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9. ABSTRACT

The American Public Health Association, under a contract with the Agency for International Development, has designed a program in public health improvement which is called the Development and Evaluation of Integrated Delivery Systems (DEIDS). The activity is designed to assist countries to demonstrate how to establish health delivery systems within seven years. Such projects include, but are not limited to, Maternal and Child Health and Family Planning and Nutrition. The projects are to cover large populations in predominantly rural areas. They are to utilize in-country resources for the service component, although external assistance organized by DEIDS is available for planning, evaluation, training, and limited amounts of essential equipment. It is expected that successful health delivery systems can be subsequently replicated in the country or in the region.

- These are phases through which DEIDS projects proceed:
- a) Phase I -- reconnaissance within a specific country or region, to gather information about disease patterns, health services as currently organized, local resources, cultural aspects, community involvement, the potential for integration of various parts of public health, opportunities for innovation, current and potential staffing, training, supervision, emphasis upon preventive services, outreach, cost, and evaluation
  - b) Phase II -- Detailed planning. This phase begins if the survey in Phase I recommends it, and involves experts from the host country as well as experts assigned by DEIDS.
  - c) Phase III -- Pilot Project Operations, which continue for as long as eight years.

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REPORT ON SELECTED ECONOMIC  
ASPECTS OF 1974 HEALTH PLAN  
(HONDURAS)

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A COST/BENEFIT ANALYSIS MODEL OF THE  
PROPOSED HONDURAN RURAL  
HEALTH PROGRAM

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## INTRODUCTION

The authors were retained by the American Public Health Association under contract to the Agency for International Development, to conduct a survey and analysis of certain features of the proposed rural health program for the Honduran Ministry of Health. The scope of the Mission was amended by AID twice during the term of the stay in Honduras; the first time when it appeared that the most useful contribution we could make would be to assist in revising the Ministry of Health's draft loan request which they were preparing for submission to the InterAmerican Development Bank; the second when it developed (in the third week of July) that the proposed document had not yet cleared CONSUPLANE (Consejo Superior de Planificación Económica), and that that body felt that its priorities could not be satisfied without the presentation of a cost-benefit study of the proposal and its relationship clarified to several other prominent proposals in the health field. We therefore, began work on construction of a preliminary cost-benefit model for the rural health program, with the idea that from this document it would become clear the kinds of expertise required to flesh out the model and to fill in the required empirical data and estimates necessary for a complete cost-benefit study. It should also serve as an introduction to this type of analysis to the Ministry of Health, and to assist them in orienting their thinking and data gathering toward the approach to be taken by them in conjunction with a team of experts to be furnished by AID and CONSUPLANE. <sup>1/</sup>

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<sup>1/</sup> It may prove useful to direct a request to IADB to furnish a member of the proposed team of experts, with an eye to assuring that the study will provide answers to all questions likely to be asked by the bank.

We believe that the model outlined here will be of assistance to the particular team charged with evaluating the rural health project, and may also provide a number of insights into the task of cost-benefit analysis in many other proposed health projects, in Honduras and elsewhere.

The addition to rural health services under consideration by the Honduran Ministry of Health consists of:

- 1 Regional Hospital of 500 beds
- 10 Limited Facility Treatment Centers (GLE's)
- 200 Rural Health Stations (CESAR's)

plus the required personnel and equipment. The intent of this program is to maximize limited health resources by placing heavy emphasis on auxiliares de enfermeria - girls from the countryside with an elementary education plus a year's special health training who will man each of the CESARS using very simple equipment and drugs. They will refer upward to the GLE's cases beyond their capacity and will provide maintenance care for patients discharged from GLE's or the regional/national hospitals. One of the three physicians from the supporting GLE will visit each CESAR once a week, providing advice, critical care, and clinical consultations. Patients will be asked to make minimum contributions toward the cost of care received at all levels. The majority of the construction cost of the CESARS and the salaries of the AYUDANTES (Health aides) are to be provided by the village association. The program obviously cannot offer a full range of services to all in the countryside; therefore, it is intended to concentrate offerings in four categories of services:

Maternal and Child Health (MCH)

Nutrition

Family Planning (FP)

Other (In which is covered first aid, certain government vertical programs such as mass vaccinations, etc.)

The outstanding features of this proposal - its emphasis upon use of paramedical personnel, offering a limited range of services in a complex of very limited facilities, and the participation of local communities in both capital and operating costs - indicate that it is surely a productive way to use the country's meager supply of health resources. The paper which follows will address the question of a framework by means of which several such proposals may be examined independently and collectively.

This study is an attempt to provide an organized approach to estimating the full cost of various kinds of services offered by the Rural Penetration Health Program and the benefits anticipated therefrom. The services selected grossly follow the program goals and their emphasis on the rural mother/child binomial. The target groups as generally indicated in the proposed rural health program are herein specified in more detail and techniques indicated for their measurement. Benefits are identified and means suggested for their quantification, as they accrue to the participating families, and separately, to the government agencies concerned.

During the development of this methodology, it became obvious that a number of issues will need clarification at the policy-making level. These necessary decisions, plus a clearer definition of some of the terminology, are prerequisites for the soundness of the finished product. To assist in these determinations, and in the implementation of the proposed program, a number of comments, policy questions, clarifications of terms, and recommendations are listed at the end of the methodology section of this report.

As is generally the case with existing health statistics and accounting, those statistical systems in current use at the Honduran Ministry of Health are not oriented toward an economic analysis. 1/ Consideration should be given to re-orientation and standardization of the statistical data collection system for purposes of program evaluation and setting of priorities. As a first approach, we would suggest the formation of a task force of national experts in the fields of medicine, obstetrics, pediatrics, public health, health economics and statistics. This task force would be able to provide sound estimates of the information indicated here as being necessary to render the proposed model operational. Assuming that the results of these first estimates are encouraging, the model could be refined and the data adapted to computer simulation techniques to arrive at more accurate projections.

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1/ NOTE: The following costs should be added to the recorded cost figures and apportioned according to category of service in order to arrive at a true economic cost:

- 1) Interest charges, even if imputed.
- 2) Depreciation allowances appropriate to life expectancy of facilities and equipment.
- 3) Central Administration costs allocated by function according to percentage of personnel time and/or special equipment and facilities requirements.

This model is organized by areas of Services:

- I. MCH
- II. Nutrition
- III. Family Planning
- IV. Other

Services are divided according to the following levels of care:

- CESAR (Centro de Salud Rural)
- CHE (Centro Hospitalario de Emergencia)
- Hospital Regional
- Hospital Nacional (Existing)

The MCH and Nutrition Programs have been divided at each facility level into:

- Prenatal Health
- Labor and Delivery
- Post-partum and neonatal care
- Infant and child health.

All the above material is presented under two headings:

- COSTS
- BENEFITS

COSTS

I. MCI

In the MCI program, as in each of the proposed project areas, it will be necessary to identify the target population, the probable incidence of relevant kinds of medical problems and the extent to which these can be addressed by the resources available. <sup>2/</sup>

Level: CESAR - Identification of patient shed (service area and population)

1. Prenatal Health (Through Labor and Delivery)

Identification of problems of pregnancy:

e.g: Nutrition	NI and ABO incompatibility
TB	Multiple births
VD	Abnormality of position and presentation
Diabetes	Placenta previa
Toxemia -	Pelvic inadequacies

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2/ Policy Questions:

Will the Auxiliar or the Ayudante attend normal births?  
If the Auxiliar, what % of the time will it shut up the CESAR?

There were close to 2,000 family records in one of the CESAR's visited (Villa San Francisco). Assuming 5 persons per family, the service population of the CESAR is 10,000 persons, of which about 2,000 are women of fertile age.

Assuming a (low) birth rate of 43/1000, we will have more than 1 birth per day.

Further assuming an average labor of 9 hours, 1/3 of which during working hours. If the Auxiliar leaves the facility to attend births, the CESAR will have to be idle for several hours per day, which increases the opportunity cost of the MCI program. This does not include cost of labor lost by patients waiting.

Data Needed:

- Ratio of abnormal/normal pregnancies
- Estimated extra time and facilities required associated with abnormal pregnancies.
- Cost of "Normal delivery kit" (specific components, number of kits).
- Proportions of complications:
  - handled at the CESAR (cost of special medication)
  - referred to CHB. (Cost to CHB; Time, resources).
- Estimates by experienced obstetricians of the likelihood of complications being detected by Auxiliar de Enfermería, by diagnosis, and costs associated with diagnosis: personnel time (traveling physician, auxiliar) and materials.
- Cost of record-keeping system at CESAR level, including training

2. Post-partum and Neonatal care:

- Estimated number of diagnosed cases of dehydration treated at CESAR

Cost: Time, equipment, materials.

- Percentage of cases referred

Cost: Time, equipment, materials.

- Infections: likelihood of identification by Auxiliar (estimate percentage)

Number of cases diagnosed:

Percentage handled at CESAR

Costs: (include kit for treatment of umbilical cord, and eyes) time, equipment, material,

lectures on hygiene and nutrition.

Percentage referred

Costs- Time, equipment, material.

-Birth defecas:

Rate- likelihood of identification by  
Auxiliar (estimate)

Number of cases diagnosed at CESAR

Costs: Time, equipment, material

Percentage referred.

Costs: Time, equipment, material.

-Estimated incidence of occasion for use of antibiotics.

Percentage of cases identified at CESAR.

Percentage of cases treated at CESAR.

Costs: Time, equipment, material.

Percentage of cases referred.

Costs: Time, equipment, material.

### 3. Infant and Child Health:

-Vaccination: DPT, Smallpox, Polio, TB,

a) Cost to CESAR of vertical vaccination programs per  
beneficiary in terms of percent of auxiliar's time.

b) Cost of possible ongoing routine vaccination in time,  
equipment, material

-Routine physical

By whom? Percentage of Auxiliar's time.

-Screening:

TB

- a) Cost to CESAR of vertical program per beneficiary in terms of percentage of Auxiliar's time.
- b) Projected cost of ongoing routine program in time, equipment, material.

Diabetes and Kidney disease

Percentage of Auxiliar's time and cost of material per case referred.

-Health Education

Percentage of Auxiliar's time

Number of people reached per auxiliar.

-Treatment of communicable diseases and infections, including diarrhea, dehydration.

Likelihood of identification by Auxiliar (estimate)

Number of cases treated at CESAR

Cost: Time, equipment, material

Percent referred.

Cost: Time, equipment, material.

-First AID:

Number of cases.

Cost: Time, equipment, material

-Maintenance of MCI cases discharged from higher levels of care

Costs: Time, equipment, material.

II. NUTRITION - Definition of specific services.<sup>3/</sup>

-Percent of physician time in nutrition

Cost of record-keeping system (incl. training)

1. CESAR model vegetable gardens:

Cost: Time, supplies, equipment for:

Initiating

Operating

Maintaining

Identify personnel and contributions:

Agriculture Department, Community:

Cost: Time, equipment, supplies (Agriculture Department)

Cost: Time, equipment, supplies (Local community)

2. Education:

Cost: Percentage Aux. time, equipment, material.

3. Treatment:

Likelihood of identification of malnutrition by the Auxiliar  
(estimate)

Number of cases handled at CESAR

Costs: percentage time, equipment, supplies.

Percentage of cases referred

Costs: Time, equipment, supplies.

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<sup>3/</sup> Vitamin Supplements: Costs per patient - Number of patients  
Incaparina or similar food supplement products:  
(Will these be available at the CESAR level?) Costs associated with  
local distribution per patient. Number of patients.

III. FAMILY PLANNING

1. Education

Number of women reached.

Cost: Percent time, materials.

2. Operation of Clinics

Cost: Percent phys. time, Percent Aux. time, supplies, materials (cost of local distribution)

Data Needed:

-Percent of women accepting family planning, by method, over total clients of fertile age.

-Average length of stay in the program.

-Attrition, by method.

-Failure rate by method.

-Number and percent of complications by method <sup>4/</sup> handled at CESAR level

Cost: Time, equipment, material

Percentage referred.

3. Follow-up programs - persons reached

Costs: Time, material

4. Record keeping costs, including training.

Cost: Time, equipment, material

4/ Methods may include: IUD, pill, condom, diaphragm, jelly, foam, voluntary sterilization, Rhythm, withdrawal. Complications could be:

Bleeding	}	IUD	Migraine	}	pill
Ejection, cervicitis			Weight gain		
			Phlebitis		

IV OTHER

1. Adult Medicine -

Maintenance:

Cost: Percent time, equipment, supplies.

2. First Aid

a) Handled at CESAR

Costs: Time, equipment, material

b) Referred

Costs: Time, equipment, material

Level: CHE

NOTE: All breakdowns apply to physician time at CHE and rotating through CESAR.

Data Needed:

· Definition of patient shed/service area.

· How many patients are expected to be provided which services?

· Define services clearly.

· Projection of number of particular diseases and conditions

with cost per person or per case (inpatient and out-patient)

by groups of services. (This global estimate will serve as

check after specific costs are developed).

I. NCI

1. Prenatal Health:

Normal pregnancy

Cost: Percent phys. time, equipment, supplies by outpatient

and inpatient care.

Complications of pregnancy - Number and ratio of abnormal/  
normal pregnancies.

Estimated extra time and facilities required by each  
abnormal pregnancy.

Physician time required by abnormal deliveries.

At CESAR

At CIE

2. Newborn care-

Number and percent of newborn cases treated at

CESAR

CIE    outpatient  
      inpatient

(See CESAR section for suggested  
breakdown.)

3. Infant and Child Health.

Number and percent of cases attended by physician.

Percent of physician time at

CESAR

CIE    outpatient  
      inpatient

(See CESAR section for suggested  
breakdown)

4. Maintenance of cases referred down from the Regional Hospital.

Percent of phys. time per case at

CESAR

CIE    Outpatient  
      Inpatient

NOTE: Throughout VCI categories, estimate number and percent of cases  
referred up to Regional Hospital.

5. Emergencies - Percent of phys. time.

II. NUTRITION

Number and percent of malnutrition cases identified and treated by physician at

Percent phys. time	CESAR		(See CESAR breakdown for possible additional physician time spent on nutrition.)
	CIE	outpatient inpatient	

III. FAMILY PLANNING

1. Operation of clinics - Percent physician time at

CESAR

CIE

Data needed:

-Number of patients accepting FP over total CIE service area population of fertile age.

-Number of complications by method.

Percentage of physician time at

CESAR

CIE outpatient  
inpatient

IV. OTHER

1. Adult medicine.

Data Needed:

Percent of physician time by outpatient/inpatient by diagnostic groups.

Percent of physician time on maintenance activities.

Percent of physician time on surgery.

Percent of physician time on emergencies.

NOTE: Repeat this breakdown for percent allocation of time for:  
RN's, Auxiliares, X-Ray technician, laboratory technician, Anesthesia  
Technician, drug dispenser, ayudantes, support personnel (including  
kitchen, laundry, drivers, maintenance) and administration (secretary,  
file clerks, records librarian, etc . Also see footnote p.4.)

SEE FOOTNOTE P. 1

Level: Hospital Regional

NOTE: Follow the same outline as for CIE, adding and allocating those functions  
that are specific of Regional Hospitals, such as:

-definition of services to be offered at the Regional Hospital specially  
insofar as they differ from those at the CIE and CESAR.

-Teaching

-Specialty Consultation.

-Extended laboratory services

-Special and/or expensive equipment ,,See footnote page 4.)

Level: Hospital Nacional

NOTE: The creation of the proposed multi-level addition to health services  
will have some limited effect on the costs and benefits at the national  
level. A summary explanation should be included of the direction and  
magnitude of this effect.

### BENEFITS

NOTE: It is expected that global benefits such as: extension of life expectancy, reduction of overall mortality, reduction of population growth, etc. will be derived from the implementation of each one of the programs analyzed. However, as in most cases statistically significant differences will probably not show until very late in the program, it is well to select some intermediate measures that may be assumed by experience to indicate progress towards the major goals. <sup>5/</sup>

Some of these intermediate measures are suggested below.

Measurable goals:

- 1) To reduce cause-specific mortality rates for selected causes.
- 2) To reduce cause-specific morbidity rates for selected causes.
- 3) To save personal and social expenditures through the offering of a voluntary family planning program thus making possible an improvement in the dependency ratio of the population.
- 4) To arrive at a healthier and more productive work force through reduction of childhood malnutrition.

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<sup>5/</sup> Further suggestions for such intermediate measures of progress may be found in: Davis, Jim E., Cost Effectiveness in the Feeds Proposals (unpublished paper). For copies, address: Amer. Public Health Association, 1015 18th St. N.W., Washington, D.C. 20036

Means of measuring or approximating progress towards the foregoing goals, will be outlined below.

## I. II-MCH/NUTRITION

NOTE: The chief benefit of the MCH/Nutrition program is savings of rural family resources which otherwise would be used on children who would either die (by age group) or come to productive age at a reduced health efficiency.

### 1. Prenatal care

#### Maternal Health

##### Data Needed:

- a) Median cash family income in rural areas
- b) Non-market imputed income (% of a)
- c) a + b total median rural economic contribution per family.
  - percent allocation of c) to father, mother and children.
  - Estimate % disability or reduced efficiency resulting from complications of pregnancy.

Example: On a 54/1000 rural birth rate and if 20% of the total rural population are women in the fertile age group, in any one year 27% of all fertile women would produce a live birth. Of this 27%, estimate the proportion of complications of pregnancy and dietary deficiencies resulting in reduced efficiency of the mother. Apply the % reduced efficiency to the mother's percentage contribution to the total median rural economic contribution per family.

-Estimate: Number and percent of pregnancies that don't reach term, plus stillbirths 6/, 7/

- 
- 6/ In some cases, as reported in Uruguay, the % of pregnancies not carried to term may exceed 100% of live births).
- 7/ According to A. Donwitz and M. Burke: "Health, Population and Development" in Population Dilemma in Latin America, ed. by J.A. Stykos, Potomac Books, Inc., Washington, D.C. 1966, p. 154, 45% of all deaths in Honduras occur before age 5 (data from Approx. 1961).

- Estimate percentage of interrupted pregnancies or stillbirths resulting in reduced efficiency of the mother - Add this percent reduced efficiency to above.

## 2. Child Health

### Data Needed:

- Fetal death rate in the target area.
- Prenatal death rate
- A full estimate of death rate by age group 1-14 by single years and 0-1 yrs further broken down.
- Percentage of disabling morbidity with sequelae beyond age 15.
- Estimate percentage of total family resources spent per year per child (say, 5-10%).

### Example:

If the median age of death under age 15 is, say, 3 years in terms of the benefits associated with reduction in mortality from all causes brought about by the MGI program, this saving of family resources should be assigned a cash value and listed as a benefit.

In addition, those children brought through the 0-15 age group into the productive years by the MGI program could be expected to have an average wage and earning period which will account for a second significant addition to family resources.

- Benefits to the government are derived from estimates of taxes paid by a productive worker.

NOTE:

In measuring benefits derived from reduction of morbidity, no market value to the family is assigned, for the purposes of this model, to reducing childhood morbidity. With regard to savings to the government, a calculation can be made of:

- a) Total expenditures on medical programs addressed to this age group,
- b) The proportion of this age group benefited by the program.

An estimate can <sup>thus</sup> be made of the anticipated reduction in morbidity in this age group, which obviates further government health expenditures.

III. FAMILY PLANNING

The proposed inclusion of this voluntary program of family planning education and services is expected to yield benefits under the following categories:

- 1) Savings to the family
  - a) Savings from births avoided:

We must assume, that in the absence of a quantum improvement in present health conditions, a measurable percentage of all pregnancies will terminate in either abortion, still-birth or death before the child reaches a productive age. These percentages can be derived from existing age group mortality statistics.

Estimates needed:

- Size of the target population (fertile women in the target area)
- Percentage reached in the program time span.
- Percentage accepting program
- Percentage attrition among FP acceptors.
- Percentage failures among FP acceptors.

These percentages can be applied to the birth rate in the rural areas, thus yielding the number of births to be avoided as a result of this program.

Those family resources not expended on these births are very important at the margin for potential savings. Obviously, the family could get along without these savings, since it would have had to, had the births occurred. This money, then, becomes discretionary and available for savings or investments. The magnitude of this sum can be estimated in a very summary and conservative fashion by assuming that the families participating in the voluntary family planning program can avoid an average of, say, 3 births over a 10 year period of participation. If these children had cost 5% of the family income each per year, for a median survival period of 3 years, this represents a sum equivalent to 45% of the participating family's income for one year, which would become discretionary income during the decade. These savings can be time-phased and/or discounted to present value to arrive at their impact on investments.

The foregoing assumption of 3 births avoided over a decade of participation in the program, is about equal to the reported live birth rate. This estimate of avoidable births is, in fact, conservative when considering that miscarriages, stillbirths and deaths during the first 24 hours of life are absent from the statistics. In addition, the present situation, in which 85% of births are unattended by health personnel, almost surely gives another downward bias to the reported birth rate.

A second area of potential savings to the participating family arises from the improved health and efficiency of the mother who has not undergone a number of pregnancies on behalf of children who do not survive to maturity.

- b) Savings associated with material morbidity and mortality avoided by the family planning acceptor.

Data needed:

- Percent loss of working efficiency during normal pregnancies that would be avoided through participation in the program.
- Ratio of abnormal/normal pregnancies.
- Estimated loss of maternal working efficiency arising from complications of pregnancy and delivery that would be avoided through participation in the program.
- Average net economic contribution of the mother to the total median rural family income per year.
- Estimated average remaining productive years to mothers dying from complications of pregnancy or delivery.
- Estimated incidence of permanent disability resulting from complications of pregnancy and delivery.
- Percent loss of maternal working efficiency resulting from permanent disability due to complications of pregnancy and delivery.

Examples of permanent disabilities may include: varicose veins, phlebitis, lacerations resulting in incontinence, cardiac stress, hypertension, kidney and liver damage, etc.

- 2) Savings to the government arising from participation by a portion of the target population in a voluntary family planning program.

Data needed:

- Number of women of fertile age in the target area.
- Pre-project birth rate in the target area.
- Percentage of family planning acceptors by year over the project life.
- Percentage of attrition among FP acceptors.
- Percentage of failure among FP acceptors.
- Refer to the calculations above of the number of births to be avoided in the section on savings to the family. This information can be used as a basis for projecting the potential reduction in the growth rate of demand for various government services.

NOTE:

The major agencies of government each spend identifiable sums in the target area. These sums must be apportioned, insofar as possible, by age group of the beneficiaries. The projected growth in population in the target area can be reduced by the estimated number of births to be avoided. Thus number of births avoided multiplied by the projected per capita/age group, expenditure by each agency will yield the cash value of the potential savings to the government to be derived from the program. These savings can be time-phased, discounted to present value, and/or subjected to multiplier analysis to yield a full exposition of potential benefits to the government. It should be pointed out that increments to population which worsen the dependency ratio usually occasion more than proportional increases in government spending.

Data Needed:

- Major expenditures in the target area by government agencies.
- Age distribution of the target population.
- Age breakdown of beneficiaries, if available.
- Projected growth rate of the population under present conditions over, say, 20 years.
- Amount by which expenditures on major government services will be obliged to increase to meet projected population growth, over that period.
- Projected reduction in the preceding population increment, which may result from the family planning program.
- Amount by which the reduction in the population growth rate can reduce the growth in government expenditures required by a population expanding at the present rate.
- Cost of the family planning element of the Rural Health Program.

Example:

In a total population of 3 million of which approximately 70% is rural, we assume the target area to amount to about 20% of the rural population, thus arriving at a target population of 420,000 persons at year "zero" (1974).

Despite the announced high priority of the government on behalf of rural areas, we conservatively assume that, the, total rural population will receive no more than 50% of the government, expenditures.

If the population growth continues at the present rate, the target population will more than double in 20 years time.

If a voluntary family planning program could reasonably be expected to effect a 20% reduction of this high growth rate by the end of the period, (i.e. approximately a 12% average reduction over the period) that will be reflected in a 12% reduction in the increase of projected government expenditures in the target area.

#### IV. Other - Adult health

Benefits arising from the services to adults proposed in the project fall mainly under two categories.

1. Savings of workdays lost because of
  - a. Morbidity
  - b. Mortality
2. Increased efficiency of jobholders because of alleviation of chronic conditions.

#### Data Needed:

- Age and sex distribution of the target population.
- Cause-specific morbidity and mortality rates for selected causes, including acute diseases, chronic conditions and accidents.

COMMENTS AND QUESTIONS

- None of the numbers used in the body of the report above are more than hypothetical. All such numbers, and even the relationships pointed out here, should be subjected to validation by local experts and field evaluation.
- How many patients are expected to be provided with each service percent?
- Define services clearly at every level.
- Projection of particular diseases with cost per person or per case in inpatient and outpatient.
- Maps showing specific geographic and population distribution of proposed CESAR, CIE.
- Are all the CESAR's and CIE's in the BJD proposal within the service area of the proposed Hospital Regional? Question of overlap or undercoverage due to roads, transportation, etc.
- How are the above related to the 500 new asentamientos campesinos?
- Re: Model Gardens (attached to CESAR) - who (what institution) will be responsible for agricultural advise?  
How will the produce be distributed?
- Will there be a kitchen in each CIE?
- Detailed description of training curriculum and length of training of auxiliares and ayudantes, including, entrance requirements.
- Definitive staffing patterns, number of beds, services, equipment per C
- Will physicians actually write patient records?
- Will there be established mechanism for referrals up - and down?
- Is there to be a post-partum ward in each CIE?
- Will there be a FP component of post-partum care?
- Are there resources for ongoing or periodic adult vaccination programs?  
Goals and costs of vertical vaccination programs, projected costs of ongoing program.
- Policy question: Is the auxiliar to be charged with dispensing family planning drugs and supplies? If not, the availability of these items only during physicians visits to CESAR will very much retard the implementation of the program.

- The proposed exclusion of the breadwinner from most of these services has the result of significantly reducing the possible savings from work days lost through morbidity and mortality. A policy decision should be made on this point.
- Experience has shown that when a program begins with incomplete baseline data; as the process of measurement begins, almost all of the morbidity, mortality, and birth rates may be expected to increase as a function of improved measuring. For this reason, the authors feel that a minimum of 6 months data on target rates should be assembled before even preliminary attempts are made to measure progress in the program.
- In this analysis we are not attempting to fix an economic value to the psychological aspects of improved health status. It is not implied that this value is "zero". In assessing the desirability of proposed projects. Policymakers should not omit giving some consideration to this value.
- An accurate determination of death rates by age group is essential to the derivation of valid economic benefits.
- In the benefits of the MCH program, we have omitted any calculation of potential savings to the government which would have been attributable to such a program because children aided by it were prevented from dying before reaching productive age.
- The derivation of benefits and savings to be obtained from births avoided in a family planning program is not inconsistent with the concept of savings from deaths avoided. The reason for this is that we make the socially accepted assumption that once a live birth has occurred, the concept of the child as an asset is irreversible.
- The onset of productive age is defined, for the purposes of this report, as age 15, based on national labor statistics.
- It is conceivable that, depending upon the availabilities of capital and of good arable land 20 years hence, births now avoided in a family planning program might become workers productively employed. The problem here is that population in any case will continue to increase pressure on the land, with or without a family planning program, and that it is very difficult to visualize how required capital resources will be generated in the interim.
- As an incentive for recruiting and maintaining qualified personnel in isolated areas, the Ministerio de Salud Pública may consider geographic salary differentials.
- Clarify the role of the physician re: normal pregnancy & delivery:
- The task force charged with further developing the cost/benefit methodology should include at least one auxiliary currently practicing in a rural area.
- This model has made no estimates nor allocation of savings to the family in waiting and travel-time arising from the placing of health facilities nearer the residence of the target population.

-While the income of the rural population is very low, they are presently paying extremely low percentages of the total cost of inpatient and outpatient services. The patients in this context cannot be expected to absorb the whole cost of the services, but it is our feeling that these percentages should be substantially increased. The results of this would be:

- a) To provide more resources available to the system and therefore make more/better health services available.
- b) To probably increase the present low level of utilization of facilities. Studies have indicated that essentially-free services tend to be underutilized.
- c) To elevate the standing of the patient in the eyes of the provider of health services. We further suggest that the accounting of these fees be made responsive and uniform throughout the system.

-Cost of materials should include allowance for outdated as well as consumed drugs and materials.

-It is suggested that a simple system of inventory control be established at the CESAR level in order to assure

- a) accountability
- b) uninterrupted availability .

-In the proposed staff complement of 3 physicians per CHE, it would be very difficult for these doctors to make more than a token appearance at the proportional number (20) CESAR's each week. The staffing levels should be reviewed accordingly.

-All institutions in the public health subsector (incl. Ministerio, PANI, Junta Nacional de Bienestar Social, SANAA, Instituto Hondureño de Seguridad Social, Consejo Nacional de Alimentación y Nutrición, etc) should be considered as forming a potential resource pool. It is fundamental that a policy statement be issued at the highest government level and that the affected institutions negotiate ways and means of sharing funds for specific programs.

-It would be desirable to obtain the passage of legislation or administrative action to make salaries in the public health delivery field competitive with the private subsector.

-There are several incipient and localized movements to streamline the fiscal and administrative processes of health facilities. There is an urgent need for the adoption of common minimum reporting standards throughout the public health institutions in the country.

-Baseline statistics are unreliable. Two actions are suggested:

- a) long-term: Negotiate the inclusion of more basic health and economic data in the next national census.
- b) Short-term: Pilot surveys based on limited sampling (Peace Corps could help train and use university students during vacation time).

- Adoption of more realistic cost accounting throughout health institutions.
- Creation and continuous support (including training, salary structure and evaluation) of a maintenance corps easily accessible by the whole health system. Considerable long-term economies could be effected by increasing the maintenance budget.
- Develop greater awareness of economic principles among leaders in the health field. Short courses in health economics could be offered in conjunction with PAHO "administration and planning" courses. The health economics courses should be practical in nature and relate to actual national experiences.
- More on statistics: It seems worthwhile the consensual development of a glossary to be applied to health events or the specific adoption of international definitions. Spot-checks by the Ministerio on consistency of terminology.  
eg: "live birth" "hospital admission", etc.
- Perhaps simultaneously or shortly after the health economics courses, there could be periodic financial evaluations of projects and annual budgetary analyses of the institutions in the health field.
- The development of a simulation model could serve as a spur for the improvement of documentation and/or the establishment of solid criteria for the development of baseline data.

The following is a partial list of officials interviewed, some repeatedly, over the course of the Mission.

AID

- |   |   |
|---|---|
| 1. Anthony J. Cauterucci<br>Multi-Sector Division | 5. Henry W. Reynolds<br>Education Advisor |
| 2. Barbara Sandoval<br>Public Health Advisor      | 6. B. Schouten<br>Nutrition               |
| 3. Edward Marasciulo<br>Mission Director          |   |
| 4. Ron Curtis<br>Agriculture Economist            |   |

MINISTRY OF HEALTH

- |  |                                 |
|--|---------------------------------|
| 1. Dr. Enrique Aguilar Paz<br>Minister     | 4. Areli Paz<br>Biostatistician |
| 2. Dr. Rigoberto Alvarado<br>Vice-Minister |                                 |
| 3. Dr. Hilton Trochez<br>Chief of Planning |                                 |

NATIONAL PLANNING COUNCIL

1. Lic. Manlio Martinez  
Exec. Secretary, CONSUPLANE
2. Lic. Ruben Clare Andino  
Health Sector Chief
3. Lic. Alberto Equiguren  
General Programmer

PAHO

1. Dr. Carlos Pettigiani  
Health Planner
2. Dr. Alfredo Gerald  
CI of LA Bureau

BID

1. Sr. Arturo Pino Navarro, Director

Peace Corps

1. Ethan Van Eck  
Director, P.C

July 5, 1974

REPORT ON SELECTED ECONOMIC ASPECTS OF 1974 HONDURAS HEALTH PLAN

A. Peter Ruderman, PhD  
Professor of Health Administration  
School of Hygiene, University of Toronto

I was recruited through the American Public Health Association, and my specific terms of reference were to analyze the proposed health plan of the Republic of Honduras (Plan Decenal de Salud 1970-1980) in terms of the validity of (1) the financing of all operational costs by user fees, (2) the use of unpaid volunteers to staff health posts, and (3) the problem of the demand for hospital services likely to be generated by increasing the availability of front-line out-patient services at the local level in rural areas.

Situation on arrival.

On arriving in Honduras on June 24, 1974, I received preliminary briefing from AID personnel, including Barbara Sandoval, Public Health Advisor, Anthony Cauterucci, Multi-Sector Officer, Edward Marasciulo, Mission Director and Dr. Joe Davis of the TAB Office of Health in Washington.

I subsequently had the opportunity to discuss various aspects of the health plan with Dr. Enrique Aguilar Paz, Minister of Health, Dr. Hilton Tróchez, Chief of Planning, Licenciado Rubén Clare Andino, Health Sector Officer in the National Planning Council, Dr. Jaime Alvarez Zamora, PNUD Representative in Honduras, Dr. Carlos Pettigiani, PNUD Advisor in Maternal and Child Health, and Mr. Arturo Pino Navarro, Representative of the Inter-American Development Bank in Honduras.

By the time I arrived, some changes in the published plan documents had occurred. My general impression is that the national planners had been "learning by doing" and had become somewhat more realistic in the process. Even the most recent plan documents available, dated 1974, had already been superseded in some respects. In particular, experience had led the health authorities to abandon principal reliance on volunteers to staff health posts, and budgetary provision for the salary of a nursing auxiliary in each post was to be made. Volunteers might be used as short-term helpers in some cases, but principal reliance was to be placed on salaried personnel. This disposed of item 2 of the terms of reference of my assignment.

As concerns the financing of operational costs by user fees, there was clear recognition by the national planners that some communities and individuals did not have the money to pay for health services, and that partial rather than complete reliance would be placed on user fees at the local level. Hard estimates of the relative portion of operating costs to be financed from user fees, however, were not available.

The problem of generated demand for hospital services arising from extending the network of rural health posts had not been appreciated by the national authorities, and requires further comment below.

The health plan was inextricably linked with the loan request to the IDB for funds to build rural health posts (CISAR) and emergency hospital centers (CIE), but the request was still in preparation when I left Honduras and will have to be followed up by Dr. Jim Davis, the Health economist who will be here for a month after my departure. The foreign aid component of the health plan was of major importance, and

accounted for about 55 per cent of total capital expenditure in the plan period 1974-1978. There was literally no possibility of implementing the plan without external assistance.

Finally, I noted a certain inconsistency between the written and oral descriptions of different aspects of the plan, an absence of hard data in many critical areas, and a general tendency to recognize difficulties verbally without making concrete administrative provision for resolving them. This report concentrates on my direct observations, and concludes with some recommendations for work that needs to be done and potential AID involvement following my departure.

The financing of operational costs by user fees.

Like any poor country requesting external assistance for capital investment purposes, Honduras is faced with the problem of financing the future operations of the facilities for whose construction a loan from the IADB has been requested. The guidelines for a loan request provided by the IADB specify (page 6, item 6.6) that the requesting country indicate the calculation of the cost of operation and maintenance providing a ten-year projection. I feel that this has not yet been done in a way that will satisfy the IADB.

At the level of CESAR, budgetary provision is made for some drugs (L.500 per annum) and for the salary of a nursing auxiliary (which, I have been told, is to be L.2.000 per annum or L.1,500, depending on the source, but will have to be checked in the final calculations). Some fee--the amount nowhere specified--is supposed to be collected from those able to pay. Those unable to pay are to be identified by an informal

means test; I was informed verbally that the auxiliary, coming from the community, will know who can and cannot afford to pay. In my view this is wishful thinking and does not provide either a sound administrative basis for making determination of ability to pay or a sound statistical basis for projections of operating cost.

At the next higher level, the CHE--serving groups of CESAR--also plan to <sup>rely to</sup> an unspecified degree on user fees. The operating budget of this more elaborate facility is higher than that of the CESAR (slightly more than L.160,000 per annum at 1974 prices) of which about 60 percent represents wages and salaries.

The average per-diem operating cost should come to about L.20 per bed (which I have inferred from the total operating budget and anticipated workload on the assumption that 10 out-patient services = one bed-day of in-patient care). A 1968 Family Living study cited in the agriculture sector assessment (document LA/DR/DACE/P74/5, page 6) showed mean family income for the mass of rural families (lower 70 per cent) of L.286 per year, and this is considered to have <sup>re</sup>ained more or less unchanged since then. This would mean that even a "prosperous" peasant with L.400 annual cash income would have to spend 15 per cent of that income to meet the total cost of a three day stay in a CHE for one member of the family, and for a really poor family the burden would be correspondingly greater.

Even the L.20 cost per bed-day in the CHE is based on the assumption by the health planners that the costs of <sup>the patient's</sup> food and laundry will be borne by his family and not by the hospital. This requires further study. It hardly seems appropriate for outside individuals to launder operating-room drapes or infected bed linen, but it is not clear whether these or simply

personal apparel are involved in the laundry system. The saving potential here, in any case, is minimal.

So far as meals are concerned, this was indeed the traditional pattern of the Schweitzer Hospital at Lambaréné, Togo, and elsewhere both in Africa and the less-developed areas of Latin America, but it is more appropriate for long-stay chronic hospitals than for the CHE which are designed to be short-stay emergency units. It is an open question whether the patients' families can prepare nutritionally adequate meals or meals appropriate for the immediate post-surgery period, and the difficulty for families living near the periphery of the CHE <sup>catchment</sup> ~~attachment~~ area has not been recognized either.

Some additional income would be available from treating Social Security beneficiaries in the CHE, but a hard forecast of operating revenue requires more detailed examination than has been made thus far. The IADB guidelines make the same point, and the sort of vague statement of alternative sources of revenue in the document. Proyectos CHE CESAR Salud Sobre Ruedas 1974 will have to be made more concrete both for purposes of the IADB loan application and for purposes of national budgeting.

A note on geography and vehicular services.

Much of Honduras is mountainous and many areas do not have direct road access. The plan documents say as much. It is rather disconcerting, therefore, to find that these documents include no maps. Some form of visual display of the proposed health posts and hospitals is needed to help the reader (eventually, the Loan Committee of the IADB) appreciate the concentration and dispersion of CESAR and CHE, the referral pattern, and the degree of integration with the vehicular service "Salud Sobre Ruedas".

The program of mobile medical clinics appears neither in the health plan nor in the IADB loan request, but does appear as a "project" in the 1974 document Proyectos QME CESAR Salud Sobre Ruedas. I assume it is to be financed nationally, but no figures for this project are shown separately in either the projected capital or current budgets of the Ministry.

Judging by past experience with the PLUAR program some 12 years ago, <sup>I would predict</sup> the mobile clinics are characterized by low output and high operating cost.

The project document estimates L.10,000 for a fully equipped vehicle, so that one vehicle would equal the cost of 3 to 5 CESAR (depending on the amount of local labour and supplies contributed by the communities) and the CESAR are likely to be far more durable than the vehicles. This program seems to be in limbo, and its exact status should be ascertained. In cost-effectiveness terms it deserves a low priority, but I get the impression from the references that are made to it in some official documents that it is viewed with pride and is being "pushed" by someone.

Generated demand for hospital services.

The health plan calls for the remodeling and construction of a number of hospitals, and some budgetary provision is made for their operating expenses. There is no real justification provided, however, for the specific hospital investment decisions made, and nothing resembling the "role study" that is part of hospital location planning in more sophisticated countries.

The relation of CESAR and QME to the general hospital system seems to have been seriously misinterpreted by the health planners, and this point should be made strongly since their present assumption may lead to trouble when the demand for general hospital beds exceeds plan projections, as it is

likely to do.

The national planners, in discussion, seemed to think that the establishment of CESAR and CHE units would reduce the demand for general and specialty hospital beds by taking care of cases that would otherwise go to the major hospitals. In the document Politica de Salud, Metas del Plan Decenal, Areas Programáticas 1974 (page 4, objective 2.3.1) it is stated explicitly that the objective of establishing the CESAR and CHE is to reduce the demand of existing hospital services.

My own view is that, in the absence of CESAR and CHE, many cases would either go without care altogether or end up in the hands of folk practitioners and empirical birth attendants. The net effect of the new front-line units then would be to increase the volume of demand for beds at higher levels of care through referral upward of cases that would otherwise not have entered the system at all.

The lack of study of referral patterns is a serious weakness. According to the plan, in 1971 there were 41 hospitals with 4,656 beds in Honduras, 6 urban health centers, 69 rural sub-centers, and 148 rural health posts. Surely a sample of some of these could be taken to identify referrals upwards from centers, sub-centers, and posts, checked against referrals received as recorded by the hospitals. Even the casual examination of such data would give the hospital planners some reasonable basis for extrapolation.

Experience in other countries leads me to predict higher and not lower demand for hospital beds as a result of the rural penetration program. In addition, health workers in many countries are familiar with the "ripple effect"

in that health posts and centers increase people's awareness of the desirability and availability of care and thus increase consumer-generated demand in addition to nurse-or physician-generated referrals. The hospital planners would be well-advised to base their bed need calculations on a revised estimate of generated demand.

The only way in which I have ever seen a country reduce the demand for (utilization of) hospital beds is to close hospitals or reduce their capacity. In view of the unmet need prevailing today in Honduras, trying to do this would be nonsense. It would be wiser to eliminate references to decreasing the demand for hospital beds from the plan and from the IADB loan request.

Inconsistencies and deficiencies in the health plan in general.

It is intriguing to observe that the Diagnostico Intencionado de Salud 1973 recognizes explicitly the weaknesses and administrative shortcomings of the Honduran health system, but the Plan and Metas documents of 1974 do not make any concrete proposals to improve things. Nowhere do they say how better coordination, integration, reform of obsolete legislation, reduction of duplication, and other changes implicit in the Diagnostico Intencionado are to be realized.

Some inconsistencies are more apparent than real, and could be eliminated by adopting some system of dating documents by month and day or indicating "first draft," "revised draft," etc., since apparently a number of different versions of some proposals are all in circulation at the moment. On reading them one is left wondering whether nurse auxiliaries are to have one or two years' training, whether the first priority is for a hospital in La Ceiba or San Pedro Sula, etc.

Some apparent inconsistencies may be quite real. One document leaves the impression that nursing auxiliaries are required to have three years of secondary education (i.e. complete Grade 9) plus two years of subsequent training, and this was confirmed in conversation with Dr. Tróchez, but the document Recursos Humanos Para la Salud says (page 2) that the auxiliaries are to receive 12 months' training and makes no reference to prerequisite formal education. If one statement supersedes another, then the documents should be corrected to show this. Different plan documents also show different numbers to be trained, and it is not clear to me whether the five-year target is nearer 900 or 1200 auxiliaries. The figures should be reconciled.

In general, the Honduran educational proposals for nurses and auxiliaries appear to be too ambitious for a poor country with limited human resources and a limited number of secondary school graduates. The national planners can hardly be held responsible, because for years they have been urged by PAHO and AID nurses to up-grade their standards and set up Bachelor's-level nurse training. Leaving the general issue aside, the CESAR nursing auxiliary would not appear to need more training than the Venezuelan nursing auxiliary used in the "medicina simplificada" program--4 years of primary school, a 4-month crash course in needed techniques, and a preference in recruiting for intelligent individuals with a few years of maturity gained through life-experience rather than additional schooling. AID might wish to finance a study trip for someone from the Honduran Ministry of Health to observe the Venezuelan program at first hand. Having been personally and closely involved in a cost-effectiveness evaluation of the Venezuelan program I feel that it provides a model for poorer countries and is particularly useful because of the stress put on the integration of the health posts into the general system and the emphasis on supervision.

Another weakness of the plan is the elaboration of a wide range of medical specialties to be provided by 1980 without full recognition of the implications for current operating costs and bed requirements, and--in the case of psychiatry--there is apparently budgetary provision for more psychiatrists in that the Santa Rosita Salary bill was to rise from L.597,393 in 1974 to L.3,346,865 in 1980\*, but I was not able to identify a quota of psychiatrists in the numbers proposed for either domestic or foreign training of medical specialists.

Between 1975 and 1980 the human resources plan calls for the training of 300 specialists (there were 247 in 1974). This would require, ceteris paribus, doubling the number of specialty beds available in hospitals. The proposed hospital remodeling and construction does not appear to have been coordinated with the specialist training proposals. As an aside, one may also ask whether the proposed La Rosita psychiatric hospital is in line with the modern tendency to hospitalize psychiatric patients as close to their home community as possible in psychiatric wings of general hospitals.

I am also worried by the proposal to send 12 physicians abroad for training as hospital administrators. Unless the physicians in question are totally unfit for clinical practice, this is a waste of a scarce resource, and the money could be used far better to train a greater number of lay administrators in national courses (with PAHO and AID assistance). In addition, what is taught in North American hospital administration courses (or in Argentina or Mexico, for that matter) is not wholly applicable to less developed countries.

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\*In this as in other financial projections, a 5 per cent inflation factor was used. With the inflation rate so unpredictable these days, it is more advisable than ever to plan in terms of constant prices.

In general, the human resources parts of the plan suffer from the major defect that they pay no attention to attrition. Physicians retire, die, or leave the country. Other health professions are more likely than physicians to leave the health field for other occupations or leave the labour force to marry and raise a family. Realistic estimates of attrition are needed to make sensible manpower forecasts.

While it is traditional to state health plan targets in terms of outcomes (increasing life expectancy, reducing specific mortality and morbidity) the method of reasoning from outcome targets to required resources is often dubious. It may be possible to predict grosso modo the effect of well-conducted immunization programs, but more general targets are subject to multiple causation--many factors such as housing and income being outside the scope of the health care system. When planned outcome targets are not achieved, as happened in the ten-year review of the Charter of Punta del Este Targets by PAHO, this may well not have been the fault of the health authorities, but the statistical indicators are nevertheless embarrassing and can weaken the status of the health authorities at Cabinet Level.

One could go on and on with specific problems, but the general problems of the plan can be summed up as follows:

The proposed investment projects do relate to plan priorities (which is good) but not enough effort has been made to provide realistic estimates of operating costs and human resource requirements (which is not so good) and the different sections of the plan are not tightly linked together or statistically consistent (which is bad) and the specific linkages between the health plan and the development plan are not spelled out except for a general statement of support for rural development (which is worse).

What can be done to improve the situation.

We are faced with a fait accompli in the form of a national health plan which apparently bears the stamp of PNUD approval and which contains an important investment component that is to be presented in a loan request to the IADB at the end of July. AID economic assistance should in the first instance involve digging in available records to do the following:

1. Appraise existing estimates of operating cost in terms of ability to pay for CESAR services at the community level. Some information may be available from SANAA experience with village water rates. This should lead to an improved budget estimate for the government contribution to operating costs of the CESAR system.

2. Appraise existing estimates of operating costs of the CHE in terms of patient payments, Social Security payments, and other sources of income. This should lead to a revised and more realistic budget figure as for the CESAR.

3. Study referrals made to hospitals by existing health centers, sub-centers, and health posts, and check these against referrals received as recorded by the hospitals (if the hospitals keep such records). If not, run a two-week direct survey as a base for guesstimation. Even this should provide a more realistic projection of generated demand than the unfounded assumption that demand will go down.

4. Use the data from these studies to improve the loan request to IADB and make sure it conforms as closely as possible to the guidelines provided by Dr. Drobny (copy attached).

Longer-range AID assistance should concentrate on improving administrative methods and perhaps on trying to give some assistance in health planning ~~work~~ that would complement rather than conflict with the PNUD assistance.

Having observed PAHO<sup>13</sup> and U.S. planning over the years, I feel that each tends to think of itself as a total system while in fact each represents one-half of what is needed. PAHO works at a high level of abstraction, at the level of national needs and resources, and ends with a list of what should be done. This is not a plan--it is only the first part of a plan. U.S. health planners, usually at the community level, can take a project and calculate all the nuts-and-bolts requirements, set up a good evaluation system, and get it to work. This is not planning either--it is the second half of the planning process. If you could get a broad-gauge, flexible American planner to sit down with one of the better PAHO planners (David Tejada, for example, or Raúl Vargas) between them they would very likely be able to show the Hondurans what a comprehensive health plan should be. If he is not too senior to take on such an assignment these days, my recommendation for the American would be Dr. Thomas Hall of the Public Health School at the University of North Carolina, who has all the required technical and intellectual capabilities plus fluent Spanish and much knowledge of Latin America.

The last point I wish to make is one of proportion. This is a small and economically unimportant country which is showing less in the way of development than its equally small but perhaps less unimportant neighbours. The IADB has soft-loan money to spend, and may accept the Honduran health investment program in its present crude form simply because it feels an obligation to spend a certain amount of the Social Progress Trust Fund and similar funds in this area. If not, AID will find itself in much the same position. The decision to spend then will not depend <sup>on</sup> either economic demonstration that planned activities are cost-effective, or that the plan is a tightly reasoned, self-consistent, and feasible one, but rather on the political importance of spending money in Honduras. If it is felt for political reasons that money has to be spent, the health plan will have to

compete with alternative activities in this social sector. I have not examined these, but assume that at any time there are other programs with equally valid claims on the national, if not the international, budget. I do not wish to imply that the health plan will make no contribution to health, or that this sector should be de-emphasized; it is simply that having looked most closely at the health proposal I naturally see the greatest number of defects. Perhaps the greatest contribution AID could make would not be in financing--so long as the IADB proved amenable--but in genuine technical assistance in (1) administrative training, and (2) helping, in collaboration with PAHO advisors, in working out the concrete implementation of the rather vague and wishful national health plan.

University of Toronto

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DEPARTMENT OF HEALTH ADMINISTRATION

July 5, 1974

Malcolm H. Merrill, M.D.  
Director, Division of International Health Programs  
American Public Health Association  
1015 - 18th Street, NW  
Washington, DC 20036  
U.S.A.

Dear Dr. Merrill:

Re my recent consulting assignment in Honduras, I return herewith the various forms and a copy of my basic report.

To supplement the report, I might just say that the implementation is proceeding on the basis of my debriefing at the AID Mission in Tegucigalpa. Essentially, I had one session of interchange and exhortation with the national personnel before leaving--phrased far more diplomatically than my internal report to AID--and think they accepted my major points.

Further work is going to be done during the remainder of July by Mrs. Ottilia Nesbit and Dr. Jim Davis. They will be making field visits and digging into the records to try to provide the statistical basis for sensible cost projections that I had suggested in my draft report.

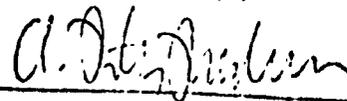
I also made the general recommendation to the AID Mission that, if the BID does provide a loan for purposes of health center and rural hospital construction, the AID role be limited to a supporting one, and if the BID does not come through and the nationals show limited enthusiasm for the suggested (and admittedly very Anglo-Saxon) improvements in planning, then this program would not be worth pursuing in view of the pressing need of Honduras for agricultural development as a first priority.

An unwritten part of my work was simply the use of personal influence and suasion based on my knowledge of the country, language, and culture, previous contacts in my PAHO days, and the apparent prestige of Canada in the medical care field these days.

As for payment, I should prefer a cheque sent to me at my home address, [REDACTED], since it is quite easy to change U.S. to Canadian dollars here and I don't want to maintain more than a minimum balance in my ACCOUNT AT Riggs in Washington.

All in all a most interesting assignment, the pleasure being compounded by the courteous reception I had at the U. S. Mission and the Honduran Ministry of Health and the helpful perceptions provided by Mrs. Nesbit.

Yours sincerely,



A. Peter Ruderman, Ph.D.  
Professor