BE MADE ON THE BASIS OF NEED AND RESOURCES AVAILABILITY	N/A	NOT IMPLEMENTED	YES	PREREQUISITES FOR BUDGETING: • A SET OF WELL DEFINED POLICIES GOALS AND OBJECTIVES TO GUIDE THE RESOURCE ALLOCATION DECISIONS. • AN ADEQUATE DESCRIPTION OF CURRENT OPERATIONS AND OPERATING ENVIRONMENT, INCLUDING STATISTICAL DATA, ECONOMIC TRENDS, AND DEMOGRAPHIC INFORMATION. • A DEFINED BUDGET PERIOD AND ESTABLISHED PROCEDURES FOR THE DEVELOPMENT OF BUDGET DOCUMENTS. • A SOUND ORGANIZATIONAL STRUCTURE THAT CLEARLY DEFINES UNIT AND PROGRAM MANAGERS RESPONSIBILITIES STRUCTURE, AND ALLOWS REVENUE AND COSTS TO BE ACCUMULATED AND REPORTED FOR EACH RESPONSIBILITY CENTER AND EACH PROGRAM. IN TURN EACH CENTER (UNIT) CAN BE GROUPED WITH OTHER UNITS TO REFLECT THE FULL RESPONSIBILITY OF EACH UNIT'S DIRECTOR, EACH CLINIC MANAGER, AND EACH MEMBER OF SENIOR MANAGEMENT. • SYSTEMS FOR THE TIMELY REPORTING OF ACTUAL FINANCIAL AND STATISTICAL INFORMATION FOR COMPARISON WITH THE BUDGET AND FOR ANALYSIS OF VARIANCES. THE REPORTING SYSTEMS MUST BE ABLE TO ACUMULATE, COMPARE, SUMMARIZE INFORMATION FOR RESPONSIBILITY CENTERS AND ALL DEFINED PROGRAMS.	FINANCIAL PLANNING, FINANCIAL MANAGEMENT UNIT, REGIONAL DIRECTORS, MOH HEALTH FACILITIES DIRECTORS MUST GO THROUGH WELL DESIGNED STRATEGIC PLANNING EXERCISE. CAN NOT EMPHASIZE ENOUGH THE IMPORTANCE OF THIS EXERCISE.

A CR mechanism, although in an ad-hoc form, has been utilized in the public health sector in El Salvador since 1975. The mechanism was reviewed once by the MOH in 1986. Prior to Amendment No. 6 to the APSISA Project Grant Agreement, no effort was made to re-structure and formalize the MOH's use of CR methods. Now through the development of a socioeconomic scale and a recently revised price structure for certain services, the MOH is making progress towards instituting a formal strategy for CR as a standard practice in managing the delivery of health services.

Amendment No. 6 was signed in 1991. According to Amendment No. 6's Article 4.2: Additional Disbursements Item F, "Prior to USAID approval of the calendar year '92 Action Plan and to dollar or local currency disbursements for the period covered by the plan: 1. The MOH shall have adopted an effective CR (user fee) system, implementation of which will be completed within the time frame of the calendar year '92 Action Plan . . ."

The increase of MOH's service fees, as agreed on Amendment No. 6, required a presidential approval, which was obtained in May 1993. Although, the CR Plan included both in-patient hospital admissions and ambulatory services patients, the presidential approval was granted only for patient admissions and institutional patients, e.g. those patients from ISSS, The Ministry of Education, ANTEL, etc., excluding ambulatory services users.

Implementation of the practice was delayed, pending formal approval and publication of the new fees in the GOES's "Official Bulletin." The decree, although appearing in the Bulletin dated July 26, 1993, was only released during November, 1993, authorizing the MOH to initiate its new CR scheme.

It is important to note, that less than 20 percent of the total income produced by the two CR mechanisms (*Patronatos* and Special Activity Funds) is generated by hospitals, and more than 80% by ambulatory service fees. Total income received from hospital fees are lower when compared to total fees collected through outpatient clinics. MOH informants indicated that the trend observed is one of growth in outpatient services delivery.[4]

6.1.2 Design of the Cost Recovery System

The APSISA project contractor, Clapp and Mayne, provided technical assistance during 1993 to initiate the early design work. A combination of efforts by Clapp and Mayne long-term advisors and short-term consultants guided MOH staff in developing the instruments necessary for the collection of the data required to establish a CR system.

The Financial Planning Unit at the MOH, with APSISA's financing, and the technical assistance provided by Clapp & Mayne developed a CR System which involves three major activities:

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[4]Fortalecimiento Financiero Institucional - Recuperacion de Costos: Una Alternativa, Ing. Carlos Castano, Clapp and Mayne.

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1. Diagnosis of the present situation;

2. Design of the system; and

3. Implementation.

6.1.3 Diagnostic Phase

A series of cost studies and research[5] have been conducted as a basis for the development of a fee-for-service system. Estimates of the perceived demand and the cost of services to the MOH have been calculated. These studies, and the tools developed during their implementation, provided the preliminary data which the MOH required to design a CR system for MOH facilities.

Socioeconomic system: This system classifies patients by four different income categories and lends itself to the application of a sliding fee scale:

Level 1: Extreme Poverty	- No Charge
Level 2: Relative Poverty	- 45% of charges up to C/.250
Level 3: Median Income	- 75% of charges up to C/.500
Level 4: High Income	- 100% fee.

6.1.4 Implementation and Preliminary Findings

The implementation of the CR system is in its initial stages. Pilot tests were conducted in October 1993. The Social Work Units at the Benjamin Bloom, Ahuachapan, San Vicente, San Miguel, Santa Ana, and San Rafael Hospitals conducted these pilot tests to collect the necessary data to determine the socioeconomic status of the group of hospital patients under study. The implementation of the invoicing and collection system is also in its initial stages (November 1993).

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[5](1) Study of the Ministry's financing and operations, (J. Fiedler November 1991); (2) A service cost determination study (Determinacion de Costos de Los Servicios del Ministerio de Salud, y El Costo de los Servicios del Ministerio de Salud de El Salvador, Luis C. Gomez, Marzo y Julio de 1992 respectively); (3) a preliminary proposal for a fee-for-service system was developed (Luis C. Gomez, Oct. 1992); (4) a socioeconomic classification system of the MOH's patients (Luis C. Gomez Oct. 1993); (5) an invoicing and collection system; and (6) a report of the present CR system (Ing. Carlos Castano, dated August 1992).

It is envisioned that a final uniform and standardized socioeconomic data collection instrument will be develop by the MOH's Financial Planning Unit with the assistance of Clapp & Mayne. This instrument will be modified by assessing the feedback which the Unit acquired from the field testing phase.

At the Benjamin Bloom Pediatric Hospital, data collection is facilitated by the 14 social workers present at the Unit. In other facilities, like Health Units or Health Posts, and some hospitals where there is only one social worker, the data collection phase of the CR system can become an administrative burden. It has been agreed by all interested parties that a final product will be streamlined and fine tuned so that it can be easily and rapidly filled by the social worker, in order to keep to a minimum the administrative burden involved.

Preliminary Findings:[6] The Social Work Department Director at Benjamin Bloom Hospital made a quick tabulation of data collected to date. The data showed the following distribution of families according to income level, based on 450 of a total of 900 admissions during October, 1993:

% of Patients	Level	Classification
67.4	1	Extreme Poverty
23.3	2	Relative Poverty
8.2	3	Median Income
1.1	4	High Income

The determinants of these categories in the pilot classification system should be re-examined in light of several factors which bear on the ultimate implementation and use of the system:

- two of the five health regions (Metropolitan and Western) have demonstrated an ability to generate higher amounts of fees-for-services income when compared to the Central, Para-central, and Eastern regions. These three regions have been classified by various studies as lower economic-output regions; and,

[6]Please note that these are *ad hoc* analyses made by hospital staff. The results of the final analysis will be obtained by the Financial Planning Unit at a later date.

Poverty Distribution by Region

REGION	% EXTREME POVERTY	% RELATIVE POVERTY	TOTAL
Whole Country	35.0	32.70	67.70
Metropolitan	15.19	30.93	46.12
Western Region	34.45	32.88	67.33
Eastern Region	40.60	30.13	70.73
Central 2	50.98	26.36	77.34
Central 1	41.51	36.65	78.16

- Adoption of the new socioeconomic classification system may provoke popular criticism when patients with a comparatively greater ability to pay discover that the fees charged to them also allocate to them a portion of the burden of costs of services provided to patients with a lower ability to pay, or to those who are simply indigent. The rationale for this sliding fee scale must be communicated clearly to all services users so as to avoid unwarranted criticism of the MOH's attempts to recover costs according to the user's ability to pay.

The Financial Planning Unit should re-examine one feature of the socioeconomic classification system: the "relative poverty" category. If feasible, the Level 2 designation of "relative poverty" should be adjusted to reflect urban and rural gradations of poverty. The refined categories may capture differences between the groups in each's respective ability to defray a portion of service costs.

At Benjamin Bloom Hospital, for example, staff shared a working impression that, among some patient families whose income derived from manual labor which places them in the category of relative poverty, there is a demonstrated willingness and an economic capacity to contribute towards the cost of a family member's care. Further, staff recognized that the economic capacity of these working families may enable them to contribute more than the fee scale designated for families in "relative poverty." It is understood that, as with any other system, the socioeconomic classification system would inevitably have its drawbacks.

Equipment support needs for analyzing socioeconomic data: Project management at the MOH needs to ensure that the MOH Financial Planning Unit has uninterrupted access to APSISA-financed computer equipment for processing and analysis of the data collected. Currently, the computers designated for the Financial Planning Unit have been loaned to another evaluation group, with MOH concurrence.

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Project equipment dedicated to other uses, and housed at the Clapp and Mayne office, is the next likely resource to tap in meeting this need, but at the cost of deferring tasks in queue being processed on the latter computers.

Invoicing and Collection System: The MOH staff and APSISA consultants have developed excellent tools in preparing the ground for installing a CR system. It was noted that the proposed "Cost Recovery Administrative Manual" appears to have been adapted from CR manuals intended for user institutions outside the health care field. The Manual establishes administrative procedures for the invoicing and collection of fees-for-services both at the hospital and ambulatory services levels.

The Manual was developed to serve as a training tool for the staff responsible for invoicing and collecting fees. Another purpose of the Manual is to standardize both the operations and the documentation used in all facilities. Some sections of the Manual illustrate, in detail, generic procedures to follow in fee collection.

Although the *Corte de Cuentas* provides guidelines in the development of the invoicing and collection system for MOH facilities, an invoicing and collections manual is just one part of the duties and responsibilities of the business office in a health care facility. APSISA/USAID should ensure, therefore, that the MOH develop a business office procedures manual that includes the invoicing and collection system already developed by Clapp & Mayne, as well as volume projections and income projections based on the volume projections.

Internal control likewise does not seem to have been considered carefully in the development or adaptation of this Manual.

A case in point concerns the procedures developed for use at Health Units and Health Posts. The manual consistently identifies that a single fee collector-payer prepares the invoice, collects the funds, prepares the financial reports, deposits the funds in the bank, and maintains the books where fees collected are recorded (pg. 5, Item 1). Questions arise as to the supervision of this individual and the accuracy of the accounting data on fee amounts presented in the financial records maintained by that person.

Chapter II of the Manual, "General Guidelines for Cost Recovery" (Item No. 6), suggests that charges are not to be made for services financed by a domestic or international agency which prohibits CR on services provided with that agency's resources. This incongruity prompts several recommendations relating to fee collection, accountability, and reporting mechanisms which would enable MOH facilities to better plan and forecast both income and patient volume.

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MOH's Financial Planning Unit: The MOH Financial Planning Unit was created in February 1993, in compliance with a provision of APSISA Project Amendment No. 6. While Financial Planning has a normative and policy development mandate, the Financial Accounting Unit is charged exclusively with executing and controlling the MOH's budget sourced to GOES funds. Staff of the donor-assisted health projects have established their own office units within the MOH headquarters. From these offices, donor funds and technical assistance are managed in a quasi-independent way from the rest of the Ministry.

Financial Planning is supervised by the Planning Unit while the Financial Accounting Unit is supervised by MOH Administration. Financial Planning has a support function in the analysis of the production of health services, in formulating the global financial requirements, in promoting strategies to strengthen financing sources, and in the general monitoring of efficacy in the use of existing resources.

Although financial strengthening is one of seven strategies of the 1991-1994 National Health Plan, the MOH's fragmented structure has prevented the integration of the programmatic and the financial areas of the MOH. Organizational fragmentation is one of the major obstacles to the development of an Integrated Financial Management System. At present the Operational Planning Unit, in which the Financial Planning Unit is embedded, is in the process of integrating the different programmatic units at the MOH. The MOH Department of Planning announced its expectation that the parallel exercises, local programming of services, and budget development at each MOH level of service delivery, can be linked to produce an integrated national program and financial plan for the 1995 cycle of the MOH's preliminary budget preparation, which begins in early 1994.

One of APSISA's major roles was to introduce the necessary tools required for the MOH to execute its responsibilities for planning health services programs. A number of useful information management modules have been designed and installed at the MOH, including modules on financial, personnel, and services provision data bases. These tools are useful in processing information for later consumption by decision-makers. The MOH's fragmented organizational structure does not permit decision-makers to use the end products of the various information modules. The number of MIS tools expands, often to meet donor reporting requirements, and several examples of MIS overlap or duplication were cited in APSISA project reports. Several reporting mechanisms and data bases on MOH finances and donor finances are operating, but they do not yet converge in an integrated financial management system.

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6.1.5 Factors and Conditions Necessary to Sustain the Cost Recovery System

6.1.5.1 Quality Assurance

- Improving staff efficiency, service delivery, eliminating over/underutilization of resources, and creating a formal Quality Assurance program are part of what is required to sustain the CR system;

- Important to hospital resources management, which contributes significantly to the control of hospital/health facilities resources, is the development of clinical practice profiles. Usually, this is a model of patient care that delineates the numerical range and mix of services necessary for providing high-quality care to a very specifically defined (homogeneous) patient group. Clinicians for instance, do not control the cost of a laboratory procedure, but they do control how often and on which occasions that procedure is ordered for all patients or any one patient.

  Because costs can be associated with each service, a clinical practice profile can be used to determine the expected costs of implementing the prescribed plan and the cost impact of under-utilization or over-utilization of services. Clinical practice profile variance reports (by department, physician, or patient) can document service cost variances from the expected treatment. Linking clinical profiles with cost data is a critical step in developing budgets and new program requests.

  Clinical profiles provide mechanisms to determine the department's needs on the basis of the projected number of cases, the number of procedures or tests per case, and the cost per procedure or test. Improving the quality of clinical services through the use of clinical practice profiles will establish the health facilities as a leader in quality management and will assist the institution in a more efficient use of its resources; and,

- CR systems must also be accompanied by a Quality Assurance program. The resource management data can also be incorporated into the hospital or Health Center's existing quality assurance programs. To enhance the use of this tool for quality management, each clinical practice profile could be expanded to include expected clinical outcomes. The critical indicator of quality would be collected during the patient-tracking process and used for evaluating the actual outcome as compared to the expected outcome.

  The patient-level resource management tool, including expected outcomes, can be used to address a variety of quality-of-care activities.

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6.1.5.2 Monitoring the Progress of the Cost Recovery System

An assessment was made of available documentation on both financial management technical assistance provided and CR program development. Informants knowledgeable about the development of the CR system were contacted. There was no clear evidence that work has been done to date to "measure the elasticity of the market" by use of focus group techniques. Since this exercise was not conducted at the initial stage of the CR system development, it would be perhaps beneficial to employ it at least six months after the CR program has been implemented.

This exercise not only would yield valuable information relating to the price structure, but would also provide the MOH with the opportunity to be in direct contact with representative groups of the communities where the MOH operates, to hear first hand about the community's perception of the MOH services.[7] The exercise would also permit the MOH to make communities aware that their contributions help to improve the MOH services provided.

Indirect expenses, such as overhead, should be calculated as soon as possible by the hospital/health facility staff to determine the level of expenditure in this budget item. This is required to judge the ability of the CR system to meet current services costs (level of recovery).

6.1.5.3 Health Care Cost Accounting

With financing from the World Bank under the "Government Modernization" Program, the Ministry of Finance is in the process of implementing a new "Governmental Accounting System" at the MOH's headquarters, the Benjamin Bloom Pediatric Hospital, and the ISRI. There seems to be a consensus that the governmental accounting system lacks a cost component, which would be required for the facilities to keep track of their costs, obtain cost information relating to their programs, and be able to update prices by making adjustments for Cost of Living (COL) and inflation. The following is a description of the type of system that would be needed by the facilities participating in the CR strategy.

Cost Accounting is a sub-field of accounting that records, measures, and reports information about costs. A cost is a sacrifice of resources. Cost Accounting is understood to include Management Accounting (Internal Accounting) plus some external reporting.

Many disciplines and processes can benefit from a quality cost accounting data base. This includes budgeting, new program and capital project evaluation, inventory management, pricing, addition or divestiture of a service, profitability determination by a group of purchasers (payers), cost control, and overhead and corporate expense allocation.

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[7] The project staff should ensure that these and other analyses recommended in this report have not already been done by another group, e.g. The Health Sector Analysis Group.

Costing Methodologies: Job Costing versus Process Costing versus Relative Value Units (RVUs): The process of costing can be described as either job costing, process costing, or a combination of the two. On job costing, each job is the unit of activity to be costed. The activity is easily identified and costs are easily traceable. Examples of industries using job costing are ship builders, aircraft firms, and printing plants to mention a few. In each of these fields, a job card or equivalent computer record can be used to document materials consumed and labor applied. In contrast to job costing, process costing divides the costs for a stream of like products by the total units to determine, essentially, an average component cost per unit. Process costing is commonly used in the chemical, food processing, paper, and textile industries.

In the health care industry, time and materials are not tracked by the job. However, repetitive services such as gall bladder removals, and appendectomies, are performed. Yet the amount of resources consumed for each similar service can vary dramatically, depending upon a variety of clinical considerations.

A third costing tool methodology, known as RVUs, is commonly used in the health care industry. RVUs are units of measure, an indexing technique for relating work effort to output. RVUs recognize the relative differences in the consumption of resources between various procedures or services. As a measure of output, RVUs are particularly helpful in determining work load, measuring productivity, or calculating procedure costs in service areas such as the laboratory or radiology departments.

6.1.5.4 Indirect or Overhead Expenses

These are support services, such as hospital administration, medical staff office, and public relations, which are not directly traceable to a particular service or procedure nor to expenses in the producing department, but are expenses that apply to more than one direct service.

The Matrix for collection of basic data at hospitals and Health Centers, for the development of the service pricing structure, during the design process of the CR system, as well as the costs studies conducted by Clapp & Mayne indicate that a "process costing" methodology was utilized, as opposed to RVUs, the methodology commonly used to measure resource usage in the health care industry. The studies did consider the Indirect (overhead) expenses on a more global basis.

Nevertheless, because the cost studies were performed to determine the cost of providing services by the MOH, on a global basis, as opposed to the cost for a single unit of service which would be required at a health facility, the methodology used appears to be acceptable. The same methodology should not be used when training hospital, center, or Unit staff in health care services management. In the case of the MOH health facilities, RVU calculations should be performed and the step down method of allocation utilized in calculating Indirect (overhead) expenses.

Allocation of Overhead: In the case of overhead (indirect costs), the Step Down Method of allocation of overhead to direct patient care departments is recommended, in order to be able

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to determine the full cost of providing services. The allocation process requires two inputs: the set of costs to be allocated (performed by IPM through the collection of basic cost data); and the selection of a statistical base on which to allocate these costs.

For example, a hospital has five departments. Three of the departments are revenue-producing (Clinic, Routine Care, and ICU) and two are overhead (Medical Records and Housekeeping). To allocate Medical Records and Housekeeping, it is necessary to use a reasonable measure of each department's utilization of the overhead services. This measure is provided by the Step Down Method of Allocation.

Cost Behavior Characteristics: Although the concepts of costs may appear trivial, they are fundamental to cost accounting and are often misunderstood in practice. Cost behavior is a function of time, resource management style, corporate goals and objectives as well as the organization's cost accounting objectives.

To determine standard and expected actual costs, we must know how costs react under various circumstances. There are two basic cost behavior patterns, fixed and variable. Fixed costs do not change as the level of measured activity or workload fluctuates. Variable costs will change in more or less direct proportion to the volume of activity.

6.1.5.5 Training

Both the Financial Planning and Financial Accounting Units, and the MOH's health facility staff should be fully trained in the above processes. Once oriented, these staff should be able to update the information in the cost accounting system or module on an ongoing basis.

6.2 Budgeting

Indicator: Revised Budgeting System

Status:

Not implemented as of this date.

The development of a budget methodology that expresses the requirements of the MOH's program areas is still to be implemented. The Financial Planning Unit at the MOH is in the process of consolidating the programmatic requirements of the MOH in order to proceed to the unification of programmatic and financial goals by improving the 1995 cycle of preliminary budget development.

According to Amendment No. 6, Article 5.2., Other Covenants, Item i: ". . . The MOH will take measures to increase efficiency, i.e., by providing for allocation decisions to be made on the basis of need and resources availability. Indicators of achievement will include budget allocations to hospitals based on actual patient load . . ."

The demand for health services provided by the public sector, as a general rule, exceeds the resources available. In the case of the MOH in El Salvador, 75 percent of hospital admissions occur in MOH facilities. Therefore, it is necessary to optimize the use of resources available and make choices among competing demands. In attempting to respond to this challenge, the MOH is immediately confronted with the lack of relevant information about the expected resource requirements, the actual resources utilized in the provision of health services, and the results (see Health Care Cost Accounting). Public sector institutions lack the information needed to explain variances from the expected use of resources or expected results. Sound resources management includes a notion of accountability for results, attempting to eliminate inefficient, ineffective, or inappropriate use practices.

6.2.1 Issues in MOH-Donor Information Exchange

Several of the donor agencies in the health sector established offices in the MOH headquarters. From those sites, contracted staff manage some or all of the donor's funding, maintain their own books, and generate their own reports, which in the majority of cases are not shared ministry-wide. The Financial Accounting Unit Office, which reports on a portion of the MOH's budget financed by GOES, has little or no information exchange with these donor offices.

Another example of this lack of donor-MOH information exchange involves the MOH Financial Accounting Unit. During the greater part of November, 1993, the Unit's staff helped to train regional staff on the topic "Operating Budget System." The instructional sessions were sponsored by OPS and facilitated by the short-term consultant who designed the system. The budgeting methodology taught is that of budgeting based on historical data, as opposed to budgeting based on analysis of the MOH's program needs. The World Bank offered to provide computer equipment for the use of this new system.

No further information was obtained, due mainly to the non-availability of the Unit's Director, because her presence was required at the above mentioned Seminar. The "Sistema de Informacion Gerencial" (SIG) is being installed at all MOH hospitals. The lack of coordination and work towards a common goal such as the development of a *Unified Financial Management System* is clear in the examples cited of fragmented approaches.

In an effort to alleviate this situation, the Financial Planning Unit, with APSISA's assistance, created the "Donor Projects Unit" This Unit has started operations by creating the "Donor Projects Database," which attempts to serve as a repository for project information, including financial information, across the MOH.

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6.2.2 Financial Management

The APSISA project provided significant assistance to the MOH in improving the areas of logistics, malaria control management and epidemiological data collection and analysis. Instructions for project help to be given to the MOH in the financial management area were only given through Amendment No. 6 (1991). The financial management component of technical assistance provided to the MOH, whether by USAID through APSISA or any other donor, has not been a coordinated concerted effort (see IFMS chart). Amendment No. 6 mandates a concentration on developing a CR system. Unfortunately, the strengthening and further advancement of the MOH's financial management system, as a whole, was not mandated by the Amendment.

6.2.3 Recurrent Costs

The recurrent cost crisis experienced by MOH has been the subject of recent study. According to the diagnosis made by Clapp & Mayne, the MOH has four different sources of funding: GOES, International Donors, *Patronatos* and Special Activity Funds.

The *Patronatos* and Special Activity Funds, however, are not the jurisdiction of the Ministry, but of the hospitals, centers and units where these funds are collected. Documentation on these two funds indicates that the MOH has neither jurisdiction nor internal control over these funds. The Ministry of Finance assigns 50 percent of the MOH budget to the operating costs of these hospitals.

An attempt will be made through the CR program to unify all these sources of funding of MOH's services. In conversations with the GOES General Budget Director, there was assurance that GOES is making every effort to increase its contributions to the health sector. Public sector recurrent costs and international donor decline are identified by the Ministry of Finance as priority topics for attention. There is clear, well-documented evidence at the Ministry of Finance that GOES has increased its contribution to the health sector. It is expected that GOES expenditures in the health sector will continue to increase, capturing funds previously assigned to the defense budget. For fiscal year 1993, these expenditures increased by more than 21 percent compared to 1992.

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INTEGRATED FINANCIAL MANAGEMENT SYSTEM.

I F M S

APSISA	**INVENTORY** . Drugs . Medical Supplies . Office Equipment	**FIXED ASSETS** (Balance Sheet Accounts) . Equipment . Vehicle	APSISA Partial No Depreciation
APSISA	**INCOME** . Patient Fees . Other (Sale) - Receipts . From Donors . From Others . Activities	**PERSONNEL** . Numbers . Deductions . Taxes . Classifications . Others	
OPS	**EXPENSE** . Natural Expenses . Other	**BUDGETING** . for all Other Components of FMS	OPS WB
	COSTS . Personnel . Service Delivery Direct . Depreciation of Equipment . Direct and Indirect . Fixed and Flexible	**INVESTMENTS** . Treasury . Debt Purchasing . CDS/Mony Market	

Financial Requirements from MOH Per Demand[8]
(in 000's of *Colones*)

SERVICE TYPE	1993	1994	1995
Ambulatory	**419,919**	**794,900**	**1,106,638**
Hospital Based	**326,059**	**358,467**	**527,079**
TOTAL	**744,978**	**1,153,367**	**1,633,717**

MOH Income Projections, 1993-1995[9]
(IN 000's of *Colones*)

FUNDING SOURCE	1993	1994	1995
GOES	550,577	688,588	830,793
PATRONATOS/ SPECIAL ACTIVITY FUNDS	37,371	46,726	58,421
LOANS/ DONATIONS	126,170	121,183	29,016 (a) 116,393 (b)
TOTAL	734,098	856,497	918,230 (a) 1,005,607 (b)

(a) Per International Agencies Projection.
(b) According to similar 1993-1994 growth in internationally sourced funding.

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[8]*El Sistema de Tarifas y Cuotas de Recuperacion de Costs de los Servicios*, Lic. Regina de Molina, Lic. David Castro, Dr. Luis C. Gomez, October 31, 1992.

[9]Ibid.

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6.2.4 Macro-Economic Indicators

During the war years private investment, economic growth, and all government sectors suffered severe funding reductions, save the Ministry of Defense. The annual growth pattern of the GNP between the 1950s and 1970s, which oscillated between 4.8 percent and 4.7 percent, suffered a sharp decline in the 1980's to **-1.2 percent.**

Inflation declined from 23 percent in 1989, to 19.3 percent in 1990, and to 9.8 percent in 1991, but increased to 20 percent in 1992. The Consumer Price Index grew at an annual rate of 11 percent, substantially below the 17 percent rate registered during the same period in 1991. World inflation and the fall in prices of traditional Salvadorean exports in the world market contributed to this situation.

Devaluation of the *colon* has not kept pace with inflation. Therefore, purchasing power has been eroded significantly by this factor. A case in point is the MOH physicians' salaries which have declined due to a sharp fall in purchasing power. Monthly salaries in 1976 represented 626 *colones*. Between 1976 and 1990, these salaries represented 97.6 *colones* (in 1978 *colones*).

Foreign debt decreased because a portion was forgiven. However, total outstanding public sector debt increased by $267 million (13 percent), during 1992, to a total of $2,337 million. Multilateral lending, purchase of capital goods, a loan to provide assistance to coffee growers, and other factors contributed to this increase. The State has taken strict measures to modernize itself, reduce expenditures, and revitalize the economy.

Recently, attention has centered on the remittances sent by Salvadoreans living abroad, estimated to have been U.S. $680 million in 1992, representing over 10 percent of GDP. A recent survey indicates that remittances sent to family members by Salvadoreans living abroad, increased the incomes of poor urban and rural families by a third. However, the unemployment crisis in the US, where most ex-patriate Salvadoreans live, might bring these remittances to a decline. Another factor that should be kept in mind is that the Salvadorean society is a consumer society. Therefore, funds received through remittances are used to cover basic family expenses. Savings and investment do not seem to be the final destination of these remittances.

Projections for economic growth for the period 1993-1995 are between 5-7 percent (more conservative) and 10 percent. Some economists expect growth rates in El Salvador's economy to be about 5 percent per year. Others have made more optimistic growth projections such as 5-7 percent later in the decade. Also, there appears to be active interest in El Salvador on the part of foreign investors, across sectors.

The economic capacity of the health system's users, has been severely limited by the impoverishment of the population mainly caused by the war. At present, it is estimated that at least 60 percent of the population can be classified in the extreme poverty level. Those living in absolute poverty represent 23.5 percent of all urban households.

Government Expenditures as % of GNP 1980-1990

YEAR	GOVERNMENT EXPENDITURES
1980	17.5
1981	22.2
1982	21.7
1983	18.2
1984	23.4
1985	16.5
1986	18.9
1987	15.0
1988	13.1
1989	12.1
1990	12.9

7. Conclusions and Recommendations

7.1 Component A: Logistics and Supply Management

7.1.1 Selection and Procurement of Drugs and Medical Supplies

Conclusion:

It appears likely that the project will achieve, before the PACD, the objective of seeing 90 percent of basic drugs in place, through restocking, at health units and posts. The achievement is now approaching the 80 percent figure due to:

- reduced number of drugs in the basic drug list for procurement;
- lower prices achieved through open bidding; and,
- drug distribution based on need, not historical precedent.

Increased donor coordination and regional oversight of the use of *patronato* funds might help accelerate the attainment of this goal.

Recommendation No. 1:

To further advance basic drug coverage at health units and posts, the MOH should optimize use of non-USAID donor resources for drug commodity purchases, by coordinating offers, avoiding duplication, and exercising firmer control of drug supply. Oversight reporting of *patronato* funds by health units and posts to the regions would assure their use for local purchasing of selected drug and supply items.

7.1.2 Drug Quality Control, Biomedical Equipment Maintenance and Vehicle Maintenance

7.1.2.1 Drug Quality Control

Conclusion:

The logistics units of drug quality control, biomedical equipment and vehicle maintenance lost trained personnel in 1992, through routine attrition and the GOES early retirement offer.

Recommendation No. 2:

The MOH should increase the present personnel complement in the areas of drug quality control, biomedical equipment and vehicle maintenance.

New employees in those units will require in-service training to bring the number of available trained technicians to the level achieved prior to the 1992 exodus.

Conclusion:

MOH salary levels for the above logistics units are far below those of the private sector, ISSS or the NGOs.

Recommendation No. 3:

The MOH should seek authorization to adjust salary levels in 1994 for personnel in all logistics units to make the wages more competitive with those of the ISSS and the NGOs.

7.1.2.2 Biomedical Equipment Maintenance

The MOH should be responsible for the maintenance of biomedical equipment.

Conclusion:

The petty cash funds and per item purchase limits for biomedical and vehicle maintenance are unrealistic. Obtaining spare parts is a lengthy, bureaucratic process since most purchases exceed the current limits of the petty cash fund for replacement parts.

Recommendation No. 4:

The petty cash fund and petty cash limit for biomedical and vehicle maintenance should be increased to a more realistic amount. Control of petty cash should be put in the hands of the responsible workshop staff at both central and regional levels.

Conclusion:

A reported 40 percent of the biomedical equipment is without an inventory number and thus cannot be legally serviced or repaired. The basic inventory at the central level dates back to 1990.

Recommendation No. 5:

The MOH should find a way to include all donated biomedical equipment in the numbered inventory and should update the inventory on a quarterly basis.

7.1.2.3 Vehicle Maintenance, Replacement and Management

Conclusion:

The Clapp and Mayne transport advisor estimates that 73 new vehicles for the MOH should be purchased each year to maintain normal operating service. Replacement motorcycles are needed. There is an insufficient number of vehicle and motorcycle mechanics.

Recommendation No. 6:

The MOH should endeavor to identify funding (either GOES or donor) to replace each year the required number of vehicles in order to maintain normal fleet operations. The motorcycles purchased through the VISISA Project (1984) need to be replaced. The number of vehicle and motorcycle mechanics must increase.

Conclusion:

There are a reported 131 MOH vehicles plus a quantity of motorcycles country-wide that are waiting to be discarded. These take up valuable space at both central and regional levels.

Recommendation No. 7:

All MOH vehicles and motorcycles to be scrapped should be sold off as soon as possible.

7.2 Component B: Improvements to Basic Services Extension

7.2.1 Extension of Health Services Delivery to 2,100 Cantons

Conclusion:

Selection and training of CHPs between 1991-1993 briskly doubled the pool of CHPs. The expansion has been driven by the availability of positions, i.e., regions compete for available CHP slots as offered. MOH notes difficulties in guiding the selection of CHPs. The CHPs' job profile identifies that 20 percent of his/her clientele are women 15 to 44 years old.

Promotion of safe deliveries, post-natal care and family planning services is weak compared to the high profile CHP activities like environmental health promotion or vaccination campaigns. Action in this area must consider that about half the deliveries each year are home births, many at high-risk, as the mother received too little pre-natal attention.

Program emphasis must reflect that higher fertility rates are expected, considering that an estimated 57.2 percent of fertile rural women currently are not using a modern contraceptive

method (FESAL, 1993). MOH program plans lack a clear focus on how the project intends to improve the delivery of preventive health services in rural areas to women 15-44 years old and to couples interested in birth spacing.

Recommendations No. 8:

1. The 1994 Annual Operating Plan must present details of how funds for training and printing of educational materials will emphasize maternal services programming (e.g. safe deliveries, family planning). The plans for supervising CHPs should state clearly the assumptions concerning support resources being provided by the regions in terms of available vehicles, motorcycles, supplies and equipment as appropriate for the specific supervisors, CHPs and midwives.

2. Before disbursing counterpart funds for training and printing, the MOH should require revised 1994 work plans from the Divisions of MCH/FP, Community Health and Health Education. The new plans must show how each unit will complement one another's training activities by rationalizing the number of courses and course content. Dispersion of resources, e.g., conducting courses with similar content for identical audiences, must be controlled.

7.2.2 Malaria Control Program Support

Conclusion:

Malaria cases recorded in 1992 were the lowest in over a decade. It seems reasonable to expect a continued strong performance of the MOH's oversight of vector control efforts, expansion of community-based treatment and MIS module sites and supervision/resupply of the decentralized malaria laboratories.

A chief concern for the maintenance phase of the Malaria Program centers on the readiness of four recently appointed Zonal malaria coordinators to manage malaria control with adequate supervision from the regions. Reasonable assurance of their competency is the key factor to activate decentralization of malaria surveillance and subsequent decision-making at regional and local levels.

Recommendation No. 9:

To support the skills development of Zonal Malaria Coordinators, the MOH must place appropriate supervisors in the regional directorships for environmental services, capable of advising Zonal chiefs to act on malaria surveillance data.

If APSISA help is required during 1994, the MOH should request the Malaria Control Unit to render alternate sketches of a plan and timetable for transfer of oversight duties to regional staff: one at an accelerated rate (up to September, 1994) and one for an extended time period in the event of a project extension.

7.3 Component C: Strengthening Planning, Programming, Management and Research

Conclusion:

Only since 1992 has an initial effort been made to unify the MOH's approaches, at central, regional and local levels, to planning services programs and forecasting budget requirements. Diagnostic work was conducted, and a first round of training sessions began in 1993. The exercise began late in APSISA's history. The training and technical assistance may bear fruit in preparing the 1995 cycle of MOH action plans and budgets.

The following recommendation addresses one feature of the MOH's noted institutional deficiencies. A more appropriate suggestion might be to activate a rigorous Organizational Development (OD) diagnostic exercise within the MOH. The evaluators were advised that multi-year OD interventions would exceed time and financing limits which USAID/ES indicated are feasible today.

Recommendation No. 10:

A Limited Strategic Planning Exercise

MOH is at work conducting training sessions in planning for some health workers, grouped by either professions or work unit locations. A dedicated package of diagnostics/training and technical assistance may be drawn up to focus on a core group of central and regional workers (perhaps 15 total) to complete an integrated MOH strategic plan, within a time period of 9 months.
Compelling topics to be a focus of the planning exercise include:

- Fitting the health region's budgeting forecasting exercise with resources requirements to provide adequate support by the health region to the expanding number of CHPs and supervisors; and,

- High profile strategy development for improving the delivery of preventive health care services for women 15 to 45 years old.

The MOH should take the lead in implementing this recommendation with assistance from A.I.D.

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7.3.1 Information Systems Development

Conclusion:

APSISA resources (1987-1991) focused on processing data to meet the decision-making needs of the commodity management mechanism and, to a lesser degree for managing MOH health statistics data. In order to establish pertinent MIS systems, information flow was charted, computers secured, software adapted, and workers were trained. USAID/ES purchased over 738 person months of technical assistance from two U.S. contractors to build (1987-94) the commodity management MIS and work on the epidemiological surveillance MIS.

Amendment No. 6 gave guidance to APSISA Project managers to address the institutionalization of MIS sub-systems for decision-making within the MOH, along quite broad lines. Data generation and design of MIS flow have proliferated within the MOH (1987-1993) and appear driven by donor reporting requirements. The foci of some of the MIS mechanisms are unrelated to APSISA objectives. An undesirable situation characterizes the MIS scene. Resources, MOH-wide, are not being managed in a way which will enable diverse systems to converge and be useful to decision-makers. There is an urgent need to take a fresh, coherent approach to re-align donor-driven MIS initiatives operating in the MOH today. APSISA, as one entity within the MOH, has insufficient leverage to direct organizational divisions MOH-wide to unify efforts.

Recommendation No. 11:

High Price Option: Formulate a Memorandum of Understanding for the MOH, APSISA principals and pertinent international agencies to sound a call for rational approaches to information systems planning. Technical assistance would be needed to diagnose the current MIS scene, inventory the characteristics of sub-systems in place or under development and sketch the requirements (time, materials and actions) for helping the MOH move towards a more predictable point of integration of MIS than is the case today (see also Section 7.3.1). The MOH and A.I.D. might consider asking the Pan American Health Organization (PAHO) and the World Bank to coordinate the use of existing technical assistance resources to structure this exercise.

Lower Price Option: As priorities permit, direct the current MIS advisors in APSISA to re-orient work plans until September 1994 to make a preliminary sketch of such needs. The opportunity cost involves "freezing" planned MIS maintenance work in progress.

The MOH should take the lead in implementing this recommendation with assistance from A.I.D.

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7.3.2 Applied Research and Investigation

Conclusion:

Ninety-four reports, operations research monographs and APSISA-related studies are recorded (1987-1993). The MOH and the National Medical School require graduating students to complete a professional research study in a community health topic area during their year of obligatory service at an MOH facility. Central and regional MOH professionals demonstrated less interest in acquiring such research skills, although they identify critical service problems to which such inquiry can be applied.

7.3.3 Developing the Cost Recovery Program

This section was intended to contribute viewpoints from the health care finance perspective. A statement of conclusions
was not developed to introduce each recommendation.

Recommendation No. 12:

Accelerate implementation of the CR system to be fully implemented within one year of the October 1993 initiation of the pilot test for the socioeconomic classification system.

Recommendation No. 13:

The socioeconomic classification system should be reviewed to reconsider Level 2 to include "relative poverty - rural, and relative poverty - urban", instead of the present classification on this level which considers "relative poverty" across the board.

Recommendation No. 14:

APSISA should provide the MOH with technical assistance from a "Marketing Specialist," within six months after full implementation of the CR system, to measure the elasticity of the market.

Recommendation No. 15:

It is important for MOH facilities to revert some of the funds generated by the CR system back into the program. However, due to the inevitable conclusion of the APSISA project assistance and the inevitable decline in international donor funding, MOH facilities should ensure that between 5-10 percent be set aside annually from fees raised by MOH facilities, until the MOH is able to build a working capital of at least 25 percent of the total annual expenditure for drugs, contraceptives, and medical supplies.

These funds should be put into an Endowment Fund, if permitted by the Salvadorean legislature. Interest generated by this fund should be utilized to replenish drug supplies, contraceptives and medical supplies, and its main goal should be to replace the APSISA's financing of this budget line item. The MOH might be eligible to request USAID assistance in strengthening this Endowment Fund, by means of an appropriate development fund.

Recommendation No. 16:

The MOH ought to formulate criteria for the acceptance of donated commodity items, so as to reduce the MOH's administrative burden attached to managing the donation. The opportunity cost of managing the commodity may outweigh its perceived value and detract from the implementation of the CR program.

Recommendation No. 17:

It is recommended that data processing equipment provided to the Financial Planning Unit not be removed in the future under any circumstances. Furthermore, it is recommended that APSISA provide personal computers to those facilities where the CR system is installed, with adequate training offered in computer use and data analysis.

7.3.4 Improving Financial Management

Recommendation No. 18:

In order to ensure the observation of internal control procedures, at least two employees should be involved in the collection, registration, and reporting of fees collected at hospitals, health units and posts.

Recommendation No. 19:

The monthly income and expenditure report generated at health facilities could be expanded to add a column with expense budget figures. The MOH may consider seeking optional reports, which are often required as minimal by health organizations, e.g., Monthly Expense Variance by Expense Category; Monthly Service Volume Projections; and Monthly Service Volume Variance.

Recommendation No. 20:

Agreements with external donors should be negotiated taking into account both direct and indirect costs (overhead). The MOH can no longer afford to cover all overhead generated by international donor projects. These expenditures should be calculated by the Financial Planning Unit at the MOH as soon as possible.

7.3.5 Cost Accounting

Recommendation No. 21:

In order for the MOH to have cost information ready for use, a cost accounting system ought to be developed, that automatically discriminates between direct and indirect costs incurred in providing services. In the case of international donors that do not cover overhead, MOH should ensure that all projected expenditures are included as costs directly attributable to the donor's project(s).

7.3.6 Technical Assistance in Health Facilities Management/Total Quality Management (TQM) for Health Organizations

Recommendation No. 22:

It is recommended that technical assistance be provided to MOH facilities in the TQM of Health Care Organizations. This technical assistance will have to be provided by a Specialist in health services management, and should address the effective and efficient use of human and financial resources. The Consultant should ensure that the improvement of the quality of clinical services includes the use of clinical practice profiles at the MOH hospitals.

Recommendation No. 23:

Allocation of non-revenue producing department costs to revenue-producing ones at health facilities should be done by using the Step-Down Method of allocation.

Recommendation No. 24:

The financial management area at MOH is in particular need of technical assistance in planning, forecasting and budgeting. The following are two aspects to be considered when planning technical assistance in the financial management area:

1. The MOH Financial Planning Unit ought to complete a Strategic Planning exercise, suitable for public sector finance units. Technical assistance should be offered in budgeting methods, planning, and forecasting prior to implementing the second phase of the operating plan. These exercises should involve both the central and regional levels. Sessions should be given on how to finance recurrent costs generated by capital investments made in the past.

2. As an orientation for such training, health services must be thought of as a business. Recognition of this fact demands that the budget process include the following features:

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- Consideration of Long-term Strategic Planning;
- Emphasis on sound business practices;
- Involvement of persons responsible for implementation;
- Emphasis on operating requirements;
- Clear description of desired results;
- Careful monitoring and control of ongoing operations; and,
- Accountability of those responsible for both expected resource usage and results.

7.4 Component D: National Reconstruction Plan

Conclusion:

496 CHPs have been trained and placed in an equal number of cantons identified within the Nation Reconstruction Plan's 115 municipalities benefiting 605,000 citizens. The pace of rehabilitating/equipping facilities in ex-conflictive areas, is accelerating. Rehabilitation has been fully completed for three of the five designated laboratories. The pace of installing water and drainage systems and other improvements is slower: 34 of 80 planned works are finished, another 22 are in preparation, and 18 are yet to be programmed for 1994. Six communities under FMLN administration during the conflict refuse to re-establish links with the MOH network of services.

Recommendation No. 25:

Insofar as the physical works, drug stocks and equipment procurement is concerned, no recommendation is offered, as implementation seems current. Health region staff, accepting new CHPs in their NRP areas, need to review 1994 budget forecasts to assure CHPs and their supervisors are assigned adequate direction, transport, supervision, tools and supplies. The Malaria Control program's network of volunteer collaborators cannot be fully extended to the remaining 153 communities by the PACD. If the project is extended at least 18 months, a volunteer can be prepared to serve as many as three-fourths of these remaining cantons.

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8. Lessons Learned

The following are key, selected lessons learned in APSISA:

1. Dependency on External Aid

   A decision to buy commodities and build a system to move them, during times of civil unrest and financial crisis, nurtured dependency on external aid for goods, wages and services. Shock therapy, viz., insisting that GOES funds be used to purchase commodities, might prove penny-wise in the short-term. The MOH has not prepared staff and facilities adequately to assume immediate duties for independent management of APSISA components.

   A corollary is: prospects for retaining skilled staff are poor when project training goes on without concurrent MOH attention to job incentives.

2. "Blind Spots" in Implementing Policy Reform: Safe Deliveries

   The 1991 MOH statement of policies in the National Health Plan spoke to addressing the alignment of services with the priority needs of the population, viz., to the most vulnerable: children under 5 years old and women 15 to 44 years old. Improvements in services on which APSISA was focused demonstrated notable gains, particularly in vaccinating children under 1 year against the diseases of early childhood. There was a visible return on investments in achieving impact in reducing malaria incidence, and keeping it in check. Targets were clear and resources well organized, in the presence of catalysts.

   Preventive care for women, particularly attention to safe deliveries, was not a well-developed focus, and MOH efforts continue to be inadequate compared to the magnitude of women's health care needs. The 1990 mid-term evaluation's call to address this point was too faint. The MOH is not in a position to make critical databases converge so that decision-makers see that the MOH's attention to safe deliveries and family planning services is seriously fragmented. Critical review of this "blind spot" was missing in both the MOH's and APSISA's internal assessments and routine reporting.

3. Integration of Effort

   A majority of APSISA funds purchased commodities, technical assistance in logistics, MIS support for logistics and health statistics. Amendment 6 directed APSISA managers to help sort out the fragmented MOH program efforts. MOH has acute needs to unify decision-making tactics to secure integration of efforts.

   In 1992, work has began on planning and programming; discussion on CR began only in 1993. The input requirements may be substantial for aligning disperse information

mechanisms and making them converge for decision-making. MOH and donor attention to the issue is late in A.I.D.'s health sector support since the 1980s.

4. Financial Management and Cost Recovery Strategy:

From inception, APSISA managers needed to have put the spotlight on the sustainability of commodity procurement, logistics and support services through a CR strategy. Lead time is needed to create awareness in the MOH as to how APSISA initiatives will continue 3 to 5 years hence forward to replace declining donor support. The MOH and APSISA principals today, after more than 6 years of A.I.D. subsidy, have not developed a reasonable replacement strategy for the huge donor support.

The call to get started came late, in Amendment No. 6 (late 1991). Currently, technical assistance efforts to identify options for the replacement of donor support for APSISA initiatives are only still at an embryonic stage.

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9: Project Contributions to USAID/ES Mission's Strategic Framework

The AID/ES Mission Statement Framework document contains the Strategic Objective Program "Tree" (see Figure No. 4). Strategic objective No. 4 indicates that USAID/ES resource mobilization is directed at increasing opportunities for healthier and better- educated Salvadoreans.

Program outcome No. 4.3 states:

"Increased number of Salvadoreans receiving health and child survival services."

This is further separated into several sub-objectives. The resources of the APSISA Project do contribute towards work in progress in the health sector under these objectives. With respect to quantifying the relative contribution to health status outcome indicators of the APSISA project goals, the evaluation team can infer that the APSISA inputs (particularly the malaria incidence reduction effort and the availability of commodities) contributed to reducing the burden of illness on children under 5 years old.

Maternal Health Attention: A Blind-Spot:

The evaluators believe the situation with respect to women's health care deserves mention. Coverage of pregnant women with tetanus toxoid (TT) is less than one in five pregnant women. (Coverage for second dose of TT: 19.8 percent in 1992). The figures are defended as accurate (MIS surveillance captures data accurately from lower reporting levels), but not acceptable. Outreach to encourage women to secure adequate pre-natal care is only now receiving a boost from the expansion of community-based trained resources at the first level of MOH services: 1,441 cumulative total number of CHPs expected by December, 1993.

Contraceptive prevalence:

Fertility rates are noted to be rising nationwide (FESAL, 1993). Figure 5 provides an alarming picture: only about one in three women of reproductive age from rural areas uses a modern contraceptive method. Experts concur that the MOH's provision of contraceptive services, especially in rural communities, is inadequate in the face of this unmet demand estimate (ANSAL, 1993).

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FIGURE N° 4

STRATEGIC OBJECTIVE NO. 4

Healthier and better educated Salvadorans

PROGRAM OUTCOME NO. 4.1	PROGRAM OUTCOME NO. 4.2	PROGRAM OUTCOME NO. 4.3	PROGRAM OUTCOME NO 4.4
Increased effectiveness of the K-6 educational system	Increased contraceptive prevalence	Increased number of Salvaodrans receiving health and child survival services	Increased number of rural Salvadoran households with access to potable water

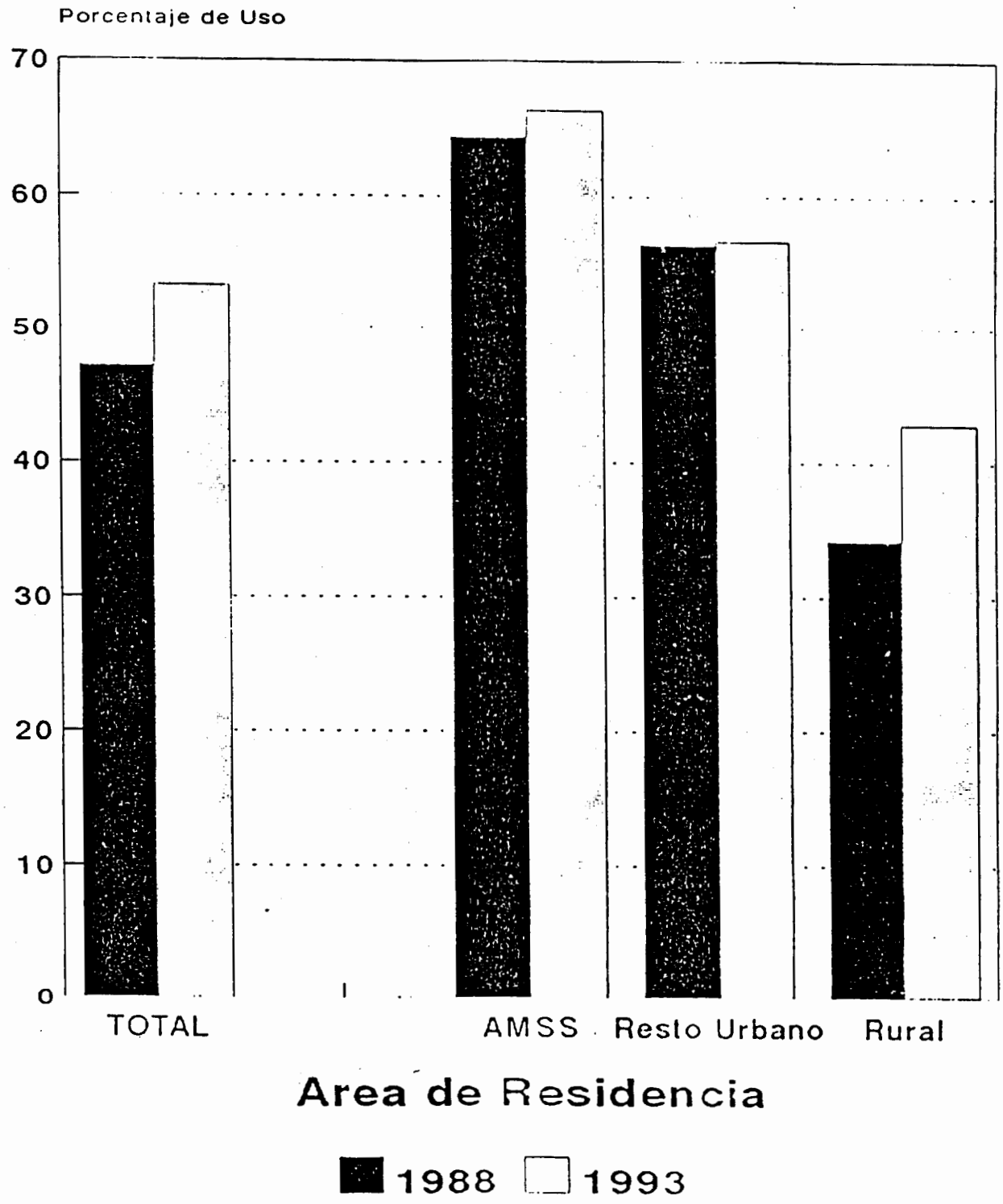
INDICATORS

1. a) net enrollment b) completion 2. Promotion rate at specific grade levels a) 1st b) 2nd c) 3rd 3. National achievement test scores in math and language for grades 1-6	1. Contraceptive prevalence a) metro San Salvador b) other urban areas c) rural d) overall	1. Basic services coverage 2. Children vaccinated (complete series) 3. a) prenatal care coverage b) deliveries by trained personnel	1. Rural households with access to potable water 2. Rural households with access to latrines

FIGURE N°5

Gráfica 3

Prevalencia de Uso de Anticonceptivos, por Area de Residencia
El Salvador: Encuestas 1988 y 1993



a1

ANNEXES TO THE REPORT:

A TO G

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SECTION C

DESCRIPTION/SPECS/WORK STATEMENT

C.1. BACKGROUND

The goal of the Project is to assist the Ministry of Public Health and Social Assistance (MOH) to improve access to, and availability of basic health care services and reduce child and infant mortality. The purpose is to support and strengthen the capability of the Ministry of Health (MOH) to deliver and support basic health care services, including preventive and primary care services important to the MOH Child Survival Program. This $69 million eight-year grant, and an additional $8 million five-year grant for National Reconstruction, provides commodities, financial and technical assistance to the Ministry of Health. The Project originally consisted of three components, as follows:

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

An additional component was added in Project Amendment No. 7 dated May 6th, 1992:

- National Reconstruction

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

1. 90% of open MOH care facilities have at least minimum stock levels (appropriate to the level of facility) of selected drugs and medical supplies.
2. 90% of MOH bio-medical equipment (including cold chain equipment) functioning.
3. 25% increase in the number of consultations given at the primary level (units, posts and by Community Health Promoters) through increased number of Health Promoters and referrals.
4. 20% increase in amount of MOH operational budget allocated for regional health services (facilities other than hospitals and outreach programs).

5. Improve MOH policy, program planning and management capabilities as evidenced by:

   a. Sustainability reforms being implemented
      - Budgeting based on need, not historical patterns
      - Standarized system of fees for consulations and medicines, and uses of fees received.
      - Resources to primary health care increased (all CHP's on MOH rolls, increased pharmaceutical levels to primary health care).

   b. Decentralized MOH Regional Offices will be:
      - Controlling inventory and distribution of medical supplies.
      - Monitoring epidemiological status.
      - Maintaining all vehicles and biomedical equipment.
      - Monitoring, planning and budgeting resources.
      - Responsible for CHP's.
      - Monitoring Malaria indicators.

   c. Hospital pharmaceutical and personnel allocations based on demand/need, not historical levels.

The Project Grant Agreement was signed on August 29, 1986, but actually began full implementation in August 1987. The Project Assistance Completion Date (PACD) is September 30, 1994.

C.2 PURPOSE

The purpose of this contract is the performance of the second mid-term evaluation of the Health Systems Support Project (APSISA). The purpose of the evaluation is to measure output level indicators, attainment of the project purpose, and contributions to the project goal. The evaluation will measure the increased availability of basic health services; effectiveness of primary level facilities and providers and logistics improvement; reduction in infant and child mortality and key morbidities indicated in the logical framework; progress in implementing the policy reform agenda. The evaluation should also analyze impact on sustainability of improvements in cost-containment and cost recovery. It will examine the delivery of commodities and planned improvements in the acquisition and management of drugs and medical supplies and in the extension of health services to rural areas. It will compare efficiency of maintenance systems for all MOH equipment and facilities before and during project implementation. It will compare the status of establishment of the Management Information System (MIS) with what was proposed in the Project Plan. Specific attention will be placed on the progress to date under the NRP component and corrective actions needed. The timing of this evaluation is to allow mid-course corrections in reform measures and to provide adequate time for planning for maintenance of project

activities after the project ends. The need for a more limited final evaluation will be determined as a result of this evaluation.

C.3 STAMENT OF WORK:

a. General Objective:

To measure progress in the delivery of commodities and planned improvements in the acquisition of drugs and medical supplies; in the extension of health services to rural areas particularly the NRP zones; in the implementation of malaria control activities; in the establishment of MIS; in the efficiency of maintenance systems for equipment and facilities; in the MOH decentralization plan and in the adoption of an effective cost recovery (user fee) system and to review adequacy and appropriateness of the policy reform agenda.

b. Specific Objectives:

The evaluation will assess project impact on the capability and performance of the Ministry of Health (MOH) in supporting health services. A three person evaluation team will review and assess the following:

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

2) Progress in key MOH service systems (e.g. Health Supplies Systems, MIS, Malaria Control System, Public Health Infrastructure Maintenance System, and Basic Health Care Delivery Systems) vis-a-vis project output indicators;

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

4) Accomplishments in improving basic health services delivery;

5) Achievements in strengthening policy and program planning and management, and;

6) Progress in decentralization of specific MOH functions and in the adoption of an effective cost recovery system.

7) Progress/problems in the implementation of the NRP component.

8) Sustainability of project accomplishments.

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

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c. Specific Tasks:

1) To what extent has the project increased the ability of the MOH to select, procure, distribute and monitor use of pharmaceuticals and medical supplies? Consider the following:

   -Selection of appropriate pharmaceuticals and medical supplies.
   -Determination of pharmaceutical quantities required.
   -Warehousing and distribution systems.
   -Pharmaceutical procurement system.
   -Drug quality control procedures.

2) How has the project improved the MOH's computer capability in procurement, supply management, health statistics and maintenance; training in computer use; and installation of computer hardware?

3) How has the project strengthened and expanded MOH support systems, particularly vehicle fleet management and maintenance; biomedical equipment and facilities maintenance; regional level maintenance?

4) How has the project strengthened policy and program planning and management? Are the measures appropriate?

5) How has the project improved health services delivery? Consider the following:

   -Capacity of the MOH to support health services.
   -Treatment and expansion of the range of services to be provided by lower level care promoters.
   -Expansion of outreach services, including Malaria Control, Family Planning, Community Health Programs, Emergency Medical Services at all levels of health services delivery, etc.

6) What progress has been made in the achievement and implementation of a decentralization strategy and a cost recovery system?

7) To what extent have the above activities permitted the MOH to improve efficiency (i.e., lower unit costs) while increasing primary health service delivery?

8) WID issues (see Attachment I) should be taken into account throughout the evaluation and specifically addressed in a separate Annex to the report.

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9) Is the project adequately contributing to the Mission's strategic framework as defined in the FY92-94 Program Objectives Document. Moreover, are there unintendet crossover effects on strategic objectives other than number 4, healthier, better educated Salvadorans? Could impact on strategic objectives be enhanced?

10) Based on this evaluation, what specific recommendations can be made for improving implementation of the project?

C.4. METHODOLOGY:

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

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

B. Site visits to MOH facilities and projects (e.g. Malaria, Community Health, Regions, etc.) subject to approval by USAID.

C.5 AID/W WID ISSUES

A. DESIGN, APPRAISAL AND IMPLEMENTATION

How were the interests and role of women (compared to men) taken into account in each of the design, appraisal and implementation stages of the project?

In what ways did women (compared to men) participate in these processes?

B. EFFECTS AND IMPACTS

What were the effects, positive or negative, of the project concerning women's (compared to men's) access to income, education and training, and with respect to workloads, role in household and community, and health conditions?

How ere the interests and role of women (compared to men) taken into account in the evaluation stage?

Were significant factors concerning women (compared to men) overlooked at the appraisal stage?

C. DATA AVAILABILITY

Were gender-specific data available for each of the project stages?

Design
Appraisal/Approval
Implementation
Monitoring
Evaluation

D. SUSTAINABILITY

How did women's integration in AID activities affect the sustainability of project outcomes? Were outcomes more sustained (or less sustained) when women were taken into account in AID activities?

Are the results achieved by the project equally sustainable between men and women beneficiaries?

C. Review of the following basic reports (minimum):

-HPN APSISA Project files.
-Clapp & Mayne monthly reports.
-Health Service Studies (completed under project).
-"Patronato" study (completed under project).
-Ambulatory and Hospital Costs (completed under project).
-Drug Prescription by Patient and Health facility.
-Review of project documentation.
-Program Objectives Document.

C.6 REPORTING REQUIREMENTS:

The contractor shall provide the USAID Office of Health Population and Nutrition (HPN) with the following reports:

1. Within 5 days of arrival, the team will submit for USAID approval a working outline of the evaluation and a work plan to include a list of proposed site visits. These will be reviewed with contractor participation at an entry interview with the Mission Evaluation Commitee.

1 At least 7 working days before leaving El Salvador, the Chief of Party will provide the USAID with a copy of the draft report in English and Spanish following the outline proposed at the beginning of the consultancy.

The contractor will participate in reviews of this draft with designated USAID officers and in a senior staff review to be held three days after the date of submission of the draft. Contractor will be responsible for incorporating written and oral comments received in this meeting in the final draft. Immediately before departure, the consultants will prepare and deliver 5 copies in English and in Spanish of a final draft report, incorporating drafting or substantive changes, if any. USAID will have 10 working days to review this final draft before returning it to the Contractor.

3. No later than 4 weeks after receipt of the final draft from USAID, the Contractor will submitt a final evaluation report, 5 English copies and 5 in Spanish, to USAID/HPN, incorporating clarifications and/or additions requested by the Mission.

The evaluation report will include the following sections:

(A) an Executive Summary, including purpose of the evaluation, methodology used, findings, conclusions and recommendations. It will also include comments on impact and lessons learned. It should be complete enough so that the reader can understand the evaluation without having to read the entire document, i.e. a self-contained document. (B) A copy of the scope of work under which the evaluation was carried out. The methodology used will be explicitly outlined. Any deviation from the scope will be explained. (C) A listing of the evaluation team, their field of expertise and the role they played on the team. (D) A clear presentation of the evaluation recommendations, in a separate section of the report if convenient, so that the reader can easily locate them. (E) The project's lessons learned should be clearly presented with emphasis given to those relating to replicability and sustainability. These should describe the causal relationship factors that proved critical to project success or failure, including necessary political, policy, economic, social and bureaucratic preconditions within the host country and AID. These should also include a discussion of the techniques or approaches which proved most effective or had to be changed and why. (F) A paginated Table of Contents. (G) Annotated bibliography of all project related documents. In addition, the Contractor is responsible for the preparation of the summary and abstract sections of the AID Evaluation Summary (form to be provided) which will be delivered with the final report.

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519-0308

Annex B:

1. Women in Development Issues

It should be pointed out that the Health Systems Support Project (No. 519-0338-C-519-03-08), known by its acronym "APSISA," conceptualized and designed in 1985-1986, predates AID/W's current guidance on considering Gender Impact and Women in Development (WID) issues in mission programming.

1.1 Design, Appraisal and Implementation

As regards the historical perspective of project design and appraisal, the Project Paper (1986) presents vital statistics, such as morbidity and mortality data, on the Salvadorean population in the aggregate. The Project Paper approval cable from AID/W could not be located at USAID/ES, so there is no available evidence that guidance was given to USAID/ES to consider gender issues, specifically. It appears that there was no stated intent to focus on gender disaggregation in the approach to designing, appraising and implementing the APSISA Project.

For A.I.D. project development in the health sector, it is a common planning principal among community health systems project designers to center the focus of development and extension of basic health services on the most vulnerable groups within the country, viz., the binomial unit: mothers and children (both sexes) under 5 years old.

1.2 Effects and Impacts

Chapter 3 of the present evaluation report (Section a-i, page 32) describes some of the antecedents surrounding then current (1986) MOH efforts to develop community-based health promotion resources, viz., the earlier versions of the person now called a Community Health Promotor (CHP). The MOH Community Health Division, created in 1989, worked with a critical mass of existing (and mostly male) Rural Health Agents and Community Health Assistants and retrained them to fit a uniform job profile: CHP.

As the rural communities individually selected the candidates to be trained as CHPs, it is reported there was a tendency in 1989 to nominate more male candidates. The popular wisdom, from the community's viewpoint, it is reported, was that women CHPs would be less mobile, perhaps due to family-rearing or related duties.

Today, the profile of CHPs and supervisors by gender is:

	CHPS	Supervisors
Female CHPs:	469	7
Male CHPs:	531	120
TOTAL:	1,000	127

Data prepared by the malaria component of APSISA indicate that 72 percent of its 2,954 National Malaria voluntary collaborators are women from rural communities. All collaborators receive training in certain key duties in malaria incidence surveillance, preparing simple blood smears, individual case treatment and community mobilization techniques (e.g. mass communications, home visits for follow up).

At the level of the MOH's five Regional Health Offices, two of the five regional directors are women physicians.

As noted in Section 1.1 above, it was intended that the majority of beneficiaries be women and children. A reported finding of the Salvadorean population structure (C. Linninger, ANSAL, 1993) is that women are overrepresented in the general population. Therefore, the malaria control efforts, commodity logistics and MIS mechanisms developed with APSISA funding should theoretically serve a proportionately greater number of females within the priority service groups: children under 5 years old and women aged 15-44 years.

1.3 Data Availability

The design phase did make use of gender-specific morbidity and mortality data and report these in the Project Paper. During the 1987-1993 phase of APSISA implementation, project resources have focused on improvements to the MOH's Data System for Disease Incidence Reporting and for Epidemiological Surveillance. It is possible to disaggregate some of these data by gender when required. No evidence was examined to verify that MOH authorities routinely ask to see such disaggregation, with the exception that it is commonplace to report deaths by gender and age group. APSISA project documentation seen by the evaluators did present sex specific data in such instances as data tables for the MOH's Expanded Program on Immunizations (women vaccinated with two doses of TT was reported at a coverage level of only 19.8 percent in 1992).

1.4 Sustainability

Chapter 3, Section a-(i) of this report discussed concerns about the MOH's ability to assure the viability of the present network of more than 1,200 CHPS and their specific supervisors. A new

administration in the MOH in 1994 may not see community health initiatives in the same priority order as the present leadership. Regional health staff are only now beginning to look carefully at the budgeting actions required for maintaining the CHP initiative. The evaluators recognized that local programming of MOH services is not well-focused on promoting key aspects of health care for women 15 to 44 years old, viz., safe deliveries, pre- and post-natal care and family planning promotion to accepting couples.

ANNEX C: External Evaluation Team

Team Leader: John Gillespie

Dr. Gillespie is a health services management and planning consultant with 20 years experience in urban and rural services development (health, population and environmental sectors), education, applied research and public policy. He has participated in Project Paper development activities for AID/Lagos and AID/RDO/SP. During March-April, 1993 he was team leader for AID/RDO/SP's mid-term evaluation of the Papua New Guinea Child Survival Support Project. He has served as Chief of Party for A.I.D. technical assistance contracts in the health sector in Egypt (1982) and in Peru (1983-1986).

With the two team members presented below, he investigated the following APSISA Components:

Component B: Improvements to Basic Health Services (CHPs, Malaria)

Component C: Planning, Programming, Health Care Management and Research

Component D: National Reconstruction Plan elements

Sustainability Issues, Cost Recovery: Maria E. Gutierrez-Valencia

Ms. Gutierrez-Valencia has 16 years' experience in the conception, design, implementation, and evaluation of international community participation and economic development, small and micro-enterprise, integrated women in development, primary health care and population programs. Ms. Gutierrez-Valencia has worked extensively in Latin America and the Caribbean and has recently consulted with the Ministry of Health and Social Welfare in the Arab Republic of Egypt. She's served as consultant to USAID, American and European private foundations, international agencies, governmental and non-governmental organizations, in the areas of: health financing, financial management, cost recovery program development and monitoring, program sustainability, cost-effectiveness and efficiency studies, and both U.S. government and private foundation grant management. Spanish is Ms. Gutierrez-Valencia's native language, and she fluent in English. She also has a good working knowledge of both Portuguese and is at present being tutored in Arabic.

For the APSISA evaluation, Ms. Gutierrez-Valencia has been responsible for Financial Management Systems, Cost Recovery Program, Budgeting, and Sustainability (jointly with John Gillespie).

Logistics and Supply Management: John Wolff

As they pertain to the Project, all activities involved in logistics and supply management were examined. These include pharmaceutical and medical supply selection, procurement, warehousing and distribution, drug quality control, biomedical equipment maintenance, vehicle maintenance, facilities management manuals, water and drainage systems, laboratory facilities and MIS logistics management.

Mr. Wolff, holds an M.B.A. from the University of the Americas in Mexico and a Masters Degree in international management from Thunderbird Graduate School in Arizona. He retired as Country Director from CARE, Inc., after 17 years of service. His overseas experience with CARE included the Philippines, India, Guatemala, the Dominican Republic, Panama, El Salvador, Costa Rica and Peru. For the past 10 years, Mr. Wolff has worked as an international consultant specializing in health logistics and food programming. Assignments have taken him to Peru, Guatemala, El Salvador, Kenya, Ethiopia, Zambia, Mexico and Honduras.

Annex D: Persons Interviewed by the Evaluation Team

Ministry of Health, San Salvador

Dr. Gilberto Lisandro Vásquez Sosa, Minister of Health
Dr. Gustavo Argueta, Vice Minister
Dr. Humberto Alcides Urbina, Sub-Director General Of Health Services
Lic. Mercedes de Irygoyen, Administrative Director and APSISA Coordinator

Sections:

Community Health Department

Dr. Sonia de Melchor, Director Community Health Department
Lic. Guisela Cente de Guerrero, Coordinator, Investigation and Information, Salud Comunitaria
Dra. Evangelina de Ventura, Salud Comunitaria
Sr. Aciel Pérez, Administrator, Salud Comunitaria
Sra. Zoila de Guardón, Salud Comunitaria
Sr. Luís René Escalón, Head Computer Section, Salud Comunitaria
Sra. Serene de Rivas, Salud Comunitaria
Sra. Luz G. Interiano, Supervisory Nurse, Health Center, Salud Comunitaria
Lic. David Cabezas Torres, Regional Psychologist, Salud Comuinitaria
Sra. Marta Julia Echeverría, Técnico, Salud Comunitaria

Malaria

Dr. Angel Guerra Sandoval, Chief, Malaria Department
Dr. Mario Montes, Malaria Department
Mr. Jesús Guevara, Chief of Field Operations, Malaria Department

Health Education Unit

Dra. Ana E. Parada de Najarro, Director, Health Education Unit

Mother Child Health Unit at MSPAS

Dr. Rogelio Ramírez Menjivar, Director, Maternal and Child Health
Sra. Emma Lilian Membreño de Cruz, Technical Collaborator, Maternal and Child Health
Sra. Dolores Isabel Meléndez, Nursing Supervisor at Central Level for Maternal and Chgild Health
Sra. María Celia Hernández, Nurse and Psychologist
Sra. Claudia E. G. de Elías, Nursing Supervisor, Central Level

Sra. Mauricio Cabrera, Technical Collaborator, Gynecology-Obstetrics
Dr. Alfonso Alvarez Cáceres, Gynecologist-Obstetrician, Technical Collaborator, Maternal-Child Health
Dra. Miriam Oliva de Navarrete, Technical Collaborator, Cervial Cancer Specialist

Nursing Department

Lic. Elena E. Reyes de Guzmán, Director of Nurses

Emergency Medical Assistance Department
Dr. Jorge Ernesto Roldán, Chief

Epidemiology Department
Dr. Santiago Almedia, Epidemiologist

UTMIM
Dr. Jaime Otto Rosales, Ínterim Chief, UTMIM

Administration Sectors

Procurement

Sr. Alejandro Jacobo, Ínterin Chief, Procurement
Lic. Mario Martínez P., Procurement

Maintenance

Ing. Noel Antonio Ayala, General Maintenance
Ing. Mario Flores, Automotive Maintenance Department
Ing. Fermín López, Maintenance Department
Ing. Mauricio Consuegra, Maintenance Department

Laboratory

Dr. Luís Navas, Chief of Central Laboratory
Dr. Jaime Sony, Laboratory
Ing. Denis Chamagua, PLANSABAR

Information

Ing. Benjamín Areas, Chief, Informatioin Section

Planning

Dr. José Antonio Pereira, Director of Planning
Lic. Regina Molina, Chief, Financial Planning Unit

Research and Evaluation

Dr. Alfredo Galán Avalos, Chief, Research and Evaluation

Statistics

Dr. Fabio Molina Vaquerano, Chief, Statistics

Personnel

Lic. Mercedes Girón, Chief of Personnel

Financiero Contable

Lic. Milagro de Lemus, Jefe de Depto. Financiero Contable

Hospital Benjamín Boom

Lic. Rebeca Guandique de Villalta, Director, Depto. Trabajo Social (Encargada de Colección de datos de clasificación Socio-Económico)
Sra. Martha Edith Melara, Tesorera, Hospital Benjamín Bloom

Hospital San Rafael

Sra. Susane de Avendaño, Jefe, Trabajo Social
Sra. Carmen de Escobar, Jefe Financiero Contable
Sr. Oscar A. Monroy, Administrador
Sra. Reina E. Saravia Mendoza, Auxiliar de Estadística
Sra. María de Los Angeles de Turcios, Técnico, Unidad de Planificación Financiera
Sra. Regina de Molina, Jefe, Unidad de Planificación Financiera

Ministerio de Hacienda

Lic. Reinaldo Roldán, Director General of Budgets, Ministery of Finance

Ministry of Health, Regional Offices and Establishments

1.- Central Region

Lic. Hector Raúl Echeverría, Administrator, Central Region
Lic. Elizabeth P. de Merino, Chief of Supplies
Dr. Atilio Arturo López A., Medical Coordinator, CHP, Central Region
Mrs. Marta de Quintanilla, Statistician, Central Region
Mr. Rodolfo Antonio Deras, Regional Supervisor of Promoters, Central Region
Mr. Carlos René Araujo, Inspector, Central Region
Mr. Paulino Serrano, Health Educator, Central Region

Departamento de Chalatenango
Health Center

Nueva Concepción, Department of Chalatenango,
Health Center Nueva Concepción:
Dr. Ricardo Portillo, Director Health Center
Dr. Samuel Ayala A, Maternal-Child Health Chief
Dr. Mauricio Henríquez, Social Service Physician
Mrs. Cecilia B. de Iraoa, Chief Nurse
Mr. Vivizio Iraoa, Supplies, Warehouse Manager
Mr. Antonio Rodolfo Deras, Regional Supervisor
Mr. Miguel Henríquez, Specific Supervisor
Dr. Mauricio Henríquez, Médico, Año Social (CSNC), Salud Comunitaria
Dr. Samuel Ayala Alvarenga, Médico, Año Social (CSNC), Salud Comunitaria
Sra. María A. Góchez Ch., Educadora en Salud Regional, Salud Comunitaria
Lic. Lorena B.M. de Osorio, Regional Nutrition Supervisor Community Health Team
Sr. Enrique Miguel Ruiz, Specific Supervisor for Health Posts, Community Health
Sr. Adán Antonio Rodríguez, Senior Sanitary Inspector, UTLL.
Sra. Mabel Interiano, Rehabilitation Consultant
Sra. Ana Gladis Martínez R., Chief Nurse of the Health Center
Sra. Elsy Carolina Barahona, Physical Therapist,

- Cantón Potrero Sula, Nueva Concepción, Department of Chalatenango:

Mr. Humberto Carlos Escalón, Health Promoter

- Cantón Sonapa, Nueva Concepción, Depto. Chalatenango:

Ms. Santos Marisol Cartagena, Health Promoter

2.- <u>Para-Central Region</u>

Mss. Marta María Coreas, Chief of Personnel, Para-Central Region
Sr. Jorge Isidro Burgos, Chief of Supplies, Para-Central Region
Lic. Antonio Romero, Head, Clinical Laboratory Para-Central Region

Departamento de Cuscatlán
Health Unit

- Health Unit, Aguilares:
Dr. Betty Fuentes de Garay, Director

3.- **Western Region**

Dr. Jaime Napoleón Cárcamo, Regional Director, Western Region
Lic. Wilfredo Santillana, Administrator, Western Region
Lic. Aracely S. de Menjívar, Chief of Supplies, Occidental Region
Mr. Félix Mendoza, Warehouse keeper, Western Region
Ms. Magdalena Cañas, Nurse Supervisor, Western Region
Mr. Esteban Retana, Chief, Statistics, Western Region
Mr. Juan Antonio de León, Regional Supervisor for Promoters, Western Region

Malaria

Mr. Francisco Estrada, Regional Chief, Malaria, Zone I, Western Region
Mrs. Carmen Vásquez Orellana, Chief, Department Of Malaria, Western Region
Mr. Carlos Antonio Rodas G., Epidemiological Auxiliary, Malaria, and a volunteer collaborator, Canton Ayutica, Western Region

Departamento de Santa Ana
Health Center

Dr. Margarita de Guevara, Medical Director Chalchuapa Health Center
Mr. Julio César Arena, Warehouse keeper Chalchuapa Health Center.
Mr. Paulino Serrano, Health Educator, Western Region Specific supervisor and promoter, CHP, Cantón Ayuta, Caserío Pinal Granada, Western Region

4.- **Eastern Region**

Interview with Regional Coordinator and Regional Supervisor, CHP, Eastern Region

Agency for International Development/El Salvador:

Mr. Paul Hartenberger, Director of the Health, Population and Nutrition Office
Ms. Brenda Doe, Deputy and Chief, Health, Population and Nutrition
Ms. Karen Freeman, Evaluation Officer
Mr. Jack Dale, APSISA Project Manager
Ms. Maricarmen Martínez, APSISA Project Manager Assistant
Mr. Fred Thill, Logistics Specialist, APSISA Project
Mr. Mark Gallagher, AID/Economist
Ms. Cary Thomas, WID Officer
Mr. Martin Schultz, Financial Analyst
Ms. Ana Cristina Mejía, Projects Office

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Ms. Mercy ~~del~~ Castillo, Projects Office

Clapp and Mayne (Project APSISA Technical Assistance)

Ing. Carlos Castaño, Chief of Party/Logistics Advisor
Dr. Mauricio Sauerbrey, Advisor To National Malaria Program
Dr. Federico K. Rocuts, former Research Advisor
Mr. Ramón Ríos-Yambo, Mis Advisor
Lic. Margarita Lau, Administrator
Dr. Ricardo Martínez, MIS Systems Advisor
Dr. Carlos Castro, Health Planning Advisor
Ing. Oswaldo Martínez, Environmental Health Advisor
Lic. César Abarca, Procurrment
Lic. Rosa María de Ibarra, Monitor, Health Assistant, Micro-Centros
Lic. Walter Turcios, Programer
Sr. Maric Ceballos Elías, Programer
Sr. Mario Andrade, Programer
Lic. Mauricio Guevara, Monitor
Lic. Silvia Castaneda, Monitor

NSAL (Análisis del Sector Salud), Health Sector Assessment Team:

Dr. Alfredo Solari, Team Leader
Dr. Jaime Ayalde, Epidemiologist
Dr. Francisco Becerra, MCH Expert
Dr. Charles Lininger, Family Planning Expert
Dr. Roberto Arguello, Environmental Health Expert
Dr. Fernando Vio, Nutrition Expert
Dra. Cynthia Prieto, Health Planning and Administration Expert
Dr. Agustín Carrizosa, Institutional Development Management Systems Expert
Dr. Alberto Zuniga, Infrastructure Expert
Dr. Jack Fiedler, Health Finance Expert
Dra. Esperanza Martínez, Human Resource Expert
Lic. Roberto Yunes, Private Sector Study
Lic. Alberto Zúniga, Infrastructure Study
Dr. Dan Edwards, National Rehabilitation Strategy
Dr. Susan Kolodin, Anthropologist
Ms. Judy Howell, Health Finance Expert

Pan-American Health Organization/World Health Organization.

Dr. Hugo Villegas, Representative in El Salvador
Dr. Evio Sisi, Mental Health Consultant, PRODERE/OPS
Ms. Marbel Interiano, Rehabilitation Advisor

Financial Accounting Department

Sra. Dina Mata de Leiva, Director
Other staff, including microcomputer center staff

Institutional Development Unit, Planning Department

Lic. Regina Guzmán de Molina, Chief
Lic. Mercedes Oviedo, Personnel Expert.

Statistics Unit Planning Department

Dr. Alfredo Galán Avalos, Interim Chief
Ms. Miriam Rivera, Chief of Computer Center.

U.N. Fund For Population Activities (UNFPA)

Dr. Hugo Corvalán, Director Adjunto, Regional Country Support Team for L.A.C., Santiago de Chile

Lic. José García Nuñez, Technical Advisor, Regional Country Support Team for L.A.C., Santiago de Chile

SETEFE, Secretaría Técnica del Financiamiento Externo

Ing. Roberto Sorto Fletes, Director

Development Assocaites, Inc.

Dr. Luis Maria Aller Atucha, Technical Advisor in Hygiene and Environmental Health Services

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Life of Project: 8 years, FY 86-94

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program of Sector Goal	Measures of Achievement		
To assist the MOH to improve the access to, and availability of basic health care services and reduce child and infant mortality.	Infant mortality reduced to 42/1000. 80% children under 1 fully vaccin. 85% children under 1 vaccinated for measles. Malaria rate reduced and maintained at under 3/1000 pop. Rate/1,000 from diarrhea reduced to 200. Larger % of poor population has access to primary care providers.	MOH records and surveys, and Project evaluations and reports.	Efforts to expand MOH basic health services will not be offset by other factors such as increasing civil violence.
Project Purpose	End of Project Status (EOPS)		
To support and strengthen the MOH to deliver and support basic health care services, including preventive and primary care services important to the MOH child survival program.	1. 90% of open MOH care facilities have at least minimum stock levels (appropriate to the level of facility) of selected * drugs and medical supplies. (20-30 items on basic drug list) (No change) 2. 90% of MOH bio-medical equipment (including cold chain equipment) functioning. (No change) 3. 25% increase in the number of consultations given at the primary level (Units, Posts, and by Community Health Promoters), through increased No. of CHP's and referrals. (No change) 4. Improved MOH policy, program planning and management capabilities as evidenced by: a. Sustainability reforms being implemented (New): - Budgeting based on need, not historical pattern.	MOH procurement, distribution, and inventory records; spot checks; patient record from Units, Posts, and Community Health Promoters; MOH records; independent review and analysis of the MOH planning, budgeting, and programming systems. Action Plans; strategies.	Expansion and improvement of the primary care services continues to be a MOH priority. Physicians support MOH efforts to increase range of treatment which can be provided by lower level MOH personnel (e.g., auxiliaries) Economic conditions do not result in reduced MOH budgetary resources. MOH continues its commitment to improvements in management and decentralization.

* Drugs and services monitored will be selected on the basis of their importance in relation to key morbidities, such as dehydration from diarrhea, respiratory tract infections, and malaria.

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	End of Project Status (EOPS) (cont.)		
	- Standarized system of fees for consultations and medicines, and uses of fees received. - Resources to primary health care increased (all CHP's on MOH rolls, increased pharmaceutical levels to primary health care) (No change)		
	b. Decentralized MOH administration Regional Offices will be: (New) - Controlling inventory and distribution of medical supplies - Monitoring epidemiological status - Maintaining all vehicles and bio-medical equipment. - Monitoring, planning and budgeting resources. - Responsible for CHP's. - Reaction to Malaria indicators from regional level. (New)	Action Plans; Delegations; Regional record.	
	c. Hospital pharmaceutical and personnel allocations based on demand/need, not historical levels (new).	Budgets.	
Outputs	Magnitude		
1. Improved drug acquisition, distribution, and management systems.	1a. MIS drug supply and management sub-system operational at Central and Regional levels (No Change). 1b. 20% increase in drugs (from the cuadro basico) dispensed by Health Units, Posts, and outreach workers (No Change).	MOH records and site visits.	MOH is able to change public perception as to availability of medicines at primary care facilities.
2. Improved bio-medical equipment maintenance system.	2a. MIS bio-med sub-system established and operational, including inventory. 2b. Standardization policy adopted. 2c. Two additional regional bio-med shops opened and operating. 2d. In-service trg.for 100 (60 originally) bio-med tech. 2e. Bio-med maintenance teams have completed regularly scheduled preventive maintenance visits to all open facilities. 2f. 100 health tech and lab personnel trained in prev. maintenance.	MOH records and site visits.	MOH is able to retire its inventory of unusable equipment and to the extent possible to ensure equipment donations meet MOH specs.

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. Improved use and cost control systems operationalized for vehicle management.	3a. Cost control and use monitoring procedures instituted. 3b. Maintenance schedule established and followed for all MOH vehicles. 3c. One-hundred (70 originally) maintenance techs.trained.	MOH reports.	
4. Primary care facilities have adequate water and waste disposal systems.	4a. 90% of primary care facilities have adequate, functioning water and waste disposal systems. 4b. Routine maintenance procedures developed and functioning.	MOH reports and surveys.	
5. Lab facilities improved and functioning in all open Health Units.	5a. All open units have functioning labs.	Site visits and MOH reports.	MOH has staff and adequate facilities.
6. Improved surveillance of malaria incidence for case detection and targetting of residual spraying.	6a. Blood slide collection from health facilities increased to 10% of total no. of slides collected. 6b. Residual spraying operations cover at least 90% of no. of houses programmed for each of the three cycles.	MOH reports and surveys.	
7. Facilities management manuals, including treatment norms and prescription guidelines, developed for each facility level and distributed.	7a. Manuals developed for all facility levels, which include revised MOH formulary, standardized treatment and prescription guidelines, facility-specific drug and supply lists, inventory control guidelines (including reorder points and minimum stock levels), and record-keeping and reporting procedures.	Product availability.	
8. Competency-based training program established for basic health service (BHS) providers and supervisors.	8a. 12 MOH trg. staff trained in curricula development and evaluation of trg. 8b. 2000 MOH staff, (doctors, nurses, aux.nurses, Community Health Promoters) trained in emergency medical services (New).	MOH records.	
9. Computerized MIS with ten sub-systems operational.	9a. 45 new microcomputers operational. 9b. Software developed/adapted for ten sub-systems.	Site visits and MOH reports.	

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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
10.MOH staff trained in use of micro-computers and MIS systems use.	10a.200 MOH (viz 79) personnel trained in operation and/or programming.	MOH records.	Personnel trained on MIS can be retained by MOH.
11.MOH capability to conduct applied health services studies established.	11a.Regional applied health services research committees established. 11b.30 applied health services studies completed (viz 20).	MOH reports.	MOH managers are receptive to suggestions for program modification.
12.Policy and program planning skills upgraded of key decision-makers and supervisors.	12a.100 participants complete training in health program planning, administration, and applied research (viz 61). 12b.Cost recovery system in place. 12c.Revised budgetting system responsive to programming needs (New). 12d.Rationalized staffing pattern in place (New).		New Health Strategy and World Bank social sector program accepted and implemented.

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Annex G: Glossary of Financial Management Terms

APPRAISAL: The terms appraisal and valuation are generally used interchangeably to describe the process of reaching an opinion of value.

ACCOUNTING COST: The results of transactions as recorded and reported following generally accepted guidelines, conventions and doctrines.

ACCRUAL BASIS ACCOUNTING: System for recording transactions. Revenue is recorded in the accounting period in which it is earned, and expenses are recorded in the accounting period in which they are used or consumed in producing revenue.

ALLOWANCES: Difference between gross revenue from services rendered and amounts received (or to be received) from patients or third-party payers. Allowances most often arise from contractual arrangements with certain large third-party payers. These arrangements provide for a discount for service provided to patients covered by the payer.

ANCILLARY SERVICES: Services provided to patients by the various specialty departments of the hospital, service as radiology, laboratory, pharmacy, or physical therapy, as distinguished from daily nursing care.

BUDGET: A plan of expected results measured in financial terms. Document that identifies the expected resources and expenditures for a given future period and reflects the nature and source of these resources and expenditures.

CAPITAL ASSET: Asset costing more than a specific minimum amount and having a life of more than one year. Also, a capital asset is not bought and sold in the ordinary course of hospital operations. A supply item or other inventory-type asset is not a capital asset.

CASH FLOW: Cash receipts less cash disbursements. Cash flow is calculated from an accrual-basis income statement as the excess of revenue over expenses plus depreciation and amortization.

CHARITY ALLOWANCES: Differences between full charges and amounts received from, or on behalf, patients unable to pay.

CONTROLLABLE COSTS: An item of cost can be considered controllable if the amount is significantly influenced by the actions of the service manager. Most variable costs are controllable. When the hospital is viewed as a single entity, all costs must be considered controllable by the hospital chief executive officer.

COST ACCOUNTING: The accumulation of cost and related data to be used for financial reporting and business decision making.

COST CENTER: An organizational unit, recognized in the chart of accounts, for which relevant expenses and revenues are accumulated separately in the accounts.

DEPARTMENTS: Cost center or group of cost enters with one person given the responsibility for operations. Also referred to as a responsibility center. This organizational unit is used mostly for internal reporting purposes.

DEPRECIATION: The systematic and rational allocation of an asset's historical cost over its expected useful life.

DIRECT COST: The cost clearly traceable to a unit of activity or cost center, such as direct labor costs or direct material costs.

FISCAL PERIOD: Twelve month period that may or may not coincide with the calendar year.

FIXED COST: A cost that is independent of the level of activity.

FLEXIBLE BUDGET: A budget projecting expenses at various levels of activity.

FULL COSTS: The total cost of a department or procedure is the sum of direct and indirect costs.

HISTORICAL COSTS: Actual costs incurred in prior time periods by department or product for various types of resources, such as labor and materials. Can be used as a total for projecting future costs, but do not take into account unforseen events.

INCREMENTAL COSTS: Analogous to marginal cost. The additional cost of providing an additional volume of procedures or services. The additional costs may include additional fixed overhead costs as well as additional variable costs.

INDIRECT COSTS: Support services, such as hospital administration, medical staff office and public relations, which are not directly traceable to a particular service or procedure not expensed in the producing department, but are expenses that apply to more than one direct service department.

JOB COSTING: A methodology of costing applied in organizations where the resources consumed in producing individual products are easily traced.

JOINT COST: Cost associated with more than one product. Examples would include electricity or the depreciation of specific pathology equipment that can produce a variety of intermediate products.

LABOR STANDARDS: Expected amount of time for a typical employee to complete an assigned task. Sub-categories of standard labor measurements include applied hours, worked hours, paid hours, absent time, supervisory time and unmeasured time.

MARGINAL COSTS: The additional cost of one more unit, procedure or service. Similar in concept to incremental cost, except incremental cost can refer to more than one additional unit of production.

OPERATING COST: Direct material and direct labor costs.

OVERHEAD COST: See Indirect Costs.

PRIME COST: Total material and labor costs.

SEMI-FIXED COST: A cost that is fixed within a range of activity and which increases at workloads beyond that.

STANDARD COST: Normal predetermined unit cost computed on the basis of past performance, estimate or work measurement.

VARIABLE COSTS: A cost which varies in proportion to the level of activity.

20 RULE: A "rule of thumb" that 80 per cent of resources are sumed in the process of producing 20 per cent of the procedures services.