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**MANAGEMENT SCIENCES FOR HEALTH**  
**A NONPROFIT INSTITUTION**

A STRATEGY FOR STRENGTHENING  
BASIC HEALTH SERVICES  
IN HONDURAS  
PRESENTED TO  
THE MINISTRY OF HEALTH AND SOCIAL ASSISTANCE  
GOVERNMENT OF HONDURAS  
AND  
THE UNITED STATES  
AGENCY FOR INTERNATIONAL DEVELOPMENT

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## PREFACE

This analysis was written in an attempt to combine together the observations of the Multiple Consultants who have worked in the Health Planning Project into one coherent strategy. It was not specifically requested by either the Ministry of Health or the United States Agency for International Development, but my own experience as a health planner could not allow all the individual observations that have been made exist in isolation. Since part of my own responsibility has been to insure that the Major Analyses in the area of Administration, Human Resources, Logistics, and Finance impact on supporting basic health service programs, I decided to write this strategy paper.

The conclusions and recommendations presented here are my own, and thus no Counterpart name appears on the cover sheet. However, this analysis could not have been completed without the open and active participation of multiple officials of the Ministry of Public Health at all levels, CONSUPLANE, and the University Nacional de Honduras. They participated in my investigations in an honest and objective manner and made no attempt to hide any program shortcomings. Without such an open environment, this analysis would not have been possible. I trust this strategy will be accepted in the same spirit in which it was written - to assist the Ministry in the further development of its basic health service programs - and not seen as criticism.

Special appreciation goes to Dr. Manuel Suazo, Vice-Minister of Health;

Dr. Alberto Guzmán, Director General of Health; Sra. Vera de Bonilla, Director of Administration; and Dr. Gustavo Corrales former Director of Planning, Ministry of Public Health and Social Assistance, Government of Honduras; these people were largely responsible for maintaining an atmosphere of objective investigation within the Ministry and actively assisted my investigations.

Dr. Thoms Hyslop and Mr. George Moore of U.S.A.I.D. and Lic. Jorge Aguilar, of the Technical Coordinating Committee, provided essential administrative support for this strategy development. Dr. Stephen Jones and Dr. Harrison Stetter of the Center for Disease Control, Atlanta provided valuable information on communicable disease problems in Honduras. This strategy also would not have been possible without the detailed information provided me by the other Management Sciences for Health consultants with whom I have worked this past five months.

Hopefully, this strategy for Strengthening Basic Health Services in Honduras can provide a framework for discussion among officials responsible for continued development of the health sector. If that occurs, then it will have been successful.

A. Frederick Hartman, MD, MPH

March 3, 1980

# A STRATEGY FOR STRENGTHENING BASIC HEALTH SERVICES

## IN HONDURAS

### I. Background

Honduras is the second largest country in Central America and one of the most mountainous. The population of 3.6 million people is spread over 112,083 Km<sup>2</sup> for a population density of 23.7/Km<sup>2</sup>, making Honduras one of the least crowded countries of Central America. It is also the least urbanized, with 69% of the population classified as rural in 1978. Geography and climate are formidable obstacles to economic and social development. Road transportation is poor in Honduras, especially in rural areas where very few all weather roads exist. Precipitation is highly variable in various regions, ranging from 20 to 200 inches/year. In some areas, flooding occurs commonly every year, from April to October. Much of the rural population is inaccessible to regular government services due to difficult transportation and communication, unless those services are located within each community.

This dispersion of the population and difficulties in transportation and communication impact heavily on socio-economic and health status. The Gross Domestic Product per capita was \$450 in 1978, the second lowest in the 22 countries of Latin America after Haiti. Over 60% of the work force is employed in subsistence farming, forestry, hunting, or fishing. Only 40% of the population over the age of 10 is reported as "literate".

An average of 7.3 children per female contributes to an annual growth rate of 3.5% well above the 2.7% average growth rate for Latin America. Forty-eight percent of the Honduras population is under the age of 15, thus creating a high age dependency ratio of young to old - an expected 102 people less than 15 years old per 100 people aged 15-64. This places a tremendous economic burden on the family, and major health problems are common in this environment.

General mortality in Honduras in 1978 was estimated at 14.2/1,000 population and infant mortality is 117.6/1,000 live births. These are the third highest mortality rates out of all the Latin American countries. When one compares urban/rural differences, the findings are even more dramatic. Urban general mortality was 9.0/1,000 compared to 16.5/1,000 for rural areas. Infant mortality was 85.6/1,000 live births in urban areas to 127.2/1,000 live births compared in rural areas. Nearly 40% of all deaths are found in children less than five years old. Diarrheal disease is the leading cause of death, and this has not changed in the last 15 years. The top five causes of hospitalization in 1978 were:

1. Complications of pregnancy, delivery, and puerperum.
2. Infectious diseases and parasites.

3. Accidents and violence.
4. Respiratory disease.
5. Digestive disease.

Most of these are preventable or treatable at an early stage before hospitalization is required if health services are available, accessible, and have the confidence of the people who use them. Thus, a strategy needs to be developed to deliver basic health services to people who are predominately rural, dispersed, often inaccessible due to difficult transportation and communication, who have high indices of morbidity and mortality primarily due to diseases that are preventable or treatable in early stages, and who, at present, do not have access to adequate health services.

## II. Existing Resources

### A. Introduction

In December 1972, when there was a change in government, the Ministry of Public Health and Social Welfare decided to approach the country's health problems differently. During the following year (1973) an evaluation was made of the health situation, alternatives were drawn up and action strategies defined. All this resulted in a decision to undertake a national health plan which would extend basic health services to all the population of the country. Thus the "Programa de Extensión de la Cobertura" was developed with the following goals (as stated in the "Plan Nacional de Salud 1979-1983"):

1. Health activities will be principally oriented to the "Programa de Extensión de la Cobertura" for that population that does not now have access to health services. Priority attention will be given to rural areas and sub-groups like the Materno-Infantil population.
2. Community participation is an essential component to realize these ends. Three specific community agents are envisioned:
  - a. Guardian de Salud. The Guardian de Salud is a volunteer selected by the community to receive 20 days of training over a 12 month period by MSP/AS training teams. The Guardian performs a simple set of tasks related to the treatment of common diseases, referral of patients for more complicated illnesses, care of mothers and children (maternal child health), education and health promotion in the community, and provision of health and demographic information.
  - b. Partera Empirica. The Partera Empirica is the traditional mid-wife used by the women in the community. She also receives 20 days of training to upgrade her skills in pre- and post-natal care, normal deliveries, care of the newborn, and referral of difficult cases.

- c. Representante de Salud who will assist in the organization of Community Health Committees to support the Guardianes and Parteras.
3. Emphasis will be placed on the development of preventive health services using a concept of primary health care and "medio ambiente".
  4. A reorganization of the basic structure of the health system will occur with reinforcement of the defined levels of care, strengthening of the referral system, regionalization and decentralization of administration, and development of strategies for each health institution.

Conversations with MSP/AS policy-making officials indicate that these are still operative goals of the Programa de Extension de la Cobertura, and that they remain committed to them. The Vice-Minister of the MSP/AS referred us to the 1980 budget for confirmation of this commitment. Analysis of the budget when compared to 1979 shows that hospital costs have decreased from 56% to 54% of the budget for basic programs and support (excludes investments, transfers, etc.). Basic health service programs (saneamiento ambiental, control de enfermedades transmisibles, and primary health care) rose from 37% to 38% of the basic program budget; central administration and normative services rose from 7% in 1979 to 8% in 1980. In terms of the annual real increase in budget items from 1979 to 1980 basic health services rose 18% and hospital care 11%, a 60% difference in rates of increase.

## B. Types of Health Services

In order to effectively control the major causes of morbidity and mortality presented in Section I, a sound Program de Extensión de la Cobertura needs to improve services in six basic health areas:

### 1. Environmental Sanitation

- improved potable water supplies
- improved disposition of solid wastes and excrement
- improved control of vectors of infectious diseases, principally Anopheles and Aedes Aegypti Mosquitos
- education of the community to participate in the activities required to improve and maintain the environment

### 2. Communicable Disease Central

- extended vaccination coverage to total population at risk
- control of specific infectious diseases: diarrhea, malaria, and tuberculosis

### 3. Maternal and Child Health

- control of normal pregnancy
- identification of high risk pregnancies and referral to appropriate source of care
- control of normal deliveries
- post-partum care of the mother
- care of newborns
- well-child care for children under 5 years of age, including immunizations.
- simple treatment of common diseases of early childhood

### 4. Nutrition

- identification of high-risk and malnourished children under the age of 5.
- simple treatment in the home of mildly malnourished children using health education and the resources of the community
- referral of severe malnutrition and complicated cases to appropriate source of care.
- improvement of nutritional status of pregnant mothers.

### 5. Simple treatment of common illnesses.

- intestinal parasites
- anemia
- malnutrition/avitaminosis
- diarrhea with oral rehydration
- pneumonia and other infections with simple antibiotics (penicillin, sulfa).
- fever with aspirin
- presumptive treatment of malaria with chloroquin in malarious areas.
- symptomatic treatment of colds.
- skin infections with antibiotic ointments
- conjunctivitis with antibiotic ointments
- post-partum bleeding with ergonovine.

### 6. Health Education

General education and behavior modification techniques in all the above areas directed towards:

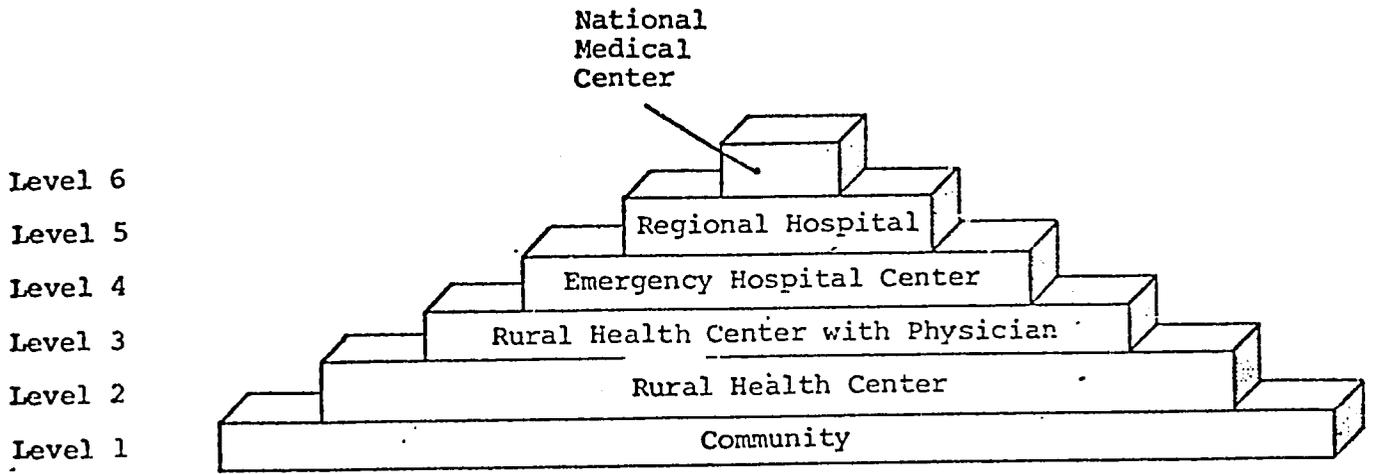
- the individual, e.g. prevention of parasites.
- the family, e.g. prevention of malnutrition.
- the community, e.g. improved environmental sanitation.
- whole population groups, e.g. vaccination campaigns or oral rehydration.

## C. Level of Services

Figure 1 diagrams the Honduran Health System. The National Health System is designed according to an ascending pyramid of complexity in health services. This structure establishes a decentralized system

Figure 1

HONDURAS HEALTH SYSTEM



through eight health regions defined on the basis of population size to be covered, geography, transportation and communication, and cultural factors. Below the regional level, simpler types of health services are provided with volunteer community workers forming the basic level of health services.

1. Level I - Community

Health service activities are performed by unpaid volunteers who are chosen by the community, trained by MOH training teams, and supervised by the Auxiliar de Salud at the next highest level. These are generally found in communities less than 500 people. Three categories of health workers have already been defined in Section II.A. above. A fourth category has recently been created to assist the Malaria Control Program in vector control activities.

- a. Guardian de Salud
- b. Partera Empirica Adiestrada
- c. Representante de Salud
- d. Voluntario de Malaria

These health workers combined can provide all the services listed above on a simple level. For example, they may treat colds or control a normal pregnancy, but they are also trained to identify complicated pneumonias and high-risk pregnancies for referral on to the next level of care. They also will know basic emergency treatments should referral to the next level prove impossible because of time, distance, or weather.

2. Level II - CESAR (Centro de Salud con Auxiliar)

Three hundred seventy nine CESAR's currently exist with a target population of 2-3,000 people. Full-time salaried health workers are first used at this level. Three categories of workers are proposed for a full complement of staff by 1983.

a. Auxiliar de Salud

The Auxiliar is chosen by the local health region and receives one year of training, usually at the Regional Human Resources Training Center in Choluteca. This health worker has three major functions:

- supervise all activities related to the CESAR, including community organization activities.
- provide direct patient care services to those people and families who need them.
- supervise and provide logistical and administrative support to the community health workers in its area. Usually 4-8 communities are involved.

b. Promotor de Salud

The Promotor is usually a university graduate who receives two months additional training in community development activities. This health worker is responsible for an assigned number of communities and assists them in:

- organization
- education
- technical assistance in development, principally environmental sanitation projects. For example, one Promotor supervises 120 wells, and is responsible for organizing the work force and obtaining the materials to construct the well and to maintain it in an operational state. Currently, there are only 120 promotors, not enough for every CESAR, so coverage is spotty.

c. Auxiliar de Control de Vectores

This health worker is responsible for anopheles and Aedes Aegypti Control in his target area. However, recent cutbacks in this category of personnel in the Malaria program have severely limited the utilization of this worker.

3. Level III - CESAMO (Centro de Salud con Medico)

There are 76 CESAMO's at present, each with a target population of 10,000 people. Trained health professionals are first used at this level. It is primarily an ambulatory health center without beds or capacity for sophisticated treatments.

a. Doctor

This often is a young medical graduate serving his/her obligatory year of rural service before licensing. They provide a full range of ambulatory services within the limits of the resources available and refer more complicated cases to the next level.

b. Auxiliar de Enfermera

The Auxiliar is primarily used to assist the physician, although she may see patients and triage them when the physician is not available. She is also responsible for any community outreach or organization activities related to the CESAMO. At present, the numbers and locations of CESAMOS are such that they do not offer any effective supervision of the CESAR's, so this is not a real function of the Auxiliar.

c. Tecnico de Laboratorio

Since the physician requires more sophisticated diagnostic

tests than the auxiliar, a small lab is available in each CESAMO. The Tecnico de Laboratorio receives five months of training at the Centro Nacional de Recursos Humanos in Tegucigalpa and is capable of doing simple blood counts, urinalyses, and malaria smears.

d. Support Staff

The CESAMO will also have several people working in medical records, registration, etc. who support the technical functions.

4. Level IV - Hospital del Area or Centro Hospitalario de Emergencia

This level is an emergency hospital of approximately 50 or more beds whose name defines its function. Presently there are seven CHE's, each one serving an area of approximately 100,000 people. They deliver basic ambulatory and in-patient services in medicine, pediatrics, obstetrics and gynecology, and emergency treatment. A CHE many have as many as 9 physicians, 3-5 university trained nurses and approximately 25 auxiliares de enfermería. In addition, a full-time administrator is needed to supervise all the support staff in administration services, food, laundry, transportation, etc. Where area hospitals exist they will also provide supervision and administrative support to CESAMO's and CESAR's.

5. Level V - Regional Hospitals

Currently six regional hospitals exist ranging in size from 200-500 beds. They offer a full range of medical services, including such specialty services as otorhinolaryngology and orthopedics. The staffing required is large and complex and includes all those positions needed to support a full-service hospital. The Regional level also has a separate administrative function to supervise and support the CHE's, CESAMO's, and CESAR's within the region.

6. Level VI - National Hospitals

This is the top level of the health care pyramid, consisting of a new hospital and teaching complex in Tegucigalpa of 1,200 beds designed and equipped to provide specialized care to patients referred from lower levels. There are also specialized hospitals for tuberculosis, mental health, and maternal-infant care.

The central MOH is charged with the responsibility to set norms and provide the technical supervision in all the specific activities required in the Programa de Extensión de la Cobertura (epidemiology, materno-infantil, saneamiento ambiental, etc.) at all levels.

Several observations on this structure are important for the analysis to come. The first is that the Central MOH sets the norms but the

Regional Administrations execute the programs. This means that the Normative offices have no administrative authority or budgetary control over the technical programs (with the exception of materno-infantil, which will be discussed as a special case later). Since 1974, the MOH has progressively eliminated vertical programs with separate budgets, administrative structure, etc. in order to integrate the programs into basic health services.

The second point is that an interesting split in administrative and service functions occurs as we ascend the pyramidal health structure. At levels I, II and III (community, CESAR, and CESAMO) the program Managers are the same people who provide the services (e.g. doctors, nurses, and auxiliares). In many areas where there is no CHE to function at a level IV position, a CESAMO will perform that function. From levels IV - VI the management functions are split off from service functions, and often reside in two different physical structures. However, many of the program managers at these levels are people who have spent the majority of their professional life as service personnel (e.g. doctors and nurses) and by virtue of their experience have moved into management and supervisory functions.

A third important factor is that Levels II - VI are full-time, paid employees of the MOH. Level I, the community, consists entirely of volunteers who receive no direct compensation from the MOH, but are requested to participate in MOH programs. This opens up the question of incentives for community health workers, which is only touched upon in this report. More detailed discussions will be found in the Human Resources Report.

In summary, then, the goals, objectives, types and levels of service of the Programa de Extensión de la Cobertura are a well thought-out plan designed to bring basic health services to the total population of Honduras. We can reasonably ask at this point: "How well is it working and what problems have been encountered?"

### III. Current Status of Basic Health Services in Honduras and Problems Encountered.

#### A. Introduction

The following analysis is based on the observations of all the consultants working on this project, whether MSH, CDC, or individuals. The problems presented here are used for illustrative purposes only. No attempt is made to provide a detailed analysis of each of the points raised, and the reader is referred to each separate analysis for a more profound review. As stated in the Preface, this analysis is presented in an attempt to bring together the multiple observations and mountains of data gathered by all consultants into one coherent strategy.

We were privileged to attend a series of meetings within the MOH from February 7-16, 1980 whereby each department assessed its performance and offered recommendations for the future. These reports have been confirmed and/or augmented by conversations with officials at all levels, review of existing documentation, and field trips. These observations form the

basis of this analysis.

## B. Types of Services

### 1. Saneamiento Ambiental

#### a. Performance

Figure 2 shows the amount of goals met for potable water and solid waste disposal programs in 1979. It shows an average of 55% of the national goals for wells and 89.4% of latrines were met in 1979. Analysis by regions shows a highly variable success rate, ranging from 20% to 103.6% for wells and 46% to 122% for latrines. Obviously, some regions are more effective than others. In vector control activities, only 10% of the goals for house treatment were met in 1979. For *Aedes Aegypti*, the results were even worse. The Director of this program reluctantly concluded "El programa de Control de Vectores es un desastre".

#### b. Problems

1. Overall budget cuts affected the program and necessitated cutting key personnel, such as 100 auxiliares de control de vectores.
2. Purchasing system did not work effectively. The division is only now in 1980 receiving material (tubes, pumps, cement) that they ordered for 1979.
3. Organizational control was deficient and chain of command was weak. Where the regional office took the initiative (as in Region 6) programs worked. Where they did not, programs slipped. Normative office had no control over programs in the field.
4. Human resources insufficient and not used effectively. One hundred twenty promotores could not cover entire country, and even those who were working could not extend their coverage due to lack of transportation. Only 90 motorcycles are currently in use, primarily by promotores, and 20 are inoperable, a 22% breakdown rate. Sixty new motorcycles are still in their crates in the central warehouse and have not been distributed yet.
5. Community volunteers designed to function within these programs, such as the Voluntario de Malaria, did not function effectively due to lack of compensation or incentives.

### 2. Communicable Disease Control

#### a. Performance

METAS PROGRAMADAS Y % DEL CUMPLIMIENTO AL 31 DE DICIEMBRE-1979  
POR REGIONES DE SALUD-SANEAMIENTO BASICO

Infraestructura Regiones	POZOS				LETRINAS			
	Meta Anual	% Nacio- nal Anual	Meta Lograda	% Regional al 31/13/79	Meta Anual	% Nacio- nal Anual	Meta Lograda	% Regional al 31/12/79
Nº 1	267	18.95	217	82%	2013	14	2.167	107.65
Nº 2	183	8.8	43	23.50	1960	13.61	904	46.12
Nº 3	401	19.19	138	34.41	3453	24	3.441	98.23
Nº 4	369	17.66	217	58.80	1315	9.13	1.016	77
Nº 5	187	8.95	11	5.88	1915	13.30	1.363	71.17
Nº 6	393	18.8	407	103.56	2034	14.13	2.475	121.68
Nº 7	150	7.18	114	76.00	1200	8.23	1.112	92.96
Metropo- litana	10	0.47	2	20.00	500	3.5	435	54
<b>TOTALES</b>	<b>2089</b>	<b>100</b>	<b>1.149</b>	<b>55.00</b>	<b>14390</b>	<b>100</b>	<b>12.864</b>	<b>89.40</b>

FIGURE 2

1. Immunizable Diseases

Coverage of the population at risk has been declining steadily for the past four years. In 1975, 95.5% polio and 79.3% of DPT immunization goals were met compared to 38.4% for polio and 31.1% for DPT in 1979. In 1978-79 a polio epidemic occurred with over 250 cases diagnosed, over 3 times the norm, and 70% of these cases had not received any vaccine. An epidemic of measles is anticipated in the future.

2. Diarrheal Disease

Diarrhea remains the number 1 cause of morbidity and mortality in the country and this has not changed in 15 years. No program for diarrheal control exists and policies are just beginning to be formulated. No additional resources are needed but a reallocation of resources could result in an effective diarrheal control program using oral rehydration in the home or health facility.

3. Malaria

A policy decision was made in 1978 to dismantle the vertical malaria program and integrate malaria control into the basic health service structure. Since then, vector control activities have declined dramatically and malaria has shown a strong resurgence along both coasts. An urban epidemic of *P. Falciparum* is currently active in Choluteca where there is widespread mosquito resistance to DDT. Malaria is currently endemic in 80% of the country. Organizational support for malaria control is very weak, and the potential for a major country-wide epidemic exists. Voluntary control workers are not functioning at the community level.

4. Tuberculosis

The tuberculosis program was also vertical until 1973 when it was integrated into the Basic Health Services System. Official statistics show the prevalence of TB and its mortality to be only 25% of the indices in 1973. However, the general impression is that this represents a lack of proper diagnosis and reporting rather than a true reduction in the disease itself. In 1973, 120,000 sputum examinations were done compared to less than 10,000 in 1979. Laboratory facilities are no longer equipped and staffed sufficiently to handle large numbers of examinations, and peripheral facilities

(CESAMOS, CESARES) do not have sufficient logistical support to collect and transport sputum samples and receive results back in a reasonable period of time. The Department of Epidemiology estimates that the true prevalence of tuberculosis has actually risen in this time period by 17% due to lack of case-finding and adequate follow up.

b. Problems common problems were encountered in all CDC programs. They will be presented here as a compilation of problems with selected examples given to illustrate each point.

1. Lack of adequate supplies and materials

The Division of Epidemiology has received in February, 1980 the vaccines they ordered for 1979. Insufficient anti-tuberculosis drugs exist in the field for follow-up treatment of positive cases. Simple slides and protective cases for shipment of samples do not exist in the field to assist case detection. No oral rehydration salts are distributed to health facilities.

2. Transportation and maintenance not functioning

Field workers cannot get out to communities where potential outbreaks exist. Lab samples and results are not flowing through the system. The Cold Chain is weak out to the CESAR level, with frequent breakdown of refrigerators. Equipment breakdowns prevent laboratories from functioning adequately.

3. Insufficient health workers in critical areas

Cutbacks in vector control workers have contributed to a resurgence of malaria. An estimated 25% of CESARES are closed at anyone time due to absence of the Auxiliar de Salud for long periods of time due to pregnancy, illness, leave, etc. Key supervisor positions often go unfilled for long periods of time due to similar reasons.

4. Lack of proper preparation of health workers

Many program managers are health care personnel with little training or understanding in management techniques. Some personnel are well trained to function in one area, e.g. Materno Infantil, but have little background in malaria or to control.

5. Inadequate supervision

The majority of Auxiliares de salud that were visited in

the field reported they had not received a supervisory visit from a higher level in the previous year. Numerous studies in other countries have shown that frequent supervision is the single factor that correlates most highly with good performance of health workers.

6. Evaluation mechanisms weak

Central normative offices must rely on field reports on communicable diseases for evaluating program performance; observation shows that these progressively diminish in accuracy and frequency as one moves further out into the field. No independent national health survey on a periodic basis is currently functioning to provide reliable estimates of the true prevalence of disease.

### 3. Maternal and Child Health

#### a. Performance

In general, Materno-infantil programs have performed well. Figure 3 shows the number of consultas programmed for 1979, actual consultas given, and % of the goals realized. The overall performance is strong, bolstered by a high number of consultas in the category less than 5 years of age. Maternal consultas did not do as well. The CESAR's fulfilled more of their goals than CESAMO's. It is not clear whether this is due to improved performance or lower expectations for CESAR's and hence lower goals. Figure 4 shows how these consultas were divided among the various categories of attention. The Division de Materno-Infantil feels the poorer performance of maternal programs is related to a lack of acceptance of family planning and a failure to meet goals set in this area, rather than a lack of pre-natal or post-partum treatments.

As in the other programs, there was marked variation among the regions. The Metropolitan Area and Region consistently met greater than 100% of their goals opposed to less than 50% for Region 6. This is due to a combination of factors related to more resources available in some regions (budgets, personnel, etc.) and to more efficient management. One cannot conclude that poorer performance means poorer management. Region 4, for example, is conceded to be a well managed region given the amount of resources available to it even though its overall performance was rated 6th.

When we analyze the performance over time, a striking improvement is noted in marked contrast to other ministry programs. In 1972, there was 0.57 maternal consultation/population covered compared to 1.5 consultation/populations covered in 1979. For consultations in the infant category, the ratio improved from 0.24 consultas/population covered in 1972 to 1.63/population covered in 1979.

This improvement, in our opinion, is due to several factors. The Materno-Infantil program remains the only vertical program functioning within the ministry. It has separate sources of funding from international donors (A.I.D., PAHO, European Economic Community) that go directly into the division. Separate checking accounts and administrative control structures exist for these programs, and Materno-infantil managers retain more control of field operations than do the other normative offices. Dynamic leadership within the Division Materno-Infantil has capitalized on whatever resources could be found to push forward in new programs. Thus, a combination of increased resources,

MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL  
DE METAS COMPARADAS CON EL PLAN OPERATIVO ANUAL  
1 9 7 9

NIVEL Y COMPONENTES	PROGRAMADAS P.O.A.	CUMPLIMIENTO	% DE CUMPLIMIENTO
<u>HOSPITALES:</u>			
Materno	107.771	62.860	58.3
Infantil	296.371	359.127	121.1
<u>CESAMO:</u>			
Materno	202.686	127.341	63.0
Infantil	557.813	319.496	57.0
<u>CESAR:</u>			
Materno	105.101	79.526	76.0
Infantil	296.222	259.570	121.0
Total	1.565.564	1.307.920	84.0

Fuente: Departamento de Estadísticas  
Ministerio de Salud Pública y A.S.

Figure 3

MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL  
PORCENTAJE DE CONSULTAS POR COMPONENTE PROGRAMATICO  
1 9 7 9

---

COMPONENTE PROGRAMATICO	CONSULTA	%
Pre-natal	190893	70
Puerperio	11796	5
Planificación Familiar	60707	22
Visitas	6343	3
Total	269729	100
Menores de 1 año	270396	26
1 a 4 años	397161	38
5 - 14 años	363492	35
Total	1038193	100

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Fuente: Departamento de Estadísticas  
Ministerio de Salud Pública y A.S.

Figure 4

separate administrative structures and retained control and dynamic leadership account for what appears to be a relatively strong performance in comparison to other departments within the ministry.

However, this overall performance rating should be interpreted with caution. The demographic distribution of Honduras shows that 70.5% of the populations is made up of children under 15 years of age and women aged 15-49. Quite naturally, the bulk of ambulatory consultas in Honduras will automatically fall into the Materno-infantil category regardless of program input. In fact, 62% of the total ambulatory consultas in 1979 were in the Materno-infantil age groups. When we analyze the percent of coverage of the target population, the program does have some weaknesses. Figure 5 shows that coverage for pre-natal care is less than half of the target population and less than 10% for post-partum and family planning. Coverage for the age group less than 15 years of age decreases progressively as the target group ages. The critical age group of 1-5, where almost 1/2 of all deaths occur, had only 38% coverage.

Thus, although dramatic rises have occurred in the number of consultas/population covered, the extent of coverage is still not of the magnitude necessary to fulfill the goals of the Five Year Plan and assure services to the total population at risk.

b. Problems

The problems presented by the Programa Materno-Infantil were not the usual litany of logistical and administrative support problems found in the other programs presented above. Generally, the problems involved extending coverage to population groups who are not now using the services due to a variety of reasons:

1. Cultural factors which hinder the acceptance of pre-natal and family planning services.
2. Lack of health education programs to educate the population about the proper use of facilities.
3. More outreach personnel to extend services into the community, both urban and rural.
4. Upgrading the capacity of the CESAMO, which generally had a lower productivity in infant care programs, and CESAR's that already exist. This will be analyzed in more detail in the next section.

COBERTURAS ESTIMADAS AREA MATERNA

1979

COMPONENTE	TOTAL CONSULTAS	NORMA DE ATENCION	POBLACION ATENDIDA	POBLACION BLANCO	% DE COBERTURA
Pre-natal	190893	2.5	76357	178144	43
Puerperio	11786	1	11786	178144	4
Planificación Familiar	60707	2	30353	486334	6

COBERTURA ESTIMADA AREA INFANTIL

1979

COMPONENTE	TOTAL CONSULTAS	NORMA DE ATENCION	POBLACION ATENDIDA	POBLACION BLANCO	% DE COBERTURA
1 año	270396	2.5	108.158	156767	69.0
1 a 4 años	397161	2	198.580	523744	38.0
5 a 14 años	363492	2	181.746	1011860	18.0

Figure 5

5. The norms set for service activities may be too low and could be revised.

6. Information is unaccurate and reports of births and deaths are incomplete. Therefore, no reliable assumption can be made on impact measures such as infant or maternal mortality in the absence of an independent health survey.

4. Primary Care of Simple Illnesses

a. Performance

Honduras has shown steady improvement in primary health care services in the past decade. In 1972 there were 0.20 atenciones/habitante compared to 0.32 in 1974 and 1.0 in 1977. In 1979 4.790.659 atenciones ambulatorias were given through the MOH, 1.30/habitante. were given through the Instituto Hondureño del Seguro Social for a total of or /habitante for the total country \*. Experience in Latin America has shown that when health services all available people, make an average of 2.5 visits/year then this makes the population attended 1,916,300, or 58 % of the population of Honduras (estimated).

ATENCION AMBULATORIA  
MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL  
HONDURAS, 1977

Nivel	No. de Instituciones	No. de Atendidos	% Atendidos	Costo Atendidos
Hospital Nacional	5	312,400	9.7	L 14.41/at.
Hospital Regional	6	280,194	8.7	L 8.07/at.
Hospital Arc	7	119,163	3.7	L 8.29/at.
CESAMO	72	1,104,671	34.3	L 4.66/at.
CESAR	284	756,845	23.5	L 2.03/at.
Guardian	907	547,505	17.0	L 0.13/at.
Partera	1,656	103,600	3.1	L 0.36/at.
		3,220,616	100	

Fuente: Plan Nacional de Salud, 1979-1983

Figure 6a

\*Information not available at time of this report.

ATENCION AMBULATORIA  
 MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL  
 HONDURAS, 1977

Nivel	No. de Instituciones	No. de Atendidos	% Atendidos
Hospital Nacional	5	353,384	7.3
Hospital Regional	6	574,956	12.0
Hospital Area	7	264,216	5.5
CESAMO	74	1,651,293	34.5
CESAR	371	4,568,400	36.0
Guardian	2,549	142,646	3.0
Partera Adiestrada	5,508	79,614	1.7
TOTALES		4,790,660	100

Fuente: Depto. de Bioestadística, draft.

Figure 6b

The urban health centers at level IV, V, VI contributed 24.8% of the total in 1979. (See Figure 6b) The CESAMOS and CESARS, which represent the first point of contact for peri-urban and rural areas, accounted for 34.5% and 36.0% respectively, or a total of 70.5% of all ambulatory atenciones. Considering that a recent budget analysis of the health sector showed that 55% of the resources available went to hospitals in Levels IV, V and VI, these figures represent a fairly high productivity rate for the lower levels of care with limited resources. Figure 6a shows cost figures for 1977. Obviously, the CESAMO and CESAR level is more cost-effective than higher levels of care. The bulk of the primary care in Honduras occurs at the CESAMO level and beyond.

The following table outlines the top five causes of morbidity treated at the CESAMO-CESAR level:

ESTRUCTURA DE MORBILIDAD CESAR-CESAMO (Primeras cinco causas)

1. Enfermedad diarreica	10.9% de total consultas
2. Observacion prenatal	9.9%
3. Influenza no calificada	9.5%
4. Parasitismo intestinal	8.7%
5. Otras anemias y las no especificadas	<u>7.5%</u>
TOTAL	46.5%

The CESAMOS and CESAR's appear to be treating the most common diseases found in the population and thus are fulfilling the objectives of the primary attention program of the Extensi3n de la Cobertura in terms of target pathology.

Community level health workers reported 222,260 consultas in 1979, or 4.7% of the total. Accurate figures as to what percent of health workers are actually functional in the field can not be found, but we can draw inferences from reporting statistics. In 1979, 45% of the Parteras Adiestradas and 30% of the Guardianes sent regular monthly reports through the MOH Management information system. The rest either were not working, or did not send reports. Experience has shown that when health workers provide a large number of health services they usually send reports. When services are sporadic or erratic, they usually don't bother. Reporting percentages are often an indication of activity. Thus, in 1979 a relatively small percentage of community level health workers reported any activity compared to the resource inputs required to train them.

In 1977, according to data presented in Figure 6a, Guardianes and Parteras accounted for 20.1% of all consultas and an actual number approximately 3 times greater than 1979. These appears to be a real and profound decline in productivity of both classes of community health workers in the past two years. The reasons for this decline are outlined below.

b. Problems

In primary care we return to the now familiar list of problems.

1. Lack of supervision

Most auxiliaries and community health workers visited by consultants reported they had received no supervisory visits in 1979. In those cases when the auxiliary did go into the field to supervise, she invariably had to close the CESAR with a subsequent decline in her capacity to provide services. Studies in other countries have clearly shown that frequent supervision is the most important factor for continued functioning of com-

munity health workers.

## 2. Lack of incentives

Guardianes and Parteras are unpaid volunteers to be supported by the community. This generally did not occur. With no supervision or community organization activities, the health workers are simply left to wither on the vine.

Figure 7 shows the training status of community health workers in 1979. Obviously, parteras received the majority of the training resources. They are indigenous health workers, easily identifiable, and traditionally supported by the community. The Partera is usually a more successful type of health worker and continues to function over a long period of time.

The Guardian is a totally new type of health worker. Considerable community education and organization activity needs to occur to identify, train and support this worker over a long period of time. None of those activities currently occur in the field. In fact, the individual most responsible for this activity, the Representante de Salud, received the least attention of all. Only 37% of the training goals were met for Representantes in 1979, and several regions produced large numbers of Parteras and Guardianes without producing any Representantes to sustain them. This almost guarantees failure.

## 3. Lack of drugs, supplies, and materials

All health workers and professionals visited at levels I, II, and III complained of lack of drugs and supplies. How, they ask, can the community have any confidence in us if we cannot supply them with the basic drugs with which to treat them? This problem is treated in great detail in the Logistic Analysis.

In summary, Honduras has shown a tremendous capacity to produce large numbers of auxiliary and community health personnel, but has not yet developed the capacity to support and sustain them as productive workers over long periods of time. This has profound impact on all other health programs that have recently been integrated into a unified basic health service system.

## 5. Nutrition

### a. Performance

In 1966, a national nutrition survey showed that 72.5% of children less than 5 years of age were malnourished (this probably includes the category of low normal established by Gomez). A repeat

MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL

ADIESTRAMIENTO DE PERSONAL COMUNITARIO

ENERO A DICIEMBRE 1979

REGION SANITARIA	No. de PARTERAS ADIESTRADAS	No. de GUARDIANES ADIESTRADOS	No. de REPRESENTANTES ADIESTRADOS
Metrop.	57 %	- %	- %
1	301	50	-
2	317	59	75
3	329	289	16
4	183	100	-
5	451	61	75
6	217	15	8
7	359	10	-
TOTAL	2,214	534	17
Programado	2,761 87.3%	1,052 50.7%	4 37%

Octubre, Noviembre y Diciembre, se toma lo programado como ejecutado.

Figure 7

survey showed that 83.0% of children were malnourished, a considerable decline. It is not clear whether measurement techniques were different in the two surveys or if this represents a true decline. This difference should be further investigated.

b. Problems

The problems with nutritional programs in Honduras is dealt with at considerable length in a separate report by Community Systems Foundations and will not be explored here. From our standpoint, a major problem is the failure to integrate nutritional programs into the basic health service system. It is not unusual to find supplementary feeding programs and mother's clubs existing side-by-side in a community with a CESAMO or CESAR and trained health workers without any connections between the two. The health workers do not provide health services in the nutritional programs and nutritional services were not being provided in the health programs. Currently some attempts to improve this situation being made by some agencies but the effects are not yet universally felt.

C. Level of Services

The Plan Nacional de Salud 1979-1983 places a high priority on extending ambulatory services to the total population of the country and on developing the capacity of hospitals to serve as referral and back up centers for more complicated illnesses. In this section we will look at these two priority goals by level to analyze the productivity of each.

1. Ambulatory Services

Figure 6a shows the number of consultas and costs per consulta for 1977, and Figure 6b shows what data is available for 1979 for comparison (cost data is not yet available for 1979).

From these figures we can see that the CESAMO's and CESAR's are the most productive in output of services. Together they accounted for approximately 60% of all ambulatory consultas in both years. Productivity increased dramatically for both types of health centers between 1977 and 1979. The numbers of services increased by 49.4% for CESAMOS and 127.9% for CESAR's. The following table breaks this data down further:

	Número Atenciones por Centro de Salud		Número Atenciones por Habitante*	
	1977	1979	1977	1979
CESAMO	15,343	22,314	1.5	2.2
CESAR	2,665	4,648	0.89	1.6

\*Assumes 10,000 habitantes por CESAMO and 3,000 habitantes por CESAR.

Thus, although the numbers of CESAMOS and CESARS have increased in the two year period between 1977 and 1979, the productivity of each center has also increased dramatically. Nonetheless, productivity could be improved substantially within the existing resources. Although 2 more CESAMOS were open in 1979 than in 1977, statistics from the Division Materno-Infantil show that only 64 CESAMOS functioned in 1979, a drop-off of 14%. In addition, those CESAMOS that were open did not function up to capacity due to the problems of limited drugs and supplies, insufficient personnel, broken equipment, and inadequate supervision.

The same was true of CESAR's. Various consultant's observations estimate that 25% of CESAR's were not functioning at anyone time in 1979, mostly due to pregnancy of the auxiliaries. Characteristically the Auxiliar stays off her job almost 3-6 months to have the baby, and the CESAR stays closed most of that time. No pool of reserve auxiliares exists to augment the regular staff. Illness, vacations, and people retiring from active service also cause the CESAR to close down until adequate replacements are found.

The reported productivity of community level health workers has declined dramatically between 1977 and 1979. In 1977, a total of 2,563 community health workers provided 651,105 ambulatory atenciones, or an average of 254/worker. In 1979, 8,057 community health workers reported only 222,260 or 27.6/worker, a ten-fold decline. Again, it is not clear whether this is due to a lack of services or a lack of reporting services. Either way, however, something is dramatically wrong with the productivity of community health workers. Perhaps in 1977 the program was newer and adequate supports existed that did not exist in 1979. Even if many more services were given than where reported, it is unlikely this would increase reported output by a factor of 10. Lack of adequate reporting also points out severe deficiencies in supervision.

The hospitals, as expected were much less productive. The interesting finding is that the CHE was only 50% as productive as the regional or national hospitals and did not contribute very much to the overall delivery of services. The apparent rise in hospital productivity from 22% of the total in 1977 to 25% of the total in 1979 was due to a real increase in numbers of ambulatory consultas

and drop-off in numbers by the Guardianes and Parteras. Nevertheless, when one takes into account the larger populations who have access to the urban hospitals at levels IV, V, and VI, we can state that they are clearly not as efficient in the delivery of ambulatory services as the CESAMOS and CESARS (i.e., they are serving a much smaller percentage of the target population).

When we compare costs per consultas striking differences emerge (see Figure 6a). The highly specialized national hospitals are the most expensive; regional hospitals cost roughly half as much per atención. Presumably, people are receiving more than primary care at this level (i.e., specialized referrals). It is interesting to note that the CHE's, which had the lowest productivity of all the institutions, were also one of the least cost-efficient, with a cost/atención higher than regional hospitals. CESAMOS were half the costs of regional hospitals, and CESARS half the costs of CESAMOS. Community health workers were the most cost-effective of all. That is, as one moves further out down the pyramidal health structure, the MOH gets progressively more productivity of services per Lempira spent. Of course, this does not address the quality or complexity of services given. However, since most of the target health programs involve problems that can be prevented or treated early by simple measures, sophisticated and expensive health services are not needed by most of the people most of the time. The Programa de Extensión de la Cobertura does provide a low cost rural health delivery system.

Thus, in summary, it appears that CESAMOS and CESARS are the most productive primary care providers and also are reasonably cost-efficient. Community level health workers are clearly the lowest cost health care available, but their delivery of services has fallen off dramatically in the past two years. Hospitals at level IV, V, VI are the most expensive way to provide primary health services and also the least efficient, since they reach only small percentages of the accessible target population. Area Hospitals are the least productive and most costly of all the institutions. The Plan Nacional de Salud projects a total of 11,429,735 ambulatory consultas in 1983, a three-fold increase from 1979 figures. Given current rates of expansion in services and all the problems in supporting the Programa de Extensión de la Cobertura, this may not be a realistic projection. Goals like these should be adjusted yearly to conform to experience.

## 2. Hospitalization Services

The objective of this analysis is to focus on primary ambulatory health services and not on hospital care. However, analysis of hospital productivity reinforces some trends already evident in the analysis of ambulatory services.

The following tables outline hospital statistics from 1977.

EGRESOS HOSPITALARIOS  
1977  
MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL

Nivel	No. de Egresos	% de Egresos	No. de Camas	% de Camas Ocupadas	Egresos Por Cama	Gasto Por Egreso
Hospital Nacional	32,066	38 %	1,866	81%	18.5/cama	L 315/eg.
Hospital Regional	40,316	47.8%	844	71%	45.6/cama	L 102/eg.
CHE (AREA)	11,905	14.1%	385	50%	31/cama	L 137/eg.
	<u>84,287</u>		<u>3,095</u>			

The National Hospitals had the highest number of beds and the highest unit costs. Patients also stayed longer, since the egresos/cama were quite low. Regional Hospitals, on the other hand, had a rapid turnover of patients with the highest number of egresos/cama and the lowest unit cost. Although Regional Hospitals have only half the number of beds that National Hospitals do, they served more patients. In short, regional hospitals in 1977 were more productive and more cost-effective than any other institution.

The Area Hospitals (CHE's) had the lowest occupancy rate of all institutions; a lower productivity in egresos/cama than regional hospitals; and a higher unit cost than regional hospitals. In short, they appear costly and unproductive. Given the fact that this same observation holds true for ambulatory services, it is hard to justify the emphasis placed in the Five Year Plan on construction of 14 CHE's. The Plan Nacional de Salud anticipates increasing occupancy to 70% and increasing the productivity of the new CHE's. Given past experience and the cultural reluctance of campesinos to use hospital services, that does not seem a realistic projection. It would be wise for the MOH to consider alternative strategies, such as smaller, more efficient CHE's or building more warehouses, or developing maintenance services, rather than continuing with construction of more CHE's as they currently exist.

Conversations with the Vice-Minister and Director General of Health indicate that they understand these problems and are reconsidering the commitments to construct additional CHES.

### 3. Conclusions

Some striking trends emerge when we analyze all the data presented in the previous two sections. Since the Programa de Extension de la Cobertura was initiated in 1972, a profound drop-off in production of services has occurred in some programs, principally in Environmental Sanitation and Communicable Disease Control. Vector control activities are currently meeting less than 10% of goals. Solid waste disposal and potable water are meeting 55% and 89% of goals respectively. There has been a resurgence of malaria, polio, other immunonpreventible diseases, and tuberculosis. Dearth remains the predominant cause of death in the country.

These dropoffs have occurred at a time when the MOH budget has tripled and risen from 4% to 12% of the national budget. Lack of appropriate funding is not the reason for these program failures. The failure to integrate these programs into the basic health services system and provide appropriate managerial, administrative and logistical support has severely hampered delivery of services. In order to improve these programs, an integrated basic health service system needs to be strengthened.

Primary care ambulatory services showed a dramatic rise in productivity from 1972 until 1979. (0.26 atenciones/habitante in 1972 to 1.30/habitante in 1979). Nonetheless, although the number of community health workers has tripled in the past two years, reported production of health services for Guardianes and Parteras has fallen off dramatically, from 254 atenciones/community health worker in 1977 to 27.6 atenciones/community health worker in 1979. This rise reflects the massive budgetary increases in the period from 1974-1978, a fair portion of which went directly into the production of primary health services. CESARS were constructed and large numbers of auxiliary and community level health workers were trained and placed in the field. Yet at the same time these dramatic increases in resources were being channeled into primary health care, the administrative budget of the MOH dropped from 10% of the total in 1972 to 2% in 1978. Because of this, none of the administrative and logistical support systems needed to sustain the workers in the field were developed and production of community services dropped off after 1977. They simply could not be sustained at an artificially high level that was beyond the capacity of the Ministry to support. The major lesson here is that it is relatively easy to gear up production of human resources and deliver large numbers of lower level health workers in the field. However, it is another magnitude of difficulty to sustain these health workers and have them continue to function at a productive level consistently over long periods of time.

The Programa Materno-Infantil appears the most successful of all the Ministry programs. They have shown a steady and, at times, dramatic rise in production of services over the past eight years and there has been no drop-off of services in recent years. Of all the programs in the Ministry, the Division de Materno Infantil remains the most vertical. It receives direct funding from outside sources and maintains separate financial accounts, administrative procedures, and supervisory structure. The Division de Materno-Infantil retains control over its field programs to much higher degree than any other division in the Ministry. Dynamic leadership has also helped program development substantially.

There are some limitations to this analysis. Data on the private health care sector was not readily available and developing a sound base for analysis would have required time resources beyond those available to us. Private ambulatory care, because of its fee-for-service nature reaches less than 5% of the population and is not a highly significant source of care in the country as a whole, but it should be looked at anyway. Private pharmacies, especially in rural areas, may well be a significant source of care that could be strengthened. This could make a good special study, as would a study of the use of indigenous health workers (curanderos, brujos). Both of these could be included in a national health survey that will be vital to assisting Honduras understand its health problems.

Other agencies outside the ministry, with the exception of the Instituto Hondureño de Seguridad Social, are not heavily involved in the direct delivery of health services and thus were not included in this analysis. Data from the IHSS were included in the section on primary health services, but time constraints prevented any intensive in-depth review at this time.

The problems brought forth by this analysis generally fall into three major categories: Management and Administration, Human Resources, and Logistical support. Each of these is presented in detail in separate analyses. However, it is useful to group them together in summary form to provide a basis for a strategy for strengthening basic health services. Thus, the following sections will present the constraints to good program implementation, followed by recommendations for improvement.

#### IV. Constraints

The constraints presented here are compilations of the problems presented in the previous section. What is a constraint to delivery of services is usually a problem for a support system. Each one of the constraints will be a problem analyzed in greater detail in the Administration, Logistics, Human Resources, and Financial analyses. They are presented here to form the basis for the recommendations that follow.

##### A. Policy changes within the Government of Honduras and the MOH towards Extensión de la Cobertura.

Since 1972, the government has remained committed to extension of services to people in all areas of the country. Conversations with current decision-makers in the MOH indicate a continued commitment to the program. However, frequent personnel changes have caused fluctuations in policies towards implementation of this program. From 1974-1978, during the period of rapid budget increases, the bulk of resources was funded towards direct patient services to the detriment of development of administrative support systems. With the advent of a new administration in late 1978 and early 1979, there has been a visible retrenchment in this policy. More time and resources are being focused on the development of support systems, and community health service statistics have fallen off somewhat. However, after a stabilization period, services should increase once again.

The upcoming elections have injected a degree of uncertainty into all planning. Another change in administration could cause more policy changes and further retrenchment to the detriment of production of services once again. The recent sudden departure of the Director of Planning is an indication of the type of uncertainty affecting the MOH. In such an atmosphere, although long-term planning must certainly continue, several short term alternatives should be developed to provide flexibility of action. The recommendations that follow reflect this constraint.

##### B. Organizational Controls

Figure 8 shows an organogram of the MOH as it is currently perceived. (We have seen at least seven different organograms of the MOH developed since 1972 - see above discussions). There are several important features of this structure that limit its effectiveness.

1. By law, the Director General is responsible for the execution and coordination of all activities within the Ministry. Every office, within the normative departments (epidemiology, maternal-infant care, etc.), the Division of Administration, the Division of Saneamiento Ambiental, and each of the individual health

# ORGANIGRAMA DEL MINISTERIO DE SALUD PUBLICA Y ASISTENCIA SOCIAL HONDURAS, C. A. 1978

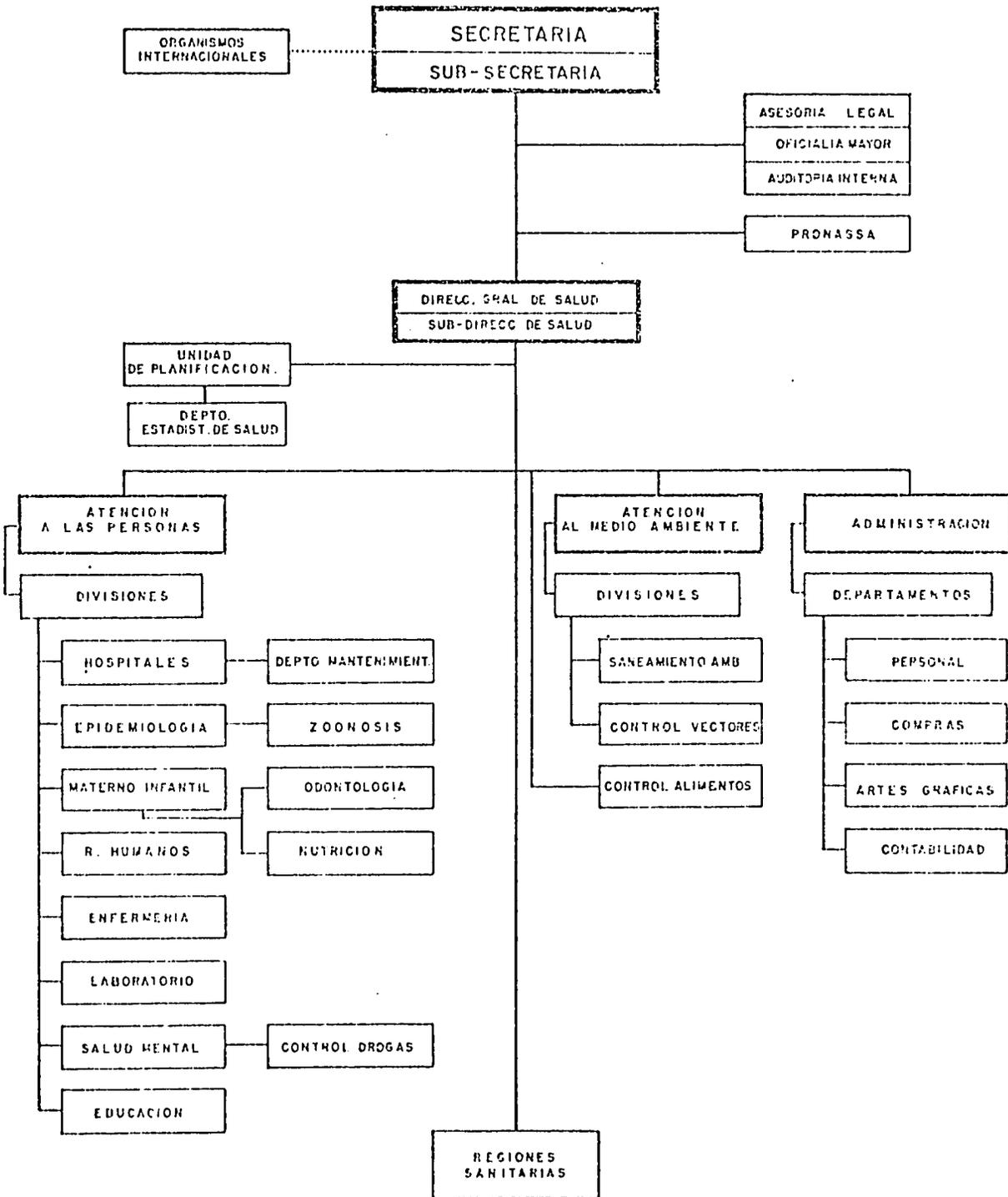


Figure 8

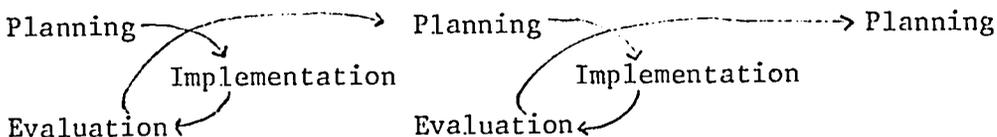
regions report directly to the Director General. The DG's office is not equipped or staffed sufficiently to handle all these multiple tasks, direct on-site supervision does not occur frequently (especially in the regions), and coordination often falters due to work overload.

2. The División de Atención de las Personas in actual fact has very little to do with delivery of health services in the field. They are all normative offices that develop program norms, goals and objectives, but they have no responsibility for execution of programs. The responsibility rests with Regional Health offices. The performance of the regions in particular programs is irregular, some good, some bad, depending on resource input, supervision, and the quality of regional leadership. The analysis of health services in the previous section showed how the Division that still retains the most control over program execution (Materno-Infantil) remains the most successful at program implementation.
3. Recursos Humanos is located in the División de Atención de las Personas and focusses most of its resources on production of health service personnel. Little attention is given to the development of management and administrative personnel for other divisions to give them the tools for sound management control.

C. Organization Linkages

A consistent complaint of all divisions is the lack of coordination between programs. The normative office for vector control may place high priority resources on transportation for vector control workers into the field one month and the next month immunization campaign workers may take over the vehicles. One region may place priority on Maternal-Child care while another may stress Tb control. There is no office other than the overloaded Director General who can provide these linkages.

D. Planning → Implementation → Evaluation - A sound planning methodology resembles a bicycle moving forward:



A great deal of emphasis and resources has been placed on development of sound plans in the Honduran Health Sector. Multiple, excellent planning manuals on a variety of subjects exist within the Ministry, but very few of the plans are operational. Little or no resources have been channeled into implementation, and evaluation remains weak.

An excellent monthly reporting system exists within the MOH, but there is no independent assessment of the accuracy of the data by regular health surveys. Thus, although honest attempts are now being made to evaluate what programs have already been implemented the accuracy of the data is questionable due to underreporting in the field. A sound planning cycle cannot proceed without a strong evaluation mechanism.

E. Human Resource Constraints

The critical areas for concern are top and middle level management personnel, nurse-supervisors, technical support personnel (such as maintenance) and adequate production and maintenance of auxiliary and community health personnel. Little attention has been focused on increasing the capacity of people to manage the health system and maintain control. Many top and middle-level program managers are health service personnel with inadequate preparation in management. Although 60 nurses entered the university four years ago, only 4 will graduate in 1980. Key supervisory positions go unfilled. Auxiliary and community health personnel have a large turn-over due to pregnancy, irregular supervision, lack of supplies, and inadequate incentives to continue working.

F. Logistic and Supply Constraints

Lack of drugs, materials supplies, and equipment has hampered all programs. Supplies ordered for 1979 are just arriving in 1980. Maintenance is poor and much of the available equipment does not function. Transportation is irregular with as much as 50% of the Ministry vehicles out of commission.

G. Financial Constraints

Competition for scarce resources is fierce and funding policies are often arbitrary and proceed without sound planning. Personal health services are funded at the expense of administrative support systems. Simultaneous commitments to Extensión de la Cobertura to rural areas and to construction of an expensive area hospital system have indicated a lack of understanding about the financial capacity of the system to maintain programs. Fortunately, some encouraging steps are now being taken to understand these constraints by Ministry Officials.

V. Recommendations

A. The Government of Honduras and USAID jointly commit to develop and strengthen the Basic Health Services System of Honduras at all levels - urban and peri-urban health centers, CESAMOS, CESARS, and Community level health workers (Guardianes, Parteras, and Representantes). This Basic Health Service System will deliver an integrated set of primary health services to all people in the country in the following program areas:

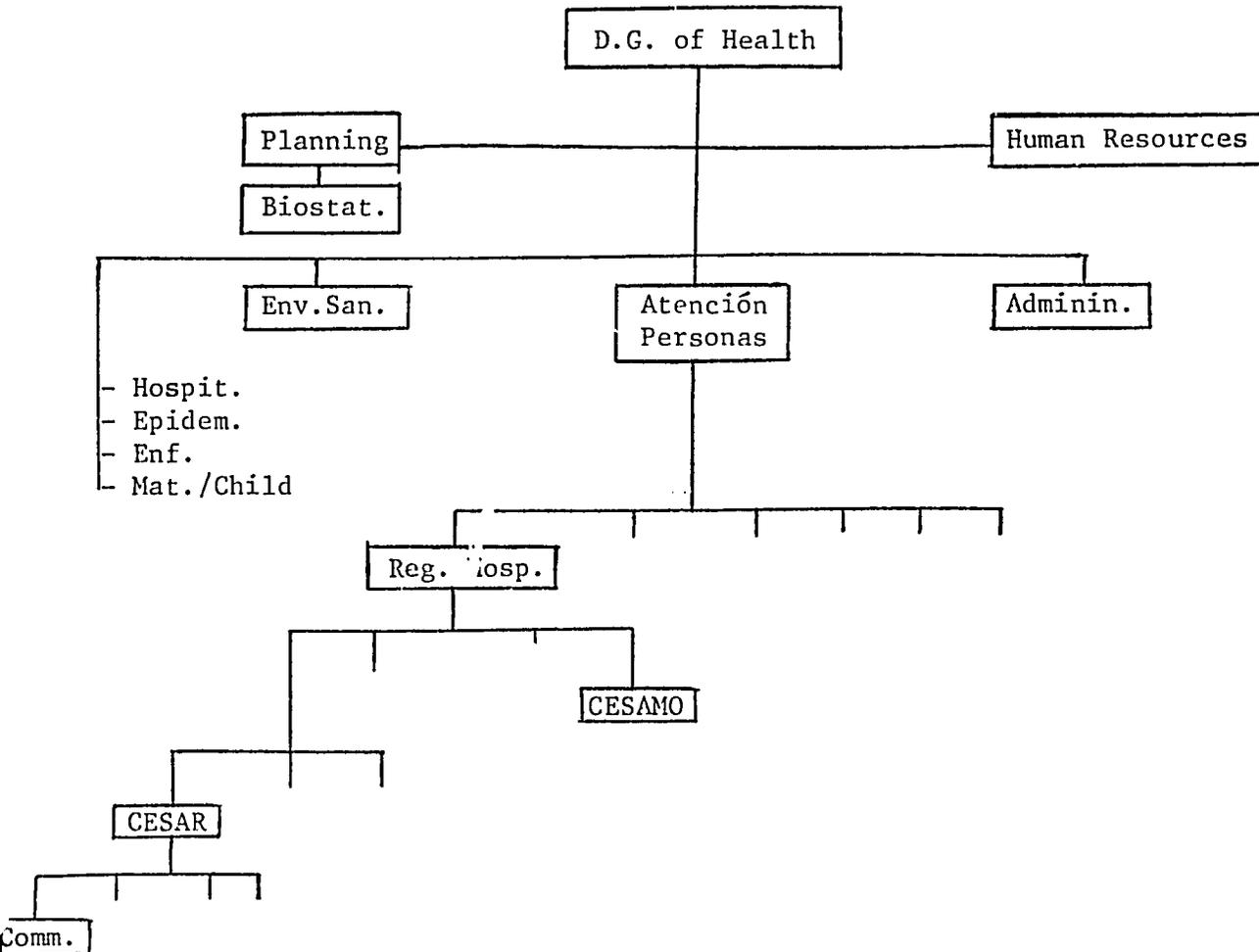
1. Environmental sanitation
  - potable water
  - solid waste disposal
  - vector control
2. Communicable disease control
  - immunopreventive diseases
  - diarrhea
  - TB
  - malaria
3. Maternal/child Health
  - control of normal pregnancy and deliveries
  - referral of high risks to appropriate source of care
  - post-partum care
  - well-child care of the newborn
  - family planning
4. Primary care of common illnesses with a simple drug list
5. Nutritional services
  - education
  - identification of high risks with referral to appropriate source of care
  - integration with supplementation programs, if exist
6. Health education in all of the above areas

B. The basic goals of this strategy for strengthening Basic Health Services should be:

1. To increase the capacity of the health system at all levels (Central, Regional, and Peripheral) to manage and support basic health services.

2. To increase the capacity of the Human Resources to deliver the needed health services.

C. A simple reorganization of the Ministry of Health would considerably strengthen the management capacity of the system and minimize the organizational control and linkage problems outlined in the constraints section.



Two major changes will occur, Atención a las Personas is moved to form a new division with direct line authority over the institutions that provide direct health services in the regions. In essence, the División de Atención a las Personas will function as a Basic Health Services Headquarters.

Human Resources is moved a level higher up in the Ministry Structure to identify its responsibility for developing and upgrading the capacity of human services in all divisions of the Ministry, not just health service personnel. More financial resources and some

technical assistance will be needed by the division to assume this function. These are outlined in detail in Human Resources Analysis.

The other normative offices (Epidemiology, Hospitals, Materno-Infantil, etc.), Saucamiento Ambiental, and Administration will report directly to the Director General as they have before.

The Division de Atención a las Personas should have two sections:

- Programming
- Training and Evaluation (Supervision)

1. Programming Section

- Coordinates efforts of all regions
- Coordinates the needs of the technical normative offices with regional offices
- Coordinates administrative controls for personnel, finance, logistics, etc. with the División of Administration.
- Provides resources to strengthen technical capacity of health services delivery system (e.g. laboratories).
- Executes programs according to pre-established priorities

2. Training and Evaluation Section (Supervision)

A mobile, multidisciplinary team (MD/RN/Manager/Trainer) is formed within this section. Its primary functions will be:

- To visit each region on a regular basis, evaluate the strengths and weaknesses of each regional program, and provide on-the-spot, on-the-job training to upgrade skills and service functions.
- To assist each region to create a training and evaluation team with similar functions (although the team may be smaller due to personnel limitations) whose responsibility will be to evaluate programs and do on-the-job training at the area level and beyond. If sufficient resources exist an area T and E team can be created for CESAMO's, CESAR's, and Community Health workers.

3. Strategy

Technical assistance to the T&E teams will be provided by the technical normative offices. If, for example, the Ministry decides that a program for control of immunopreventive diseases has a high priority, the technical people from the División de Epidemiología will be "seconded" to the Division de Atención a las Personas, where they become a part of the existing T&E team. The team travels to the various regions to "kick-off" the program, establish the norms, and train the regional people about the

technical aspects of managing the program. A regional T&E team is created and trained to provide a similar function in more peripheral areas. Repeat visits by the T&E team will focus on assessment of the program results and immediate remedial training to overcome any deficits.

After the immunopreventive disease program is running well, other programs, such as diarrhea control, or environmental sanitation can be added. The aim is to sequence a prioritized list of programs, making sure each one is functioning well before another starts. A "shotgun" approach where all programs are given equal priority guarantees failure for all programs. This has been amply demonstrated by the failure to integrate environmental sanitation and communicable disease programs into the Basic Health Service System of Honduras over the past 8 years. The major objective of this strategy is to increase over a period of time both the management and technical capacity of the Basic Health Service Units (BHSU = Hospital Ambulatory Clinics, Urban Health Centers, CESAMOS, CESARS and Community Health Workers) to effectively implement programs, evaluate results, and make proper adjustments.

Figure 8 outlines the management and administrative functions of a well developed Basic Health Services Headquarters (BSHSQ) as it would exist in a up-graded División de Atención a las Personas.

Figure 9 shows the type of skills needed to implement this strategy. Some of them will be full-time people within the División de Atención a las Personas; others can be "seconded" from other normative divisions.

In the author's opinion, this administrative reorganization should be made a "Conditions Precedent" of the Health Loan. No comparable structure exists within the Ministry to provide adequate control of the Basic Health Services System as it is supposed to function in the Programa de Extensión de la Cobertura. Without administrative control, resources from the Health Loan will be quickly dissipated without substantial improvement in health services.

D. Develop this strategy in three distinct phases:

1. Upgrading the capacity of human resources within the system to be effective program managers. This may take one year.
2. After management skills are upgraded, begin program implementation according to priorities developed within the Health Sector. This phase may take 2-5 years.
3. After high priority programs implemented and functioning, further improvements in health system management control systems should occur based on evaluation of phase II activities. If sufficient resources are available, the design and implementation of lower priority public health programs can begin.

Each of these will be discussed in further detail.

MANAGEMENT/ADMINISTRATIVE FUNCTIONS OF A  
WELL-DEVELOPED BASIC HEALTH SERVICES HEADQUARTERS

FUNCTION	NECESSARY COMPONENTS	ACTIVITIES NEEDING FUNCTION
	<u>Existing Programs</u>	
	Objectives	Individual services activities for BHSU's
	Outputs	Community public health program activities of BHSU's
	Quality standards	Coordination planning for logistics personnel, finance, training
	Inputs	Training activities within BHSU
	<u>New Programs</u>	
PLANNING	Demonstration of need	Research and development of new activities and programs for BHSU's
	Development of receptive environment	Research and development of new or improved management/administrative systems
	Designs of the services/ programs	
	Design of the management support systems	
	Manning of the system	
	Fieldtesting and revisions	
	Start-up planning	
	Start-up management	New activities or programs of BHSU's New management/administrative systems within BHC's
	Scheduling of services	Within BHS management/administrative units Training activities within BHSU
	Managing use of supplies and equipment	Within BHSU
OPERATIONS MANAGEMENT	Controlling the quality	Of BHSU's Of BHSU Of training within BHSU Of intermediate management units
	Managing the support systems	Within BHSU
	Revising and updating the system as new information becomes available.	All BHS units
EVALUATION	Assuring the progress toward the objectives	BHSU activities and programs  Worker skills after training
	Upgrading skills of health staff to provide more effective services	Immediate, on-the-job training  Recommendations to Division of Human Resources for in-service education programs.

Figure 8

MANAGEMENT/ADMINISTRATIVE SKILLS IN A WELL-DEVELOPED  
BASIC HEALTH SERVICES MANAGEMENT SYSTEM

BHO Management Unit

WORKER TYPE	JOB	SKILLED NEEDED TO PERFORM EFFECTIVELY	OPTIMUM QUALIFICATIONS
Supervision program director	Overall management of supervisory program	Advanced management skills will special skills in performance evaluation, worker motivation, training, and communications  Advanced medical/public health knowledge	MD/MPH/MBA
Supervision team managers	Direct supervision of 5-8 supervisory teams	Same as program director	Same as program director/senior nurse
Individual services supervisors	Supervision of sickness care, maternal care, child care, etc.	Mid-level management skills  Advanced medical skills and some public health knowledge	MD with mid-level management training (certificate)
Surveillance program supervisor	Supervision of surveillance programs	Mid-level management skills  Mid-level public health skills	Senior nurse with mid-level management training (certificate)
Safe water program supervisor	Supervision of safe water program	Mid-level management skills  Training in water safety	Environmental engineer with mid-level management training (certificate)
Safe latrine and waste disposal program supervisor	Supervision of safe latrine and waste disposal program	Mid-level management skills  Training in latrine and waste disposal problems	Environmental engineer with mid-level management training (certificate)
Health Education program supervisor	Supervision of health education program	Mid-level management skills  Training in health education	Health education (MPH) with mid-level management training (certificate)

Figure 9

1. Phase I - Upgrading Management Capacity

a. Introduction

A consistent problem encountered in all agencies within the health sector and within all divisions of the MOH is the lack of trained human resources to manage programs, the lack of good training skills among teachers and program supervisors, and an inability to introduce change.

The characteristic response of many developing countries is to use funds from external sources to send as many managers, trainers, and other key personnel as possible to overseas institutions for advanced training. These are usually Master's degree programs that take one-two years to complete. This type of training is unsuited to the needs of the Honduran Health System at this time because of the following reasons:

- Given the current state of political change in Honduras, one to two years is too long to be away from the country. Administrative personnel may change producing fluctuation in policies, programs, and administrative structures. The trainee may return to find an unfavorable environment not suited for the skills he/she has learned.

- Capable human resources are scarce in Honduras. To select some of the best people available and send them out of the country at a time of need for their services will deplete the capacity of the system even further.

- Long-term training works best when a long period of time is needed to produce a strong infrastructure -e.g., long-term capital construction, or increasing the numbers of physicians, nurses, etc. In Honduras, a well-developed infrastructure already exists within the health sector. The need is for immediate program implementation to allow the infrastructure to function effectively.

- Experience has shown that when people train overseas for long periods of time and receive advanced degrees, the value on their skills is considerably improved in the open market place. It is very common for someone to receive advanced training at government expense, return and work for a relatively short period of time in the sponsoring ministry or agency, and then leave for more lucrative positions in private industry.

b. Training of Trainers

For these reasons, we suggest that the Government of Honduras and USAID consider a "roll-over" strategy involving the

development of trainers in planning, management, training, and leadership skills, utilizing short-term, intensive training courses at sites outside of Honduras for periods of 6-8 weeks, depending on the need. The basic goal is to create a core group of dedicated personnel, skilled in management, training, and leadership, within each major division of the MOH and other appropriate institutions in other areas of the health sector (UNAH, SANAA, IHSS) who can return to Honduras and train others in their division, students, regional offices, etc. in these skills. Thus a transfer of skills will occur from the overseas training institution to the host country institutions, who will then "roll-over" or transfer these skills to people working within the health system.

Charts 1, 2 and 3 outline the knowledge, skill, attitude, and behavior objectives of this strategy. Experience has shown that this training of trainers is more intensive, and thus more effective, if done at a site (or sites) outside of Honduras where distractions from the job and family are minimized. The basic criteria for these short-term management training courses are:

- In Spanish, so language and comprehension barriers are eliminated.
- Intensive, so that large quantities of knowledge and skills are acquired in short period of time. Our experience has been that students away from their home for short periods of time often work 12-14 hours/day to make the most of the time available.
- Focuses on problems specific to Honduras. In such a short period of time, it is important to use case material based on Honduran problems, so as not to disipate the attention and energies of the participants and to make the training a practical step towards phase II implementation. This requires some knowledge of the Honduran Health Sector, its problems, and the overall constraints. Experience from other countries can prove helpful when its focuses on a similar set of problems faced by Hondurans, so the training institution should have people available with experience acquired in other countries but pertinent to Honduras.
- Provides capacity of participants to replicate, or "roll-over" these courses in Honduras.
- The course should be capable of evaluation, using a pre-post-test format for participants on the knowledge, skills, attitudes, and behaviors outlined in the Charts.
- Uses training "modules" to allow for advacing levels of capabilities of participants and flexibility of course structure for the needs of different departments.

CHART 1

Training Objectives for  
Senior Ministry Officials of the  
Rank of Director and Above

Knowledge Objectives

- Understand formulation, implementation and evaluation of policy
- Understand environmental analysis, generating, evaluating, and choosing among alternatives.
- Understand the process of converting policy into specific tasks and targets for any given organization structure and responsibilities
- Understand the development and use of feedback
- Understand the design and implementation of organization change
- Understand human behavior in organizations

Skill Objectives

- Know how to develop and implement a management control system
- Know how to design and implement a management information system and reporting among alternatives
- Know how to prepare or evaluate a project proposal, say for giving a motorcycle to each vaccinator/promotor
- Know how to prepare and update a manual of instructions for a job or for a specific task at the hospital/basic health center
- Know how to handle the personal and organizational problems associated with change

Attitude Objectives

- Feel that the field personnel should be helped and motivated to achieve organizational objectives'
- Feel that the policy makers would improve performance by using analytical data and experience
- Feel that they play a crucial backstage role by being in the middle and helping policy makers and action personnel understand each other's problems
- Feel that they need to know first hand the field problems as well as the dilemmas of the policy makers and use this knowledge to achieve the ends of policy.

Job Behavior Objectives

- Obtain complete and accurate data promptly on pre-specified periodic reports. Identify, analyze deviations and suggest corrective action both upwards and downwards.
- Handle at least 80 to 90 percent of the cases of transfers, promotion, property maintenance and logistics requests, through pre-specific rules, procedures and budgets.
- Reduce exceptions to the bare minimum by communicating effectively and gaining acceptance in advance for the policies, procedures and methods. Consistent, equitable and humane enforcement of explicit rules, procedures' exceptions would enhance all round confidence and reduce exceptions.
- Develop the confidence of both the policy makers and the field personnel through his integrity in using his middle position to the ends of public policy.

CHART 2

Training Objectives for  
Doctors and Other Senior Professionals  
Holding Responsible Administrative Positions

Knowledge Objectives

- Understand concepts of motivation and leadership
- Understand the processes of human behavior in organizations (McGregor, Lawrence & Lorsch) and organizational climate
- Understand Environmental Analysis, Assessment of Community Needs and Formulation and Implementation of Policy
- Understand the Ministry policies regarding accounting, audit, purchase, personnel and property

Skill Objectives

- Know how to use effectively the administrative and other professional staff within the policies and procedures of the Ministry
- Know the importance of reporting systems for proper policy formulation
- Know how to motivate, evaluate and supervise personnel with different professional background.
- Know some elements of office management, inventory and accounting

Attitude Objectives

- Feel that he is a leader and manager and can direct, influence and control all the staff towards desired objectives.
- Feel that the Ministry officials need to be apprised of field problems and unique aspects of each unit so that proper policies and exception procedures are evolved
- Feel that they are public servants primarily at the service of the poor and the needy
- Feel that they are professionals and dependent on the effective working of other professionals - nursing, pharmacy, sanitarians, etc.

Job Behavior Objectives

- Give effective management direction and effective\* time each day to the hospital and basic health centers
- Supervise, direct and control all aspects of the health services including buildings, medical equipment, inventory, quality of service, personnel motivation and morale.

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\*The word effective is used here to differentiate it from actual time spent.

CHART 3

Training Objectives  
for  
Line Personnel

Knowledge Objectives

- Understand their role as a change agent
- Understand the concept of participative management
- Understand importance of information and reporting systems
- Understand the role of personal motivation in job achievement

Skill Objectives

- Know how to maintain records and register properly
- Know how to communicate with the clients and influence them
- Know how to plan their activities
- Know how to set goals for themselves in terms of quality and quantity of services

Attitude Objectives

- Feel a sense of pride in being a change agent in the society
- Feel responsible for achieving the targets set for themselves
- Feel responsible for the facilities and equipments provided by the Ministry

Job Behavior Objectives

- Maintain clean premises at the health center
- Send timely and accurate reports
- Enlist the active support and cooperation of community leaders
- Function actively to achieve the stated targets

c. Management Training Curriculum

A training module is a package of training information that includes the following components:

- a carefully planned curriculum based on a task analysis of actual job functions and training by objectives so that, for common workers, training program participants receive the same knowledge, skills, attitudes and subsequent behavior. This requires a knowledge of the Honduras Health System.
- besides the common skills taught to all participants at the same level it provides for "sub-modules" or sub-curricula so that each department or agency can develop special skills that are tailor-made for their particular needs. This requires that participants use the actual problems and case material from their job. This is often an excellent time to "work through" some particularly difficult problems that heretofore were significant obstacles.
- develop a teaching guide for each participant so that they can return to their country and give similar training courses to others. In other words, it should be capable of replication, not too complex, and the participants should learn with actual training materials.
- provides for evaluation to assure that behavioral objectives are met.

A module will be developed for a particular set of tasks, and the overall course for each group of participants will consist of multiple modules linked together to suit the particular needs of the participants. Figure 10 outlines a suggested set of modules for the major job functions of management, training, and leadership.

The management modules are designed to meet the objectives outlined in Charts 1, 2 and 3. The training modules are designed to prepare people "roll-over" or transfer these skills to their institution and the people who work in them. The leadership module prepares people to be change agents within their institutions by teaching the dynamics of group process in a supervised manner. All too often, when people receive new skills outside of a country they meet with unexpected resistance to the new methods or skills that they now want to use. This can be a frustrating and depressing experience for participants and is one of the main reasons so many people leave public ministries after acquiring additional training, thus defeating the overall purpose of the training. The leadership module is designed to make the management training effective.

SUGGESTED MODULES TO STRENGTHEN MANAGEMENT  
CAPACITY OF BASIC HEALTH SERVICES SYSTEM OF HONDURAS

LEVEL	MODULE SUBJECT AREAS		
	Management	Training	Leadership
I - Basic	Needs Assessment Problem Analysis Develop goals and Objectives Resource Analysis Priority Setting	Basic Interpersonal Communications How to Prepare and Use Training Materials Basic Pedagogy	Group Process Interaction Community Development Theory Change Agent Techniques
II - Advanced	Management Control Systems Evaluation Information Systems Analysis Cost-Benefit Analysis	Planning of Training - task analysis - training by objectives - development of learning activities - sequencing - training materials - student evaluation - staff development - recruitment and selection - start-up operations - non-formal staff development - staff methods - job instruction training	
III - Special Skills	Logistics Financial Analysis etc.	Training Program Operations - training environment - teacher supervision - testing - counselling Support of the Graduate Evaluation	

Figure 10

d. Strategy for Implementation

A strategy for implementation of this management training program would be to identify 4-6 key people in each major division of the MOH and in those institutions with profound impact on the health sector (such as the UNAH and CONSUPLANE) and send them to the institution(s) selected for training in sequential fashion in the first year according to priorities set by the MOH, CONSUPLANE, and AID. The type of modules grouped together for any one course would depend on the needs of the participants.

For example, suppose a priority need exists to improve the logistics and supply system within the MOH. A management training course for this group of people would have the following structure:

EXAMPLE:

Objective: improve capacity of MOH to supply pharmaceuticals to Basic Health Service Units.

Participants: 4-6 key people from administration and planning, such as compras, finance, chief warehouse, planner, etc.

Curriculum:

Management	Training	Leadership
I	I	I
II	II	* field visit
III - logistics special skills		
- procurement		
- storage		
- distribution		
- use		

\* This type of training is considerably reinforced by an observation trip immediately after to site or sites that use the special skills learned. If available, the teacher should go along. This is also a good strategy to extend available resources by combining two types of training strategies.

Evaluation: Pre-post-test format of participants; successful implementation of logistics seminars in host country.

EXAMPLE:

Objective: Strengthen management training capacity and pedagogical techniques within the UNAH to develop health profession students better prepared to work in rural areas.

Participants: 4-6 key personnel from departments associated with primary health care, e.g., the Dean of the Medical Faculty, director of nursing, preventive medicine, pediatrics, medicine, etc.

Curriculum:

Management	Training	Leadership
I	I	I
II	II	field visit to universities with successful rural health training programs
	III - Special Skills How to operate a successful training program	

Evaluation: Pre-post-course evaluation of knowledge and attitudes. On site evaluation of practices  
Successful implementation of services and courses on improved training skills and management, for students and other health professionals.

Other courses can be developed to fit the needs of the participants. Each module is one week. The first three days will be spent in formal training using group discussions, seminars, lectures, film-strips, and sample case presentations. The last two days of each module could be spent in preparing case studies from material brought by the participants. The separate training report will identify participants from each analytical area, budgets, and institutions capable of providing this training. We only present here a strategy designed to increase management capacity of the health sector in a short period of time.

2. Phase II - Years 2-5

Activities in this phase are related to implementation. By this time overseas trainees have returned. They should not be involved in time-consuming educational advancement during initial stages of implementation. Implementation will begin in the various management sub-systems depending on the priority sequence established earlier. (e.g., if logistics is determined to be the highest priority and these people receive the first training, implementation proceeds immediately after) Phase II activities should have the following components:

a. Provide technical assistance to the health sector as outlined in each analysis and as agreed upon the MOH, CONSUPLANE and USAID. Arrival of technical assistance should correspond with the priority sequence already established. We suggest a contract team rather than individual, separate personal service contracts to give coordinated efforts in implementation of all management sub-systems. A complex set of interrelated activities needs to proceed in parallel for successful implementation. A team approach is best suited to these needs. Based on the analyses completed so far, the most appropriate set of skills needed to assist the Ministry implement their programs would be found in a team composed of the following types of people:

1. Health Planner - an MD, MPH with substantial experience in planning and implementation of national level basic health services programs in developing countries. He would provide technical skills in many of the program areas, such as communicable disease control and primary care, as well as skills in the planning → implementation → evaluation cycle, and would function as the Chief-of-Party.

2. Public Health Administration Adviser - An adviser with a master's or doctorate in administration or public health with substantial experience in managing public health programs in developing countries. The primary function will be to assist the Ministry establish administrative control systems in budget, finance, personnel management, supervision, and information.

3. Human Resources Development Specialist - An adviser with a doctorate in education, public health or medicine with substantial experience in training health workers at all levels, from community personnel to graduate medical students. The primary functions will be to assist the Division of Human Resources to upgrade its capacity to respond to the expanded role presented earlier, and to assist in the coordination of training programs in other institutions, such as the UNAH.

4. Logistics Specialist - A person with a master's degree in management or administration and substantial experience in developing and implementing national level public health logistics and supply systems in developing countries. The primary function of this adviser would be to assist the Dirección de Administración consolidate and strengthen their logistics and supplies system to provide a steady flow of drugs, materials, and equipment through the system.

This team represents the minimum set of skills needed to implement the strategy presented here. If expanded resources are available, additional advisers could be added in specific program areas such as communicable disease control, or maintenance. If resources are restricted, sufficient resources for short-term

technical assistance in these program areas should be set aside.

Contracting procedures should start immediately after signing the Project Agreement, so that the technical assistance team can be on the ground in Honduras, settled in and ready to work in time for the return of participant trainees from their overseas experience.

- b. Involve host-country managers at all levels in the development of management support systems. Attention must be paid to development of systems at Central, Regional, area, and local levels, and they must be linked together to provide a smooth flow of services and information. A great deal of field work needs to be done during this stage, so donor agencies should consider the appropriateness of providing incentives for field travel, such as viatics, to host country personnel.
- c. Set up the Programming and Training and Evaluation units in the División de Atención de las Personas. Technical assistance will be most useful during this stage. After central team functioning begin training for regional teams.
- d. Do the detailed design for the public health programs that will be implemented, according to priorities set by the government. It is important to understand that intensive programs are implemented after support systems have begun implementation. It is best to wait a year to assured continued support to and function of a particular program rather than start off with a razzle-dazzle campaign that fizzles out in a short period of time.
- e. Implement effective evaluation systems and provide mechanisms for periodic assessments. Adjust management systems and program services based on actual experience (see recommendation E below).

### 3. Phase III - After year 5

Continue improving management support systems and extending services to as yet unserved population groups. Continue evaluation. Start low priority public health programs if sufficient resources available.

E. Design a national sampling frame and do a national health survey as part of early phase II implementation. The sampling frame should be designed so that resampling at 2-3 year periods can provide longitudinal data on program effectiveness. At present there are too many deficiencies in the data available to place any reliable faith in it for planning purposes. All data available now relies on field reports that are admittedly inaccurate. Underreporting is normal. Independent confirmation of health service statistics would provide a sound data base for program evaluation.

The survey should be designed to elucidate information in all the basic health service areas, as well as socioeconomic and cultural data, including patterns of use of health services, both traditional and institutional. Technical assistance will be needed to design and implement this. If it is decided to have full-time technical assistance in planning and management, this could be a primary responsibility of this individual. Supplementation by short-term technical assistance for 2-3 months by a research statistician or demographer would be helpful in the initial stages to set up the sampling frame. The training and evaluation team of the División de Atención de las Personas would have primary responsibility for supervising the survey, i.e., training of interviewers and field personnel to ensure adequate completion of the sampling frame. Students on summer vacation from the health professions schools at the UNAH (medicine, nursing, nutrition, etc.) could be hired at a minimum wage to do the actual field interviews. These could be supplemented by Peace Corps volunteers if additional personnel are needed. If adequate pre-planning goes into the survey, it could be completed in six months time. This would provide valuable experience in rural health development to students and further the overall goals of this project.

Total inputs:

3 months technical assistance at \$8,000/month	= \$ 24,000
Salaries for 40 interviewers x 6 mo. (8 teams of 5-/team/region) at \$ 200/month	= \$ 48,000
Viaticos for 48 people x 120 working days (teams + supervision) at \$ 10/day	= \$ 57,600
Transportation for teams (estimate)	= \$ 20,000
Supplies, equipment (e.g. scales)	= \$ 10,000
Computer processing	= \$ 10,000
Miscellaneous	= \$ 10,000
	<hr/>
TOTALS	\$ 179,600

F. Investigate with the Government of Honduras the potential for increased incentives for community health personnel. The question always arises whether or not they should be paid directly. Most MOH's cannot support this added burden since payments of salaries come from host country sources. Since donor funds are usually readily available for training community health workers, the host MOH usually finds it more expedient to keep training more health workers using external funds as people retire from active function.

However, the question of additional incentives has not been adequately explored in Honduras. Two sources of generating direct revenue for health workers should be explored:

- a nationally fixed small fee for all services provided by community health workers.
- a fixed percentage mark-up on drugs that is kept by the health worker.

Both of these generate revenue, but tend to stimulate curative services at the expense of preventive services. Other more creative incentives require the active cooperation of the host government, but should be explored. To wit:

- exemption from military service
- tax exemptions
- free health care and drugs, possible inclusion in the IHSS system
- regular food supplements from supplementation programs

Some creative thinking should turn up more. The community health workers who have these benefits will be required to show evidence of continued service (i.e., submission of regular monthly reports) in order to continue receiving them. Theoretically, this should decrease the number of health workers retiring from the project, increase the number reporting activity, and stimulate both preventive and curative services.

G. Identify and assist Private Voluntary Agencies who have the program capacity to complement the "official" government programs and assist them in fulfilling the goals and objectives of this Programa de Extensión de La Cobertura. Some agencies have developed good experience in community organization in Honduras that may be most useful. Another PVO may have substantial experience in training health profession students in rural health development and could assist the UNAH. These agencies can be strengthened as part of this overall strategy to strengthen basic health services in Honduras.