

MANAGEMENT SCIENCES FOR HEALTH
A NONPROFIT INSTITUTION

5220162

PD-ATT-881
ISN = 46135

INTERNATIONAL EYE FOUNDATION
PRIMARY EYE CARE DELIVERY
AND TRAINING PROGRAM
IN HONDURAS

EVALUATION REPORT

January, 1984

James Becht, MPH
Luis Figueroa, MD

PDC-1406-7-20-12-3-0-0

SUITE 700, 1655 NORTH FORT MYER DRIVE, ARLINGTON, VIRGINIA 22209

(703) 841-0723

BOSTON

JAKARTA

PORT-AU-PRINCE

RABAT

SANA

TEGUCIGALPA

TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY	1
II.	BACKGROUND	3
	A. Description of this Evaluation	3
	B. The International Eye Foundation	5
	C. The IEF Matching Grant	5
	D. Program Environment in Honduras	6
	E. Relevant AID/USAID Policies and Strategies	9
III.	THE IEF/HONDURAS PROGRAM	10
	A. Goals, Purposes, and Strategy	10
	B. Planned Outputs and Inputs	10
	C. Proposal Development Process	11
IV.	ACTIVITIES AND RESOURCE UTILIZATION	12
	A. Summary of Activities	12
	B. Actual Inputs	12
	C. Interagency Relations	14
V.	RESULTS TO DATE	16
	A. Outputs by Component	16
	B. Program Impact	16
VI.	ANALYSIS OF RESULTS	18
	A. Summary of Results	18
	B. Planning and Design Process	19
	C. Program Management	19
	D. The Importance of the Program Environment	22
	E. The Importance of Financial Constraints	22
VII.	CONCLUSIONS AND RECOMMENDATIONS	24
	A. General Conclusions	24
	B. Special Areas of Interest	24
	C. Recommendations	28
	D. General Lessons Learned	32
APPENDIX A.	Tables and Figures	33
APPENDIX B.	List of Donated Equipment and Supplies	47
APPENDIX C.	Bibliography	49
APPENDIX D.	List of Persons Contacted	50
APPENDIX E.	Itinerary of the Evaluation	52

ACRONYMS

AID (AID/W)	Agency for International Development
CESAMO	Centro de Salud con Medico (Health Center with Physician)
CESAR	Centro de Salud Rural (Rural Health Center)
COT	Certified Ophthalmological Technologis
DPG	Development Program Grant
EOPS	End of Project Status
FVA	Bureau of Food and Voluntary Assistance
GOH	Government of Honduras
IEF	International Eye Foundation
INCAP	Instituto de Nutricion de Centro America y Panama (Institute of Nutrition of Central America and Panama)
LDC	Less Developed Country
MG	Matching Grant
MOH	Ministry of Health (Ministerio de Salud Publica y Asistencia Social)
MOH	Ministry of Health (Ministerio de Salud Pulbica y Asistencia Social)
MSH	Management Sciences for Health
NIH	National Institutes of Health
OPG	Operational Program Grant
PEC	Primary Eye Care
PVO	Private Voluntary Organization
RN	Registered Nurse
UCLA	University of California at Los Angeles
USAID USAID/H	United States AID Mission to Honduras
WHO	World Health Organization

I. EXECUTIVE SUMMARY

From late 1979 through June 1983, the International Eye Foundation -- based in Bethesda, Maryland -- spent \$212,580 on a blindness prevention and primary eye care program in Honduras. The first two years were funded by a USAID/Honduras operational program grant (OPG); a three-year centrally-funded matching grant (MG) has been in effect since July 1981. Formal agreements were entered into with the Ministry of Health and Social Assistance which committed its personnel and facilities to the program. The major activities undertaken included: the training of auxiliary nurses, professional nurse supervisors, and nurse instructors in basic ophthalmology and primary eye care; specialized training for ophthalmologists; curriculum development for the schools of professional and auxiliary nursing; provision and distribution of materials, equipment, and medications; and the promotion of visual acuity screening in public schools. The IEF placed one instructor -- a Registered Nurse, Certified Ophthalmological Technologist -- in Honduras for a period of 33 months to carry out most of these activities. Three one-week visits by tertiary care specialists and the provision of five short-term fellowships comprised the training of ophthalmologists.

The number of professional and auxiliary nurses trained by the IEF instructor substantially exceeded planned objectives. The core curriculum, teaching methods, reference materials and audio/visual aids provided to the training centers and the reference materials provided for use by primary health care workers were found to be very appropriate and effective. However, the lack of follow-up reinforcement and replacement training at all levels threatens to dissipate these achievements in the near future. A formal, organized program for the purpose of promoting, coordinating, and executing activities for the prevention of blindness has not been established; nor have such activities been systematically incorporated into any functional division of the Ministry of Health. Qualitative improvements are apparent at the tertiary care level.

Impact of the program on the prevalence or incidence of blindness or reductions in ophthalmic morbidity cannot be determined due to the lack of baseline and subsequent epidemiologic data. Indications are that the program has had some positive effect on the utilization rates at tertiary outpatient facilities --probably as a result of increased referrals and public awareness -- but the extent of these effects cannot be isolated from the influence of extraneous factors.

The major findings and recommendations of the evaluation are summarized as follows: (Numbers at left refer to detailed recommendations found in Chapter VII.)

Numbers

Findings

Recommendations

1-2, 15-17	The purpose of the IEF program in Honduras, the indicators to measure progress, and a system to collect baseline or follow-up data have not been adequately or consistently defined or designated.	Program purposes and indicators should be clearly stated and consistent, monitoring and evaluation systems should be established, including a nation-wide blindness survey and a national blindness registry, to strengthen program planning and administration.
3-6	Eye care training, both for nurses and for tertiary care professionals, was very effective and exceeded targets. Training and methods and materials, and equipment for treatment, have been appropriate and very useful.	IEF should encourage ties between eye care specialist in Honduras and other Central and Latin American countries. More and improved materials and equipment should be developed and distributed.
7-10 18-19	An integrated blindness prevention program in Honduras has not been adequately promoted, coordinated or institutionalized. Home office support of the program was inadequate.	A formal, organized blindness prevention program, coordinated by a division of the MOH but relying heavily on the private sector (including the Honduran Society of Ophthalmology) should be established and supported with continuing IEF assistance.
11-12	Turnover of trained eye care workers and lack of follow-up, reinforcement, supervision, and supply after training threatens to negate initial accomplishments.	Continuing in-service refresher courses, problem-oriented supervision, and a dependable supply system should be incorporated into the PEC program.
13-14	Training of rural auxiliary nurses and rural physicians (the secondary care level) is inadequate.	Appropriate curricula for rural nurse and medical students should be expanded, upgraded, and supported.

II. BACKGROUND

A. Description of this Evaluation

The evaluation of the Primary Eye Care Delivery and Training Program of the International Eye Foundation in Honduras was undertaken from June to December 1983. It included these five phases:

- | | |
|---|-------------|
| 1. <u>Preparation</u> | <u>1983</u> |
| - Orientation and discussion with AID/W project manager. | June |
| - Visit to IEF home office for planning and initial interviews and data collection; present request for specific documents. | July |
| - Initial review of available documents. | |
| 2. <u>In-country Protocol</u> | |
| - Orientation and planning with country program director to finalize arrangements. | August |
| - Introductory meetings with appropriate Ministry of Health and USAID officials. | |
| - Initial meeting with program staff | |
| - brief history and description of program; a global view; | |
| - brief description of field sites (communities), including significant program and cultural features; | |
| - selection of sites to visit; | |
| - finalize schedule and persons to be interviewed. | |
| 3. <u>Data Collection</u> | |
| - Conduct interviews, visit field sites, and review documentation. | |

4. Confirmation of Findings

- Detailed debriefing with program staff prior to departure.
- Summary debriefings with Ministry of Health and USAID officials.
- Summary debriefing with PVO home office staff and AID/W project manager. September

5. Distribution of Reports

- First draft by principle evaluator. November
 - PVO home office;
 - PVO country program director;
 - collaborating evaluator
 - MSH project coordinator
- Second draft of report to AID/W evaluation coordinator.
- Final country program report: December
 - PVO home office;
 - AID/W, Bureau of Food and Voluntary Assistance.

The principal evaluator and team leader, James Becht, is the MSH Information and Evaluation Specialist for this series of PVO evaluations. Assisting him was a second MSH consultant, Dr. Luis Figueroa, Medical Director of the Rodolfo Robles Eye and Ear Hospital in Guatemala, and a member of Guatemala's National Commission for the Prevention of Blindness. Dr. Figueroa, one of Central America's most respected ophthalmologists, contributed both a cultural perspective relating to Honduras and a specialized technical balance vis-a-vis the principle evaluator. IEF was represented by Tamara G. Oberbeck, RN, COT, who had been the IEF instructor in Honduras through the OPG/MG program; she took an active role in the evaluation and contributed to the formulation of conclusions and recommendations. Consistent with the procedures established by MSH for the PVO evaluation methodology, field interviews occasionally required confidentiality, i.e. the absence of PVO personnel. A verbal debriefing and copies of tables and figures were presented to IEF headquarters on completion of the field visit. The debriefing included major findings and recommendations. The itinerary of the evaluation and list of persons contacted are detailed in Appendices D and E.

B. The International Eye Foundation

The International Eye Foundation is a private, non-profit, humanitarian assistance organization whose principal purpose is "To support and assist with the prevention and cure of blindness throughout the world...." The IEF was incorporated in the District of Columbia as the International Eye Foundation in 1969 as a tax exempt organization. Governed by a Board of Directors, the IEF executive staff is headquartered in Bethesda, Maryland, where all activities are centralized for policy formulation, program development and financial management, fund raising and publicity, identifying and placing volunteers, and collaborating with other organizations and agencies. All field staff are responsible to and report directly to IEF headquarters, including those situations where IEF programs are fully integrated into and a part of the Ministry of Health program in a given country.

Development activities of the IEF have taken the form of country-specific blindness prevention and treatment programs linked closely to teaching and training of host-country national health workers--including primary health care workers, paramedical personnel such as dressers and clinical officers, community and public health nurses, general physicians, and ophthalmologists. Recipient countries have been assisted to develop and implement unique and innovative eye health care interventions which have been integrated into the general health care delivery systems of the host governments. Curricula, training manuals, and health education aids have been developed and distributed by the IEF.

C. The IEF Matching Grant

In February 1981, IEF submitted a proposal to AID for a matching grant (MG) to implement various Primary Eye Care Delivery and Training Programs in seven countries (Honduras, Haiti, Puerto Rico, Guinea, Ivory Coast, Malawi, Egypt). The subsequent MG agreement committed a total of \$600,000 over a 3-year period. The Foundation contribution was projected at \$300,000 or half the total. The countries targeted by the IEF in the Matching Grant Program were selected because the vast majority of the total population of 56 million have annual per capita incomes of less than \$252. In addition to the target countries, regional training centers were planned for the Central American/Caribbean region in Puerto Rico, and for the West African region (serving 19 other countries) in the Ivory Coast. The rate of blindness in the target developing areas as estimated by WHO averages 1.5%. Certain countries such as Egypt (2.6%) have much higher prevalence rates (WHO Chronicle, 33:275-283). Specific regions within a country may have a prevalence rate as high as 6.6% (Beheira Governorate, Northern Egypt as surveyed under NIH PL.480 Project 03-024).

The overall goal of the IEF MG, which began in July 1981, was to alleviate blindness--reducing the prevalence and incidence of preventable and/or curable visual loss--by promoting the development of comprehensive systems which provide promotive, preventive, and therapeutic services. Specific IEF programs vary from country to country; however, according to the matching grant proposal, four functional areas of activity are stressed: (1) surveys and

program planning; (2) training of primary, secondary, and tertiary eye care personnel; (3) training of the trainers of primary health care personnel; and (4) designing of primary eye care (Physical) infrastructures.

The IEF Primary Eye Care Delivery and Training Program was not designed to implement the same actions in each target country. Nor was it anticipated to implement a complete range of blindness prevention, curative services, planning, surveys, educational, and promotional actions in each of the target countries. There were four basic reasons for varying the country programs:

- The target countries are at varying stages of development in their blindness prevention programs and therefore have need for, and requested of the IEF, only certain limited inputs;
- A specific target country may have a nearly complete range of blindness prevention activities except for the services requested of the IEF;
- The IEF may be providing a vital service to a regional training effort, such as in Puerto Rico or the Ivory Coast, which feeds trained personnel into specific countries; and
- The size of the financial inputs necessitates targeting those countries where the complete range of blindness prevention activities will be implemented but not all will be funded by, the IEF Matching Grant Program.

D. The Program Environment in Honduras

1. Physical Setting

Honduras is a mountainous country, bordered by Nicaragua on the south and east, El Salvador on the southwest, and Guatemala on the west. The climate is tropical and rainfall is especially high on the northern coastal plains. The road system is continuously being improved and most regions of the country can be reached throughout the year within one day; secondary roads are less reliable and often impassable during the rainy season. Public transportation is available to all Departments and telephones connect the Regional Health Offices and some Area hospitals with the capital city. Rural health centers are often isolated and must rely on hand-carried messages or individual travel to communicate with the Area or Regional Health Offices.

2. Political and Economic Context

Honduras is one of the poorest countries in Central America, with a per capita income of \$260 in 1982. Poverty is primarily concentrated in the rural areas where the legacy of the foreign-controlled "banana republic" has yet to dissipate. Illiteracy, infant mortality, and unemployment rates are still high. The country must import all its oil and has few natural resources; its chief exports are bananas, coffee, sugar, and timber. About one-fourth of the territory is devoted to agriculture and grazing, and two-thirds to forestry.

More than 70% of the economically active population maintain a subsistence living in agriculture, hunting, or fishing. In recent years there has been significant internal migration from the rural areas to the cities, which has generated large socially and economically depressed urban areas. The economic situation of the country is conditioned by low productivity, high external dependence, and an unequitable distribution of the wealth.

Prospects for an improvement in the economy, which is necessary to finance public sector programs, are conditional upon an improvement in the political situation in the region. In February 1982, Honduras installed a democratically elected President and Congress, which are to serve until 1986. The military, however, has retained significant influence in government affairs and has become increasingly involved in the political-military conflicts in Nicaragua and El Salvador. This situation directly affects production conditions and the mobilization of resources. According to the Inter-American Development Bank, the most important tasks facing the Government are to re-establish an equilibrium in the balance of payments, reduce the level of the fiscal deficit, and provide the private sector with greater liquidity.

3. Significant Social and Cultural Factors

The ethnic composition of Honduras is a mixture of Spanish, Indian and Negro; Spanish is the predominant language. The cultural heritage has been shaped by colonialism, Catholicism, and the inequities of economic dependence. More than 60% of the population is dispersed in rural areas or resides in small communities. Families tend to be large (total fertility rate = 6.9), adult illiteracy is high (40%), and less than half of the population has access to safe water. Until recently, social and geographic mobility has been limited. Services, public and private, are concentrated in the urban areas. Crowding and environmental sanitation have become serious problems in the marginal "shanty towns." Food supplies are generally scarce in rural areas from August to October, prior to the harvest season. Internal migrations are widespread from October to February when adults, whole families, and sometimes whole communities will seek work picking coffee. In recent years, tens of thousands of people from Nicaragua and El Salvador have sought refuge within Honduras.

4. Host Government Policies

Three priorities have been established within the Government's global development strategy: to achieve economic and financial stability; to experience growth and a more equitable distribution of income; and to improve the quality of life of the population. Current economic and political conditions, however, have constrained progress in these areas. It is not unusual that when budgets become tight, as in Honduras, expenditures in social services suffer most. In recent years, the budget of the Ministry of Health and Social Assistance has decreased in real and relative terms. Priority attention has been given to defense and economic infrastructure projects.

The Ministry of Health is responsible for providing curative and preventive services for approximately 90% of the population; Social Security covers about 7%, and 3% use the private sector. Extension of coverage of primary health

services, to rural and marginal urban areas, is the highest priority of the Ministry. Children under five years of age, women between 15 and 49 years old, and workers comprise the target population groups. On the basis of epidemiological risk and the social and economic consequences of disease, the following priority programs have been designated by the Ministry of Health: immunizations; control of diarrhea; control of tuberculosis; control of malaria; control of dengue; nutrition; parasite control; basic sanitation; and health education. Nevertheless, ongoing commitments and demands in a traditional medical care/hospital system--largely urban-oriented and curative--continue to command the bulk of the Ministry's limited resources.

The Government of Honduras, and in particular the Ministry of Health, has no defined policy regarding the role of private voluntary agencies. According to the Director General Health, more than 200 PVOs are active in the health sector at the present time. The Ministry has neither the capacity or resources to monitor and evaluate the myriad projects which they carry out; but rather permits them to operate as long as their purpose and activities conform to national health policy.

5. Demographic and Epidemiological Profile

Honduras is growing rapidly with 4.1 million inhabitants (1983) in an area of 43,300 square miles; it has the highest annual growth rate in Central America at 3.6% (1972-82). Sixty-two percent of the population resides in rural areas and approximately one-half of the population is under 15 years of age. The Ministry of Health reports the following demographic indicators of 1980: crude birth rate, 49.0; general fertility rate, 229.9; crude death rate, 10.8; infant mortality rate, 98.5; and life expectancy at birth, 55.3 years. More than three-fourths of the general morbidity is reported as infectious or parasitic diseases; the proportion is higher in children and is aggravated by high rates of protein-calorie malnutrition. In 1978, INCAP reported that 21% of preschool children in Honduras were deficient in vitamin A.

Reliable statistics on the true levels of prevalence and incidence of specific diseases are not to be found in Honduras. Occasionally, isolated surveys are undertaken for specific purposes; most estimates, however, are based on service utilization data of the Ministry of Health. Ophthalmic morbidity accounts for about one percent of both total hospital discharges and rural outpatient visits. In 1982, the rate of the former was 48.8 per 100,000 population and the latter was 627 per 100,000. The rate of outpatient visits at the San Felipe Hospital ophthalmology clinic was half that reported for all rural Honduras (326/100,000). Disorders of the conjunctiva account for about 56% of reported eye morbidity in rural areas (Table 10); other problems include refractive errors/visual disorders (10.4%), disorders of the lid (6.5%), and wounds, trauma, and burns (4.1%). Most serious problems go directory to San Felipe in Tegucigalpa. Here, the most frequent morbidity was refractive errors (15.0%), pterygium (12.7%), cataract (12.4%), glaucoma (10.8%), and disorders of the conjunctiva (9.3%). The first and last have shown marked increases since 1980 (Table 11). A high percentage of the apparent morbidity in Honduras can lead to blindness, but is preventable by simple and relatively inexpensive measures.

E. Relevant AID/USAID Policies and Strategies

The basic objective of AID's health programs is to assist developing countries to become self-sufficient in providing broad access to cost-effective preventive and curative health services. Program assistance concentrates on: improving the effectiveness of health programs through improved program design, management and implementation; promoting self-financing of health programs; and increasing biomedical research and field testing in LDC settings. The Agency is giving increasing emphasis to private sector approach to providing health care and health-promoting measures and private resources to cover the costs generated by health programs. The Agency continues to support indigenous institutions, including women's groups, universities and research institutions, village-level health committees, private sector health practitioners and enterprises, and voluntary organizations.

The objectives of AID's policy governing PVO relations and contributions are: to increase the economic development impact of PVO programs through increased program integration and focusing resources on field programs; to discourage dependence on U.S Government financing of the international development programs of PVO's; to reduce the administrative cost to both AID and PVOs by simplifying management and administrative procedures; and to insure the AID funds are used in ways that reflect AID's legislative mandate yet take full advantage of the unique capabilities of voluntary agencies.

USAID's assistance program in Honduras in principle follows the basic guidelines set forth by AID/Washington, but is adapted to the political and economic realities of the country. Programs to support financial and political stability and economic development coincide with the host government's priorities. A major effort in the health sector currently provides long term financial and technical assistance to the Ministry of Health to improve management practices in the areas of planning, financial management, human resources development, information and logistics systems, maintenance, and supervision. Support of private voluntary organizations has been a relatively minor activity of USAID/Honduras, particularly in the health sector. Blindness prevention and primary/tertiary eye care are not explicit components of USAID/H health policies.

III. THE IEF/HONDURAS PROGRAM

A. Goals, Purposes, and Strategy

The IEF program in Honduras was to include three of the four major activities funded by the MG: surveys and MOH blindness prevention planning; upgrading primary eye delivery skills; and training trainers. The explicit purpose of the program, however, has varied and has lacked precision during the past four years. An early quarterly report by USAID/Honduras stated that the purpose of the program was to "develop a capacity in the Ministry of Health to: (1) decrease the incidence of preventable eye problems and, (2) prevent the advancement of treatable eye disease through the use of simple measures." Two years later the purpose was stated by IEF to "1. train nurses, nurse auxiliaries and their tutors in the delivery of primary eye care...(and) 2. assist in the development of central services to provide eye health care for patients..."

IEF is committed to supporting promotive and preventive measures to decrease ophthalmic morbidity. Its specific strategy is to initially upgrade tertiary care capabilities in order to absorb the anticipated increase in demand from improved primary care and referral activities. The major components of the program in Honduras included: the training of auxiliary nurses, professional nurse supervisors, nurse instructors in basic ophthalmology and primary eye care; specialized training for ophthalmologists and general physicians; curriculum development for the schools of professional and auxiliary nursing; provision and distribution of materials, equipment, and medications; and the promotion of the visual acuity screening in public schools. The IEF demonstrated no particular strategy or methodology for achieving an institutionalized capacity to design and execute a "comprehensive" eye care system in Honduras.

B. Planned Outputs and Inputs

Planned Resource Inputs by the International Rye Foundation for the Honduras Project include, but are not limited to: financial resources to carry out the programmatic activities, and to purchase drugs, medications and equipment as needed; provision of medications, equipment and surgical supplies from contributions received from U.S. corporations, in amounts judged to be appropriate by the medical advisory board of the International Rye Foundation; provision of administrative backstopping to organize and carry out continuing medical education courses; and the provision of technical skills required to repair, or retrofit equipment which has either been supplied to Honduras under the terms of the program, or was supplied or purchased by other means. The dollar value of these inputs was not calculated in the proposal and no country program plan was subsequently developed or budgeted.

From interviews and reports it appears that "capacity" within the Ministry of Health has most often been viewed in tangible terms (e.g. commodities) and technical skills, while "success" would be determined by the number of people trained. The logical framework of the matching grant proposal states that the end of project status (EOPS) would be an "institutionalized capability for prevention and treatment of blindness and eye disease established in selected

LDC's." The outputs indicated were not country-specific. Subsequent documents listed only the training of 26 professional nurses and 400 auxiliary nurses as specific outputs for Honduras; no criteria or outputs were identified regarding, among other areas, institutional development and support systems.

C. Proposal Development

The IEF's interest in Honduras began informally in the late 1960's. From 1972 to 1977, the Foundation sponsored approximately 15 resident fellows from the Jules Stein Eye Institute at UCLA for, what one observer termed, a "unique medical and cultural opportunity" at San Felipe tertiary care hospital in Tegucigalpa. After a brief respite caused by political considerations at the Honduran National University, the Ministry of Public Health and Social Assistance expressed interest in expanding IEF's participation into the primary eye care area. In 1978, the Executive Director of IEF visited Honduras to begin outlining a specific program with the Ministry of Health and to explore the possibility of funding from USAID. At the time, the IEF had a centrally-funded development program grant (DPG) which facilitated this process.

The original IEF proposal to USAID/Honduras in 1978, and initial USAID response, contemplated the development of a comprehensive primary eye care program, with sufficient staff in-country, and continuous attention to upgrading tertiary care, including the sending of Honduran residents to the Jules Stein Eye Institute for specialized training. Forthcoming end-of-fiscal year "fallout" monies were far less than the levels expected and the program had to be cut back significantly in budget and in scope. The cutback led to "a loss of personnel experienced in and prepared for immediate work on the program," which was also seriously delayed because of "shifts of personnel in the Ministry of Health and the general resistance of Ministry [medical] personnel to emphasize primary eye care rather than sophisticated, modern, teaching hospital-style ophthalmic practices."¹

The first operating agreement between the Ministry of Public Health and the International Eye Foundation was signed in August 1979. Funding for two years (October 1979 to September 1981) was provided under an Operational Program Grant (OPG) from USAID/Honduras. The evaluation of that project was carried out by IEF staff and USAID in August 1981. The IEF had notified the Ministry of Health that a Matching Grant would provide additional assistance monies effective October 1, 1981, and a two-year program effective on that date was mutually designed by the MOH and IEF staff in September. A second IEF/MOH agreement signed several weeks later, was supported by the Matching Grant which began in July 1981 and is scheduled to run three years through June 1984.

¹ Letter from IEF Executive Director to USAID, August 20, 1980.

IV. ACTIVITIES AND RESOURCE UTILIZATION

A. Summary of Activities

Most of the activities reported in the present evaluation began under the first (OPG) agreement and continued under the second (MG) agreement; they took place during the tenure of the IEF instructor assigned to Honduras from January 1980 to September 1982.

Two professional nurses were sent to the University of Puerto Rico early in 1980 to be prepared as the program's ultimate coordinators. After initial program development activities, and substantial organizational difficulties, the training of auxiliary and professional nurses began in September 1980 and essentially ended twelve months later. Simultaneously, charts, manuals, and limited supplies of ointment were distributed to the trainees. (Large amounts of ointment were donated to the central MOH for redistribution at later dates.)

In 1982, public school directors were trained to measure visual acuity and limited continuing education was provided for nurses. Specialized training for ophthalmologists (seminars and fellowships) was carried out in 1982 and 1983.

The program was national in scope, in that it attempted to reach rural nurses in all regions of the country. The tertiary care facilities, two-thirds of the country's 24 ophthalmologists, one of the schools of professional nursing, and the main training center for auxiliary nurses are all located in Tegucigalpa. Many of the auxiliary nurses were trained by their supervisors at the respective Regional Health Offices or by the IEF instructor at the training centers in Tegucigalpa, Choluteca, and San Pedro Sula. The other two schools of professional nursing are located in San Pedro and La Ceiba.

B. Actual Inputs

1. Financial Resources

The International Eye Foundation reports expenditures of \$212,580 for the program in Honduras from September 1979 through June 1983. Almost three-fourths of the total was spent during the first two years, primarily on personal services and commodities, under the OPG. A considerable proportion (23%) of these expenses were not itemized, but presumably included travel and other operating expenses (Table 2). During the life of the program, AID and USAID/Honduras have contributed 87.6% of the total cash expenditures. IEF home office expenses are not allocated or pro-rated by country program; nor is the value of donated medicines and equipment included in country financial statements. Likewise, Ministry of Health participation in program activities (primarily personnel costs) is not systematically recorded.

2. Human Resources

The IEF assigned one full-time staff person to the Honduras program for a period of 33 months. She was a registered nurse and a certified ophthalmological technologist (COT), with primary responsibilities for training

paramedical primary health care personnel of the Ministry of Health. Two short-term ophthalmologists conducted the sub-specialty seminars for tertiary care personnel (a total of 10 person-days). An unspecified amount of time was donated by the specialists (and their support staff) involved in the orientation and training of Honduran physicians and nurses in the United States and Puerto Rico. A total of 64 person-weeks of overseas training was provided through June 1983.

Many people within the Ministry of Health collaborated, in varying degrees, with the IEF program: the units most involved were the (former) Division of Nursing; the Division of Human Resources Development; the San Felipe Department of Ophthalmology; the Training Centers of auxiliary nurses; and the nursing units of six Regional Health Offices. Perhaps 20 to 25 individuals were directly involved in program execution, though not on a regular basis. In addition, the Ministry covered the salaries of more than 725 participants during their training and subsequent delivery of services. Like the Ministry of Health instructors and rural supervisors, the instructors of two schools of professional nursing and the Peace Corps volunteers trained under the program could be considered both benefactors (outputs) of the program and as resources (inputs) as well due to their multiplier role in training other health workers. Seventy-five volunteers and 20 university instructors participated in this manner.

3. Material Resources

In addition to personnel, the IEF provided selected medicines, equipment, and materials. Precise counts are not available since specific distribution and inventory records were not kept. According to IEF report, the professional and auxiliary nurses who were trained each received red eye and visual acuity charts, a primary eye care manual, a nutrition chart on vitamin A deficiency, and 12 tubes of tetracycline ophthalmic ointment. Professional nurses also received a Manual of Basic Ophthalmology and alcaine drops for the removal of foreign bodies from the eye. Audio/visual materials and equipment donated to each school of nursing and training center was to include: three copies of the Manual of Basic Ophthalmology; 20 slides on common eye problems; a filmstrip on Painful Red Eye; a filmstrip on Preventable Eye Diseases in Children; a 16mm film on eye emergencies; and a plastic model eye with removable parts. A variety of medicines and equipment were donated to several hospitals and medical centers. Detailed lists are presented in Appendix B.

4. Technological Resources

Technological improvements which were introduced or provided by virtue of the IEF program can be classified into two major areas. The first is the sub-specialty training given to tertiary care personnel and the related equipment to facilitate the improved quality of service. Particular attention was given to disorders of the anterior segment, the retina, and the vitreous humor. The second area consisted of the practical teaching methods and techniques introduced by the IEF instructor, emphasizing lab work and field experience, and complemented by the use of appropriate audio/visual aids. These materials were provided to each school of nursing and training center.

C. Interagency Relations

1. Public Sector Relations

The sponsoring agency of the International Eye Foundation in Honduras has been the Ministry of Health; their relationship has been governed by two formal agreements, signed in August 1979 and September 1981. The present agreement will be in effect until June 1984. The agreements are specific to the field of ophthalmology and primary eye care, but are not very explicit for the purposes of programming, monitoring, and evaluation. Basically, they commit the IEF to provide training and certain commodities and the Ministry to provide personnel and facilities in undefined quantities, but on a national scale.

At the central level, IEF's primary contacts were with the Division of Nursing (abolished in 1982) and the Division of Human Resources Development. The San Felipe Hospital, Department of Ophthalmology has been the focus of tertiary care interventions. The training of paramedical personnel has taken place at the three training centers for auxiliary nurses and with six of the Ministry's eight Regional Health Offices. The public health system in Honduras is designed according to a pyramid of ascending complexity of medical attention and health care administration: Level I - Community, functions with volunteer workers; Level II - Health Center, is assigned an auxiliary nurse; Level III - Health Center with physician; Level IV - Health Area/Area Hospital, 50 beds; Level V - Regional Hospital, 200 to 500 beds; and Level VI - National Hospital, 1,200 bed speciality facility.

In 1982, the IEF maintained informal relations with the Ministry of Education. The purpose was to train public school directors in visual acuity screening and to screen a limited number of primary school students in Tegucigalpa.

2. Private Sector Relations

A variety of entities, in both Honduras and the United States, collaborated with the IEF on this program. The National Autonomous University of Honduras operates the three schools of professional nursing and the Faculty of Medical Sciences. Sixth-year medical students rotate through the Ophthalmology Departments at San Felipe and the University Teaching Hospitals and most of the staff ophthalmologists simultaneously hold faculty positions at the University. The Honduran Society of Ophthalmologists, is somewhat disorganized but did participate in arranging for the specialty seminars carried out by IEF. In addition, one ophthalmologist in private practice, Dr. Odeh-Nasralla, provided two months of orientation to the IEF instructor on local eye problems and practices.

The University of Puerto Rico, Department of Ophthalmology provided extended training in basic ophthalmology for two professional nurses (15 weeks each) and two general physicians (20 weeks each). Several facilities and private practitioners hosted two staff ophthalmologists from San Felipe for a total of eight weeks of specialized training in the United States; a third

ophthalmologist will benefit from six weeks of similar training in the near future. Finally, countless individuals and institutions in the United States have donated medicines, equipment and supplies for use in the Honduras program.

V. RESULTS TO DATE

A. Outputs by Component

An impressive number of professional nurses (254) and auxiliary nurses (757) were trained in primary eye care, most by the IEF instructor directly, and in excess of the original targets (24 and 400 respectively) (Table 4). In addition, it is estimated that the number of auxiliary nurses trained by the previously trained nurse supervisors, but which was not documented in the program reports, was more than 250. About one-third of the professional nurses trained were Peace Corps volunteers; another third were students; and 30 were hospital-based. During her final year, the IEF instructor concentrated her efforts on training public school teachers to do visual acuity screening.

A number of professional (77) and auxiliary (361) nurse students received training by the IEF instructor at several of the respective schools. The important thrust of the instructor at this level, however, was to develop curriculum segments for inclusion in the training programs. The schools of professional nursing, all now affiliated with the National University, have a good amount of time devoted to basic ophthalmology and the pathology and treatment of common eye problems -- more than 40 hours of theory and practice, concentrated primarily in the fifth semester of studies. This curriculum was in effect, at least in La Ceiba, prior to IEF assistance. At the three Ministry of Health centers for training auxiliary nurses, the standardized curriculum currently contains less than two hours for theory and practice in primary eye care.

The training of tertiary care professionals was also found to be valuable and appreciated. On three occasions speciality seminars were given by visiting experts to a total of 19 Honduran physicians (Table 5). The majority (16) were ophthalmologists, two-thirds of the total such specialists in Honduras. Seven participants attended all three seminars and seven others attended two of the three. Two general physicians received IEF fellowships (one in 1982, the other in 1983) to attend the basic sciences course at the University of Puerto Rico, Department of Ophthalmology. The Chief of Ophthalmology and a second staff ophthalmologist at San Felipe Hospital benefitted from short training visits to the United States, and a third staff ophthalmologist will be sent in the near future (Table 6). Early in the program (1980), two professional nurses were sponsored by IEF for extensive training at the University of Puerto Rico. They were expected to assume responsibility for the coordination and direction of the Ministry of Health primary eye care program on their return, but neither were eventually assigned these functions.

B. Program Impact

The overall impact of the International Eye Foundation program in Honduras, in terms of decreasing the prevalence and incidence of blindness cannot be determined. Baseline indicators as to the extent and nature of the problem were not established at the onset and no epidemiological data was systematically collected and reported as part of the program. As an

alternative approach (for the present evaluation), it was felt that if, indeed, rural auxiliary nurses and their supervisors were effectively trained to detect eye pathology, screen for visual acuity, and refer patients -- and received the necessary institutional support in doing so -- and if the ophthalmologists were better trained and equipped to treat eye disorders, then differences, both quantitative and qualitative, should be observed in the morbidity reported at the primary and tertiary care service levels.

A review of Ministry of Health hospital discharge data (Table 9, Figure 1), reflecting primarily the tertiary care activities, reveals a 33% increase in total number of cases and a 24% increase in the case rate per 100,000 population between 1980 and 1982. Cases of cataracts and glaucoma increased by approximately 50%. Ambulatory patient data from rural areas for the same period (Table 10) showed virtually no increase in total eye morbidity reported, essentially, by auxiliary nurses. There was, however, a considerable decrease (71%) in the rate of refractive errors and visual disorders reported -- a surprising phenomenon in light of the training in visual acuity screening. Case rates of glaucoma and disorders of the cornea also decreased by 50%, while the incidence of reported strabismus increased by about the same proportion. More than half (55%) of the problems reported in both years involved disorders of the conjunctiva.

The most significant changes in ophthalmic morbidity were observed in the outpatient clinic of San Felipe Hospital in Tegucigalpa, by far the major referral service for adults in Honduras. The overall patient load increased by 52% between 1980 and 1982; corresponding rates per 100,000 population increased by 42%. All but one of the specific categories of eye ailment increased during this period, with the most notable changes occurring in disorders of the conjunctiva (153%), refractive errors and visual disorders (127%), and episcleritis (540%), though the number of cases of the latter is quite small). Also, both hospital discharge and ambulatory data reveal considerable increases in the "other disorders" category (30% to 154%), which groups morbidity of less importance numerically. This may indicate a greater discernment in diagnosis at both levels.

Indications are that the program has had some positive effect on the utilization rates at tertiary eye care facilities and on treating visual problems and blindness-causing afflictions; but the extent of these effects cannot be isolated from the effects caused by other extraneous factors. Such data was not routinely collected by the program for evaluative and monitoring purposes. Also, the impact of training -- in however large numbers, but on a one-time basis and in the absence of adequate service delivery support systems (at the primary level) -- on reducing blindness and eye morbidity, directly and over an extended period of time, is somewhat tenuous.

VI. ANALYSIS OF THE PROGRAM

A. Summary of Results

The IEF placed one full-time instructor in Honduras from January 1980 through September 1982. In spite of language deficiencies and a lack of previous experience outside of the United States, her contributions in the area of paramedical training have been beneficial and well-received. The core training curricula for professional and auxiliary nurses was appropriate for the eye problems and prescribed roles encountered in Honduras, though the extent to which they were applied varied according to time constraints imposed in the different teaching opportunities. The teaching methodology employed by the IEF instructor -- stressing audio/visual aids and "hands on" experience -- was especially appreciated and effective in both the service and academic institutions.

In all likelihood the activities carried out by the International Eye Foundation contributed in some degree to the increases in service utilization noted previously. More than 1,300 health workers were trained, mostly in 1981, and reference materials and medical equipment had been distributed in significant quantities. Formal and informal (unregistered) referrals in particular, from field personnel to San Felipe Hospital, would appear to have increase sharply by 1982. Irregular supplies of medications, the lack of continuing education (reinforcement) for rural workers, and the fact that auxiliary nurses for the most part have not been doing visual acuity screening as planned, would explain the relatively unchanging situation with respect to reported eye morbidity at the rural health center level.

Program impact on ophthalmic morbidity rates is too far removed and relevant data are unavailable; effects on changes in service utilization are encouraging, but inconclusive. The provision of materials and equipment is complementary to training. No assessment of the prevalence and incidence of blindness and ophthalmic morbidity was undertaken; and while the Division of Nursing did survey the status of available resources, this information was apparently put to little use and the corresponding reports could not be found. A certain level of consciousness was raised within the health care community regarding the need for a primary eye care program for the prevention of blindness (although ophthalmologists still tend to think and act in terms of curative medicine). No concrete steps, however, were accomplished to institutionalize the program within the Ministry of Health or elsewhere. The immediate and measurable benefits derived from the IEF program are essentially in the area of training.

Determining the effectiveness of training is in itself a difficult task. An analysis of the basic curriculum and teaching methodology and the results of several pre- and post-tests administered by the IEF instructor indicate that the quality of teaching and the absorption of information was probably quite good. The degree to which the attitudes and, ultimately, behavior of the trainees were subsequently influenced is unknown; and the lack of reinforcement training and adequate supply systems has been determined.

In terms of coverage, 65.1% of the rural nurse supervisors (Regions 1-7) were reached by the program; 51.2% of those trained were in the same or similar positions two years later; they comprise 20.4% of the total rural supervisors currently in those Regions. Regarding rural auxiliary nurses, it is estimated that a little more than one-half of the posted nurses were initially trained and that proportion remains roughly the same two years later; while about one-quarter of the initially-trained posted auxiliaries have moved on, their numbers have been replaced by the auxiliary nursing students trained under the program. For the nurse instructors, 50.1% were reached by the program and 70.4% of them were working in 1983, comprising 31.7% of the current total. The training provided to ophthalmologists took place during the past two years; the program reached 70.8% of these specialists and their numbers and activities have remained fairly stable during this period.

B. Planning and Design Process

The International Eye Foundation has established an overall goal, strategy, and particular areas of assistance which set the parameters of its potential involvement in the various countries within which it operates. Each country program is adapted to the particular needs, policies, and requests of that country. An initial subjective assessment of needs was done by the IEF Medical Director with input from the Chief of Ophthalmology at San Felipe Hospital. Discussions were later held between the Vice-Minister of Health, the Director General of Health, and the IEF Executive Director to outline a program of action and responsibilities. USAID/Honduras was involved at this time to determine the possibility and requirements of funding. Prior to the signing of the program agreements, little substantial input was made by MOH technical or field personnel.

The Division of Nursing initially assumed responsibility for developing a primary eye care program and embarked on a survey of needs (reported morbidity) and potential resources. This program design process was comprehensive, lengthy, and, in the end, inconsequential. The IEF felt that its role was well-defined and the instructor was anxious to start training. Key nursing personnel, who had been trained in Puerto Rico to coordinate the program, were reassigned to other functions. Subsequently, the Sub-Director of Human Resources Development, together with the IEF instructor, organized the training of auxiliary nurses. Planning for the specialized training of ophthalmologists was handled separately between the IEF Medical Director and the Chief of Ophthalmology at San Felipe Hospital.

C. Program Management

1. Field Office

The IEF did not maintain an office in Honduras and hired no local administrative support staff. Work space was made available to the IEF instructor by several of the Ministry of Health's divisions, but she did most of her office work at her apartment. In addition to her technical responsibilities, the instructor was in fact her own bookkeeper, typist, buyer, customs agent, commodity manager, driver, and courier. Matters were further

complicated because she had no previous administrative or international experience, and her Spanish ability was minimal. As a result, her effectiveness and efficiency, i.e. the time and effort required to accomplish both administrative and technical tasks, was significantly reduced. An initial orientation was provided to the IEF technician at the San Felipe Hospital.

Monthly allocations were made by the IEF central office for operating expenses in Honduras. Checks were deposited in the instructor's personal U.S. bank account; these funds were then periodically exchanged for local currency and deposited in a local checking account. At least one month was required by the local bank to clear the instructor's check and credit her account, thereby causing cash flow problems. (In Honduras, it is possible to wire money directly to a dollar account at the Banco Atlantida. Funds are held in dollars until a transfer is requested for conversion to a local currency account. These transactions can be accomplished in one or two days.) A list of expenditures and corresponding receipts were kept by the instructor and forwarded monthly to the IEF central office. Official program financial records were kept in the United States; expense accounts were classified by object of expenditure (see Table 2). No distribution or inventory records were kept for the commodities purchased or donated by the program; only shipping lists were kept in the home office.

2. Home Office

The central office of the International Eye Foundation has apparently been chronically understaffed. Throughout the life of the program in Honduras, and even before, there has been only one or two full-time senior staff and three administrative support staff to develop and manage a variety of international and domestic programs. During the three years that the IEF instructor was in Honduras, there were but four or five visits, of several days each on the average, by home office staff. It appears that the limited home office staff, while concerned and technically competent, did not have the time to give sufficient assistance to the Honduras program. Particular areas where such assistance was needed were in program development (at least in the area of primary eye care), administrative support systems for the program, and personal management and moral support for their field representative.

Several key personnel changes within the central office were made during this period, which brought concomitant shifts in philosophy and working relationships. At the same time a central development program grant (DPG) was running out and there was major concern about future funding. Support for the Honduras program vacillated between attempts to strengthen the program by providing more assistance for institution building, and the prevailing strategy to phase out activities in Honduras and devote more time and energy to larger programs in other countries. Field operations were unavoidably caught in these currents. Recent additions to the home office staff are a step in the process of strengthening central support; the IEF might consider, however, commissioning a management efficiency analysis to determine the optimum size and functional mix of personnel to adequately support field operations.

3. Host Government Role

In 1981 and 1982, Honduras experienced significant social changes in its shift from military rule to a constitutionally elected government. During this period, the Ministry of Health had three different Ministers and three Director Generals of Health; also the Division of Nursing, IEF's intended counterpart, was abolished. Management of program resources was, for the most part, assumed by the IEF directly. Resources within the MOH consisted of mainly the management of personnel time and level of effort. Each technical division involved decided the extent of support it would give to the program. One related issue which complicated program management was an apparent lack of communication and definition regarding the respective roles and responsibilities between the Division of Nursing and the IEF instructor: specifically, whether the first year should be devoted to study and program development or planning and organization for training.

Logistics support was another area to which the Government was contractually committed. IEF provided an initial supply of ophthalmic antibiotics, anesthetics, and other basic supplies necessary for primary eye care. The Ministry of Health, however, was not able to resupply the rural health centers on a regular basis. In general, maintenance of the equipment donated to San Felipe Hospital and the training materials and aids provided to each school of nursing has been quite good. However, the red eye charts observed in the rural health centers were, after two years at most, faded and in varying states of deterioration due to exposure and spraying with insecticides.

4. USAID - PVO Relationships

USAID/Honduras was involved minimally in the direct management of the program. Due to delay of almost one year between the initiation of contract negotiations and the first disbursement of funds, the IEF was not able to hold its original Spanish-speaking candidate for the instructor position in Honduras. Continuous Mission support was subsequently hampered by a change in three of the key program support persons within six months after the OPG was initiated. In 1980-81, the program was managed by the USAID health officer, who had other major responsibilities. Another manager was assigned to the program later but near the end of the grant period. The primary concern of USAID was reportedly with submission of the required reports. USAID/Honduras did conduct an evaluation of the OPG portion of the program in August 1981. The IEF periodically has used the facilities of the Embassy to ship some of the equipment and other small commodities destined for the program and San Felipe Hospital.

5. Monitoring and Evaluation

Little attention was given to developing an appropriate information system which would facilitate the monitoring and evaluation of program activities. Operational objectives were stated solely in terms of paramedical training, and those were the only numbers collected. One form was developed to record individual training activities for the Ministry of Health. This form was apparently used only by the principle trainers: the IEF instructor and the

Division of Nursing staff. No forms were found which recorded the activities realized after June 1981, nor were they found for the training of auxiliary nurses conducted by their (previously trained) supervisors. Unsubstantiated estimates were reported by the IEF instructor in her monthly reports, but in summary form.

The program proposal called for an initial prevalence survey to establish the basis for planning and evaluation of impact. This survey was not carried out, due to the lack of sufficient resources. The evaluation of program impact by alternative means -- changes in institutional morbidity patterns, referral patterns, and tracking of trained personnel, for example -- was not, at the onset, planned or supported by an ongoing data collection system. Likewise, criteria and specific indicators -- quantitative or qualitative -- were not defined for other, non-training but critical activities in program and administrative development. The failure to designate and utilize one central entity or division to coordinate the planning, execution, and monitoring of all program activities mitigated against the establishment of an effective and efficient system for the collection, processing, and utilization of appropriate information. Inadequate monitoring and evaluation systems make it difficult to measure the effectiveness of IEF in increasing the supply of (and demand for) eye care in recent years.

D. The Importance of the Program Environment

Several factors outside of IEF's direct influence could explain some of the increases in the availability and demand for services observed at the tertiary care facilities. The number of ophthalmologists practicing at San Felipe in 1982 was about 50% more than were available in 1980. All-weather roads were opened up in several regions which reduced barriers to seeking medical attention in the capital city. Political-military conflicts in neighboring El Salvador deterred people from seeking ophthalmological services in that country, thus "forcing" them to go to Tegucigalpa. Also in 1981 and 1982, the Honduran Society of Ophthalmology sponsored a series of service/promotional trips to outlying population centers and at least one radio program which served in some degree to raise the level of consciousness of the general public regarding eye problems and sources of assistance. Teams of foreign ophthalmologists and optometrists have periodically visited outlying areas in Honduras to provide services and promote preventive eye care, often referring cases for specialized care.

E. The Importance of Financial Constraints

The present analysis considers total program requirements towards the resolution of an identified problem area, i.e., blindness and the alleviation of eye morbidity. As such, several of the "deficiencies" noted previously may or may not bear directly on the responsibility of the IEF -- or the Ministry of Health or USAID/Honduras -- as specified in the agreements in force. However, we may well have a case of "winning a battle" (numbers of people trained) while "losing the war" (achieving lasting effects and impact). Clearly, there are significant conditioning factors -- economic, political, cultural, etc. -- which are outside the direct control of the program per se. All parties must take

responsibility, however, for identifying, to the best of their abilities, those constraints which impinge upon achieving the program purpose and are within their combined abilities to influence and change. The specific issues in the present case is: to what extent can the IEF, with its "limited" program, be held accountable for limited impact when USAID "failed to provide sufficient funds" and the Ministry of Health "failed to get organized." The question might be changed to: what could have been done differently with the same amount of available resources. One conclusion of this evaluation is that there were several possible alternatives -- to achieve a more lasting impact -- which were either not recognized or were not fully explored. Some of these alternatives include: more guidance and backstopping regarding program and institutional development for primary eye care; designing and conducting modified morbidity surveys in the field using nurse supervisors as investigators; working more closely and directly with the regional nurse staffs and focusing on regional programming; exploring the possibility of greater involvement of the private sector in blindness prevention.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. General Conclusions

The IEF/Honduras MG program has clearly achieved some of its objectives in designing and implementing effective eye care training programs for nurses and ophthalmologists. Unfortunately IEF/Honduras has not been as successful in demonstrating its conviction that to be effective, eye care workers, in addition to having high quality training, "must have appropriate support, supervision, and referral capabilities after training." Despite the pressures of excessive turnover of personnel and inadequate trainee reinforcement and support, IEF has laid the groundwork for a potential national blindness prevention and primary eye care program which should be expanded and strengthened -- not weakened by any cutback in IEF activities.

Impact of the program on the prevalence or incidence of blindness reductions in ophthalmic morbidity cannot be determined due to the lack of baseline and subsequent epidemiologic data. Indications are that the program has had some positive effect on the utilization rates at tertiary outpatient facilities -- probably as a result of increased referrals and public awareness -- but the extent of these effects cannot be isolated from the influence of extraneous factors. Program purposes and objectives were not precisely defined, nor was an adequate information system established by which to monitor and evaluate progress.

There are strong indications that the Ministry of Health, the IEF, and USAID/Honduras gave less than priority attention to this program -- particularly in the areas of institutional development and management support systems. The "successes" in training were due to the perseverance and commitment of the IEF instructor. More assistance can and should be provided -- with particular emphasis on the private sector -- to establish a blindness prevention program in Honduras.

B. Special Areas of Interest

1. Benefit Distribution and Spread Effects

IEF's basic approach to building integrated preventive eye care programs in developing countries normally involves "dialogue and cooperation between health providers, traditional practitioners, nutritionists, health planners, health administrators, community leaders and mobile outreach teams." (IEF Matching Grant proposal, February 1981.) In Honduras, IEF did not carry out any activities at the community level (except for the screening of a limited number of school children in Tegucigalpa.) IEF did, however begin the process of building both public and private sector relations which could provide the groundwork for a sustainable, cost effective and replicable program in the future if it is resolutely pursued.

2. Institutionalization

Two agreements were signed by the Ministry of Health and the International Eye Foundation (in August 1979 and September 1981) which authorized and committed a cooperative effort and assigned attributions to each party. Subsequently, however, the Ministry of Health failed to (1) formulate a policy statement defining the general problem and the Ministry's role in its resolution; (2) officially designate a functional division to develop and execute the program; and (3) develop operational regulations and mechanisms to implement the agreements. The MOH Division of Nursing assumed initial responsibility for program development but found it difficult, technically and bureaucratically, to move from planning to implementation. The two professional nurses who were sent to Puerto Rico for specialized training were assigned to other functions within six months after their return. The Division of Nursing was eventually abolished in early 1982 because of unrelated but persistent problems within the Ministry. Support for the in-service training of auxiliary nurses by the Sub-Director of Human Resources Development dissipated in that Division after he left for another position.

The IEF instructor was trained and hired to train paramedical personnel. She was not particularly interested in or prepared, technically or culturally, to engage in the often tedious and detailed process of program development and institution building. The IEF central office apparently made little effort to provide their field representative with adequate orientation and backup support in these areas. The USAID mission to Honduras initially requested an expanded OPG proposal to include such institution-building and systems development activities, but later declined to provide sufficient funding for technical assistance in this area.

Blindness and ophthalmic morbidity are not priority problems for the Ministry of Health in Honduras. Direct mortality is nonexistent, but the consequences are serious, high, debilitating, and in large part preventable. The cost of providing preventive and primary eye care within a primary health care system is relatively inexpensive -- in time and money. A problem does not have to be a "priority" in order to merit the establishment of a formal, continuous program: but it does require action. The Ministry of Health, IEF, and USAID/Honduras cannot disavow direct or indirect responsibility for promoting those mechanisms which guarantee the continuity and sustainability of the interventions they initiate.

The feasibility of establishing a primary or complementary role within the private sector for a blindness prevention program was likewise not seriously explored. The formation of an apolitical, non-profit commission, foundation, or committee, as has been successfully done in many countries, would appear to be a viable alternative for concerted action and a means for coordinating and complementing the heretofore limited activities of the Ministry of Health, University, Society of Ophthalmology, and private organizations. The Honduran Society of Ophthalmology is itself unorganized and somewhat inactive; it is not affiliated, for example, with the Pan American Association of Ophthalmology.

3. Sustainability and Replicability

A formal, organized program for the purpose of promoting, coordinating, and executing activities for the prevention of blindness has not been established in Honduras; nor have such activities been systematically incorporated into any functional division of the Ministry of Health. While the need and feasibility of at least a minimal but continuous program to sustain and build on the IEF inputs is recognized by the principle parties -- Ministry of Health, IEF, USAID/Honduras, ophthalmologists -- nobody assumed and acted on a responsibility to insure that institutionalization would effectively take place. As a result, key achievements of the IEF program -- notably training and commodities -- are likely to dissipate rapidly. (This lack of organization, coordination, and a systems approach to program development, however, is not unique to the IEF program in Honduras.)

It is regrettable that IEF currently plans to discontinue its activities in Honduras. The in-country advisor terminated in September 1982 and will conduct one or two additional "follow-up" training sessions; one final staff ophthalmologist will visit the United States in 1983; and possibly one additional in-country tertiary care seminar will be scheduled. Many of the present recommendations will likely go unheeded for lack of a responsible entity to follow through. This is unfortunate because a potential base presently exists on which to develop a blindness prevention program: local ophthalmologists are sensitized to the problem, but lack of a sense of organization and definition; Ministry of Health primary care personnel are willing and able to do more, but require continuing support; the Ministry of Health is currently undergoing a major management improvement effort and could be influenced in its programming exercises; the University Schools of Nursing and School of Medical Sciences have expressed interest in further primary and secondary eye care activities; and the development of a private sector program shows potential. But all of these areas require continual technical assistance during the next several years to be adequately developed.

4. Cost-effectiveness

Direct expenditures by the International Eye Foundation, and covering all the training noted previously, amounted to \$212,580. The value of Ministry of Health and other inputs has not been calculated. The IEF financial accounting and reporting system does not itemize expenses by program activity. Nevertheless, most of the personnel costs can be attributed to the training of paramedical personnel and most of the travel and commodities supported the upgrading of tertiary care services. Likewise, it is felt that the "training" and large amount of "other" expenses basically supported the activities of the IEF paramedical instructor. Therefore, roughly two-thirds of the total expenditure can be attributed to the training of professional and auxiliary nurses and school teachers, and one-third supported the training of the ophthalmologists. The total unit cost of training and supplying 1251 paramedical personnel (Table 4) and 19 tertiary care personnel (Tables 5 and 6) was \$167 per trainee. The comparative costs between these two groups was \$113 per primary care worker and \$3729 per tertiary care worker. While the magnitude of the difference is considerable (33X) it should be remembered that the tertiary care facilities currently handle more than one-third of the

(reported) outpatient morbidity in Honduras and obviously the most serious cases. However, it is this imbalance which a primary care program, in any specialty, attempts to rectify.

5. Training

a. Professional Nurses

A major concern about the IEF activities in Honduras is with the residual effects of the paramedical training. An impressive number of people were trained or oriented in primary eye care and basic ophthalmology. Much of the training was accomplished by the IEF instructor herself after the two Honduran nurses trained in Puerto Rico were reassigned to non-PEC activities and the Ministry of Health failed to establish an operational program. While expedient in the short-term, the consequences of this largely unilateral effort were mixed: the training of professional nurses reached just over 50% of the rural nurse supervisors and nursing school instructors at that time (1981); the length and content of training varied considerably because of lack of accepted norms and scheduling; approximately one-third of the professional nurses trained were Peace Corps volunteers who, while often enthusiastic facilitators, are temporary health workers in Honduras; and, most significantly, by 1983 only 18% of the current nurse supervisors and 32% of current nurse instructors had received the training (Tables 7 and 8).

b. Auxiliary Nurses

Personnel turnover and the lack of replacement training was also a problem, though not as severe, with auxiliary nurses in rural areas. Encouragingly, in perhaps four of the Health Regions where supervisors had been trained (Regions 2 through 5), indications are that these supervisors, in turn, trained at least 90% of their auxiliary nurses, usually in half-day sessions. However, this training, as with the training of professional nurses, was a one-time effort. By 1983, it was estimated that about 30% of the auxiliary nurses were "new" and, therefore, untrained in primary eye care. When asked why refresher and replacement training courses had not been given periodically, the supervisors responded that their, and the auxiliaries' time, was largely taken by the demands of the priority programs of the Ministry; moreover, primary eye care was not viewed as a "formal" program of the Ministry of Health, but rather as a well-intended activity of an independent organization (or individual) and, to a lesser extent, a now defunct Division of Nursing. Because eye problems constitute a low percentage of rural morbidity, reinforcement of prior learning through practical experience and problem-oriented supervision is almost nonexistent.

c. Rural Physicians: Secondary Eye Care

A significant omission in the IEF program in Honduras was its lack of provision for training rural physicians. The Ministry of Health retains 267 physicians at the CESAMO level and another 65 at the small Area hospitals (Table 3). The program concentrated on the primary and tertiary levels of care while

by-passing this first line of referral. (Some equipment and materials were provided to four of the 120 CESAMOs and Area hospitals.) Complicating any training at this level is the high rate of turnover of rural physicians: the vast majority are satisfying their "year of social service" after graduation and rotate annually. Medical students rotate through San Felipe Hospital ophthalmology service for two weeks, in addition to their basic courses in anatomy and physiology. The Vice-Dean of the School of Medical Sciences expressed his concern and strong interest in providing additional training in primary and secondary eye care for sixth-year students or recent graduates.

C. Recommendations

The overall goal of the IEF is to alleviate blindness in the countries in which it works. The specific purpose of the program in Honduras has varied and has lacked precision during the period of implementation. At various times, statements have referred to a reduction of morbidity, training, the improvement of central services, and/or the development of institutional "capacity" as the program purpose.

Recommendation No. 1: It is imperative that the purpose of the program be clearly stated and consistent throughout the life of the program. Appropriate criteria must be identified which adequately reflect the parameters and limitations of the program and permit the selection of specific indicators by which progress may be determined.

Due to the lack of baseline epidemiologic data, program impact was estimated by analyzing morbidity reported at Ministry of Health primary and tertiary care centers. Indications are that there has been some positive effect on the utilization rates at tertiary eye care facilities and on the detection and treatment of visual problems and blindness-causing afflictions; but the extent of these effects cannot be isolated from the influences of other extraneous factors. Improvements attained at the tertiary level will in all likelihood be maintained due to the interest and influence of the staff ophthalmologists; it is doubtful, however, that the immediate accomplishments at the primary care level, i.e. training and the provision of materials and medications, will be sustained because the program has not been institutionalized within the Ministry of Health, or elsewhere.

Recommendation No. 2: Monitoring and evaluation needs and methodology should be analyzed and determined during the planning phase of the program. An explicit system for the timely collection and analysis of appropriate data required for the monitoring and progress and evaluation of program effects and impact should be designed and established at the onset of programmed activities.

The number of professional and auxiliary nurses trained by the IEF instructor substantially exceeded planned targets. The core curriculum was appropriate for local eye problems and prescribed roles. Teaching methodology -- stressing

audio/visual aids and "hands on" experience -- was especially appreciated and effective. The training provided for tertiary care professionals was also found to be valuable and appreciated.

Recommendation No. 3: Measures should be taken to encourage and strengthen professional ties between Honduran ophthalmologists and their regional counterparts. The IEF might explore the possibility of sponsoring residencies in and seminars by experts from these countries.

The provision of clinical and surgical equipment has been instrumental in upgrading the quality of eye care offered at the San Felipe tertiary hospital. Likewise, the audio/visual training and reference materials -- charts, films, model eyes, etc. -- were found to be appropriate, useful and utilized, though in varying degrees, at the nursing schools.

Recommendation No. 4: Charts intended for open or public display, e.g. the red eye chart and the visual acuity chart, should be made of or laminated with a material resistant to deterioration and designed so that they can easily be hung and removed.

Recommendation No. 5: Visual acuity charts should be standardized in Honduras as to form ("E" or "C") and measurement system (Spanish 20/20 or metric 6/6).

Recommendation No. 6: Simple visual aids, e.g. flip charts, could have been produced and distributed to help rural auxiliary nurses promote community awareness and individual action regarding primary eye care.

A formal, organized program for the purpose of promoting, coordinating, and executing activities for the prevention of blindness has not been established in Honduras; nor have such activities been systematically incorporated into any functional division of the Ministry of Health. The need and feasibility of at least a minimal but continuous program exists and is recognized; but the necessary steps to assure the institutionalization of IEF efforts were not taken. All major parties -- the Ministry of Health, IEF, and USAID/Honduras -- were negligent in this respect.

Recommendation No. 7: A formal program for the prevention of blindness and alleviation of eye morbidity is without question needed in Honduras. Coordination between the public and private sectors, recognizing the important roles of each, is feasible and necessary.

Recommendation No. 8: A specific division within the Ministry of Health should be officially charged to develop a comprehensive, even if minimal, eye care program for the public health sector. The program should develop an appropriate policy statement and consider primary, secondary, and tertiary care levels within the current strategies and plans of the Ministry.

Recommendation No. 9: Recognizing the relatively low profile likely to be afforded to eye care within the Ministry of Health, and the potential roles for non-governmental groups, the possibility for establishing a blindness prevention program in the private sector should be seriously explored.

Recommendation No. 10: The Honduran Society of Ophthalmology is in need of being better organized and more active, particularly in the areas of public service and continuing professional education.

An impressive number of paramedical workers were trained or oriented in primary eye care and basic ophthalmology. Personnel turnover and the lack of replacement training has been a serious problem with both professional and auxiliary nurses; reinforcement of prior training through practical experience and problem-oriented supervision is almost nonexistent. The lack of a continuing program threatens to erase initial accomplishments.

Recommendation No. 11: Short refresher courses on primary eye care should be given to all rural auxiliary nurses and nurse supervisors on an annual basis. This training should be incorporated into the regular continuing education program of the Ministry of Health at the regional level.

Recommendation No. 12: To be effective, training and supervision must be accompanied by adequate and timely supplies of materials and medications, including red eye charts, visual acuity charts, tetracycline ophthalmic ointment, alcaine ophthalmic drops, and 1% silver nitrate drops, to rural areas.

The three schools of professional nursing devote more than 40 hours of theory and practice in basic ophthalmology and the pathology and treatment of common eye problems. IEF assistance was reportedly more beneficial regarding teaching methods and techniques than in changing curriculum content. At the three Ministry of Health centers for training auxiliary nurses, the standardized curriculum presently contains less than two hours of theory and practice in primary eye care.

Recommendation No. 13: The curriculum for training rural auxiliary nurses must be expanded and upgraded. Major emphasis should be given to the detection and treatment (when indicated) of common morbidity, visual acuity screening, and the maintenance of simple, but adequate records and statistics.

A significant omission in the IEF program in Honduras was the lack of training for rural physicians, i.e. the secondary care level. Complicating any training at this level is the high rate of turnover dictated by the obligatory "year of social service" in rural areas. Medical students have a two-week rotation through the ophthalmology service at San Felipe Hospital.

Recommendation No. 14: The IEF should consider supporting the development of an intense segment on primary and secondary eye care for sixth year medical students prior to graduation.

Little attention was given to developing an appropriate information system which would facilitate the monitoring and evaluation of program activities. The program proposal called for an initial prevalence survey to establish the basis for planning and evaluation of impact, but this survey was not carried out. Criteria and specific indicators were not defined for critical, non-training activities in program and administrative development.

Recommendation No. 15: At the onset of a formal program for the prevention of blindness, a nation-wide prevalence survey should be conducted to determine not only the overall extent of the problem, but perhaps more importantly, the major eye pathology in rural areas and the places and populations at highest risk. This study should be incorporated into a larger household morbidity survey to minimize costs in time and money.

Recommendation No. 16: A complete information system should be designed and in place at the beginning of the program to assure the adequate analysis and reporting of program effects and impact and to periodically monitor progress. The system should utilize the primary data systems of the Ministry of Health and avoid duplication and overburdening of the primary health care workers.

Recommendation No. 17: A National Blindness Registry should be established to document the prevalence and incidence of blindness in Honduras.

The IEF ophthalmological technologist in Honduras was technically very competent in her specific field. She was, however, alone and minimally prepared -- in language, cross-cultural experience, and in program development methods -- to deal with the complex programmatic tasks with which she was faced. The central office of the IEF has been chronically understaffed and, while concerned, did not have the time to give sufficient assistance to the Honduras program.

Recommendation No. 18: The IEF program in Honduras required three to four home office support visits per year, including specific technical assistance in the area of program development and institutional development. The size and functional organization of the home office might be analyzed with regard to field support requirements.

The International Eye Foundation was engaged in several specific activities which have the potential for contributing to the alleviation of ophthalmic morbidity and the prevention of blindness in Honduras. Its interventions were limited with respect to establishing a functional and integrated program.

Coordination with other entities, to fill in the gaps in service delivery and support, failed to take place and, as a result, overall impact of the program has been minimal. In spite of the constraints, there were several possible alternatives -- to achieve a more lasting impact -- which were either not recognized or were not fully explored. Many of the present recommendations will likely go unheeded for lack of a responsible entity to follow through. It is extremely unfortunate that IEF collaboration is rapidly being phased out, while a good but inexperienced and unorganized base presently exists on which to develop a blindness prevention program.

Recommendation No. 19: It is recommended that the International Eye Foundation give serious consideration to extending its commitment to Honduras under the current matching grant by providing additional technical assistance to interested parties, in both the public and private sectors, to develop a formal program for the prevention of blindness. This assistance may be intermittent and might be obtained most effectively and least expensively from neighboring countries which have successfully developed such programs.

D. General Lessons Learned

1. The in-country program staff must be well-rounded concerning the issues of development administration and cross-cultural technology transfer. This is especially critical when the staff is expatriot and/or comprised of only one person. In addition to his or her specific field of expertise, the advisor should have a basic understanding of program and institutional development, management support systems, and previous experience relevant to the cultural setting, at a minimum.

2. Strictly technical interventions, particularly in the areas of training and the provision of commodities, often have limited impact and are relatively costly when adequate attention is not given to institutionalization and management support systems. "Doing it yourself" is often more expedient, but is rarely effective in the long run.

3. The auxiliary nurse in rural areas is the most overloaded person in the health care system. As very often the only service provider at the community level, he or she is charged with carrying out the myriad tasks assigned as priorities by the multitude, and often uncoordinated, technical and administrative divisions of the Ministry of Health. A great deal of care, planning and coordination is required concerning the assignment and support of tasks for rural health workers.

APPENDIX

A. TABLES AND FIGURES

- Table 1 Population (in thousands) of Honduras, by health region and year, 1978-1983
- Table 2 Program expenses by line item and year, 1979-1983
- Table 3 Ministry of Public Health facilities and personnel resources potentially available for preventive and curative eye care, Honduras, 1983
- Table 4 Documented training activities accomplished, by type of participant and year, 1950-1982
- Table 5 Continuing education seminars conducted by the IEF for Honduran ophthalmologists, 1982-1983
- Table 6 Fellowships provided by the IEF to Honduran physicians, 1982-1983
- Table 7 Professional nurse supervisors trained in primary eye care, initial and current coverage, by health region, 1980-1981 and 1983
- Table 8 Nurse instructors trained in primary eye care, initial and current coverage, by school of nursing, 1981-1982 and 1983
- Table 9 Reported ophthalmic morbidity from hospital discharges, by year, 1978-1982
- Figure 1 Rates of specific ophthalmic morbidity from hospital discharges, by year, 1978-1982
- Table 10 Reported ophthalmic morbidity from outpatient visits at rural health centers, 1980 and 1982
- Table 11 Ophthalmic outpatient morbidity at San Felipe Hospital, 1980 and 1982
- Figure 2 Changes in ophthalmic outpatient morbidity at San Felipe Hospital between 1980 and 1982

B. LIST OF DONATED EQUIPMENT AND SUPPLIES

C. BIBLIOGRAPHY

D. LIST OF PERSONS CONTACTED

E. ITINERARY OF THE EVALUATION

TABLE 1

Population (in thousands) of Honduras, by health region and year, 1978-1983

Health Region	1978	1979	1980	1981	1982	1983
Metropolitan	407	422	442	460	508	532
Region 1	365	379	377	391	382	393
Region 2	337	349	363	373	385	395
Region 3	918	951	999	1040	1089	1135
Region 4	421	436	452	465	469	480
Region 5	409	424	437	447	455	475
Region 6	390	404	417	434	449	467
Region 7	191	198	204	211	218	225
TOTAL	3,438	3,563	3,691	3,821	3,955	4,091
Rural	2,256	2,312	2,367	2,421	2,475	2,530
Percent Rural	65.6	64.9	64.1	63.4	62.6	61.8

Source: Ministry of Public Health, Department of Statistics.

TABLE 2

Program expenses by line item and year, 1979-1983

LINE ITEM	O.P.G.	MATCHING GRANT		TOTAL	PERCENT
	Sept. 1979 Sept. 1981	July 1981 June 1982	July 1982 June 1983		
Personnel Services	59,441	18,474	16,052	93,969	44.2
Operating Expenses	-0-	599	521	1,120	0.5
Travel	-0-	2,900	11,474	14,374	6.8
Commodities	46,107	1,229	2,275	49,611	23.3
Training	14,482	322	1,685	16,489	7.8
Other	35,484	1,356	177	37,017	17.4
TOTAL	155,514	24,882	32,184	212,580	100.0
PERCENT	73.2	11.7	15.1	100.0	
USAID/AID CONTRIBUTION	155,514	10,007	20,654	186,175	
PERCENT OF TOTAL	100.0	40.2	64.2	87.6	

Source: International Eye Foundation

TABLE 3

Ministry of Public Health facilities and personnel resources
potentially available for preventive and curative eye care, Honduras, 1983

Health Region	Tertiary Ophthalmic Care Hospitals	Regional and Area Secondary Hospitals	Medical Posts (CESAMO)	Health Posts (CESAR)
Metropolitan	2*	0	14	6
Region 1	0	1	18	65
Region 2	0	1	13	59
Region 3	0	5	29	74
Region 4	0	1	11	64
Region 5	0	1	19	62
Region 6	0	4	10	59
Region 7	0	1	9	48
TOTAL	2	14	123	437

Source: Ministry of Public Health, Planning Division

*San Felipe Hospital provides ophthalmic care to adults (14 years and older); the Teaching Hospital provides pediatric ophthalmic care.

General Physicians in Medical Posts	Total Physicians in Regional & Area Hospitals	Ophthalmologists in Public Hospitals	Total Ophthalmologists	Non-Hospital Nurse Supervisors	Non-Hospital Auxiliary Nurses
63	0	10	16	18	79
25	11	0	0	18	136
27	10	0	0	14	152
56	105	3	7	24	181
22	26	0	0	7	113
27	19	0	0	13	135
32	58	0	1	16	141
15	11	0	0	11	74
267	240	13	24	121	1011

TABLE 4
Documented training activities accomplished
by type of participant and year, 1980 - 1982.

Participants	1980	1981	1982	Total	Percent
Rural nurse supervisors	10	31(a)	-	41	3.3
Nurse instructors	(b)	26	1	27	2.2
Other professional staff	-	34(c)	-	34	2.7
Peace Corps volunteers	15	44	16	75	6.0
Professional nurse students	-	77	-	77	6.1
(Subtotal)	(25)	(212)	(17)	(254)	(20.3)
Auxiliary nurses	102(d)	294	-	396	31.6
Auxiliary nurse students	96	265	-	361	28.9
(Subtotal)	(198)	(559)	-	(757)	(60.5)
Health promoters (e)	-	-	30	30	2.4
School teachers (f)	-	-	210	210	16.8
(Subtotal)	-	-	(240)	(240)	(19.2)
TOTAL	223	771	257	1,251	100.0

Sources: IEF monthly and quarterly reports; Ministry of Health training reports.

- (a) Includes 10 Peace Corps volunteers serving as Ministry of Health supervisors.
- (b) Not included here are the two nurses sent to Puerto Rico.
- (c) Includes 30 hospital-based nurses and 4 (non-nurse) continuing education coordinators.
- (d) Includes 78 hospital-based auxiliary nurses.
- (e) Training in emergency eye care only.
- (f) Training in visual acuity screening, problem detection and referral only.

TABLE 5

Continuing education seminars conducted by
IEF for Honduran ophthalmologists, 1982-1983

Month	Discussant	Subject	Days	Participants
April 1982	Larry King, MD IEF/Bethesda	Retinal diseases	3	11 Ophthalmol- ogists, 2 "res- idents" (a)
December 1982	William Townsend MD Puerto Rico	Anterior Segment (incl. cornea, lens, and con- junctiva)	3	16 Ophthalmol- ogists, 3 "res- idents" (b)
February 1983	Larry King, MD IEF/Bethesda	Retina and Vitreous Humor	4	6 Ophthalmol- ogists, 2 "res- idents"

Source: IEF reports and San Felipe Hospital, Department of Ophthalmology.

(a) includes 2 Ophthalmologists from San Pedro Sula

(b) includes 3 Ophthalmologists from San Pedro Sula

Note: A total of 19 physicians attended one or more of the seminars;
7 attended all three, 7 attended two, and 5 attended one.

TABLE 6

Fellowships provided by IEF to Honduran physicians
1982 - 1983

Date Initiated	Participant	Place of Training	Length in (weeks)	Course/Subject
Jan. 1980	Ana Maria de Sanchez, RN Emma de Garcia, RN	Puerto Rico	15	Basic Ophthalmology for Nurses
Feb. 1982	Denis Espinol, MD	Puerto Rico	20	Basic Sciences in Ophthalmology
Oct. 1982	Laura Nuñez MD*	Washington, DC Royal Oak, MI	5	Retina
Feb. 1983	Hector Nery Pineda, MD	Puerto Rico	20	Basic Sciences in Ophthalmology
Mar. 1983	Edgardo Navarrete, MD*	Washington, DC Philadelphia	4	Orbital Surgery
Sept. 1983	Mario Leon, MD*	Kansas City	6	Retina

* Certified Ophthalmologists

TABLE 7
Professional Nurse Supervisors Trained in Primary Eye Care,
Initial and current Coverage, by Health Region, 1980-1981 and 1983

Health Region	No. Nurse Super- visors, 1981 (a)	No. Supervisors Trained 1980-1981	Percent Nurse Supervisors Trained	Number Other Personnel Trained
Metropolitan	16	0	0	0
Region 1	8	0	0	0
Region 2	9	7	77.8	4
Region 3	18	13	72.2	1
Region 4	6	5	83.3	5
Region 5	9	7	77.8	9
Region 6	7	3	71.4	7
Region 7	6	6	100.0	8
TOTAL	79	41(b)	51.9	34(c)

Percent Supervisors of Total Trained	Number Nurse Super- visors (a) 1983	Current Number Supervisors Trained	Percent Current Supervisors Trained
-	18	1	5.6
-	18	0	0
63.6	14	6	42.9
92.9	24	6	25.0
50.0	7	2	28.6
43.8	13	2	15.4
30.0	16	3	18.8
42.9	11	2	18.2
54.7	121	22	18.2

Source: Ministry of Health, Planning Division; IEF training records; field interviews.

(a) Includes supervisors at the Regional, Area and Medical Post (Cesamo) Levels

(b) Includes 10 Peace Corps Volunteer Nurses, in supervisory positions

(c) Includes 30 Hospital-based Nurses and 4 Continuing Education Coordinators (non-nurses)

TABLE 8

Nurse Instructors Trained in Primary Eye Care, Initial
and Current Coverage, by School of Nursing, 1981-1982 and 1983

Teaching Institution	Number Nurse Instruct. 1981	Number Instruct. Trained 1981-82	Percent Nurse Instruct. Trained	Number Nurse Instruct. 1983	Current Number Trained Instruct.	Percent Current Instruct. Trained
Auxiliary Nursing School Tegucigalpa (CENARH)	11	1(a)	9.1	11	1	9.1
Auxiliary Nursing School Choluteca (CERAR-Sur)	9	6	66.7	7	2	28.6
Auxiliary Nursing School San Pedro Sula (CERAR-Norte)	8	1(a)	12.5	8	0	0
Professional Nursing School Tegucigalpa (UNAH)	12(b)	10	83.3	15	10	66.7
Professional Nursing School San Pedro Sula (UNAH)	3(c)	0	0	9	2	22.2
Professional Nursing School La Ceiba (Standard Fruit)	10	10	100.0	10	4	40.0
TOTAL	53	27	50.1	60	19	31.7

Source: IEF training records; field interviews.

(a) Peace Corps Volunteers

(b) Two Instructors Were Absent at the Time Course was Given

(c) Full Time Instructors Only

TABLE 9

Reported ophthalmic morbidity from hospital discharges, by year, 1978-1982

Specific Morbidity *	1978		1979		1980		1981		1982	
	Number of cases	Rate per 100,000								
Cataract (366)	546	15.9	406	11.4	366	9.9	476	12.5	553	14.0
Wounds, Burns, Trauma (870-950)	242	7.0	193	5.4	270	7.3	246	6.4	286	7.2
Disorders of the Conjunctiva (372)	60	1.7	46	1.3	161	4.4	181	4.7	173	4.4
Glaucoma (365)	118	3.4	95	2.7	105	2.8	149	3.9	157	4.0
Disorders of the Cornea (370-371)	68	2.0	54	1.5	101	2.7	106	2.8	141	3.6
Disorders of the Retina, Choroid, Sclera, Optic Nerve (361-363, 377)	67	1.9	61	1.7	91	2.5	101	2.6	124	3.1
Strabismus (378)	62	1.8	36	1.0	74	2.0	62	1.6	102	2.6
Other Disorders of the Eye	207	6.0	190	5.3	285	7.7	287	7.5	394	10.0
Total Eye Morbidity	1,370	39.8	1,081	30.3	1,453	39.4	1,608	42.1	1,930	48.8

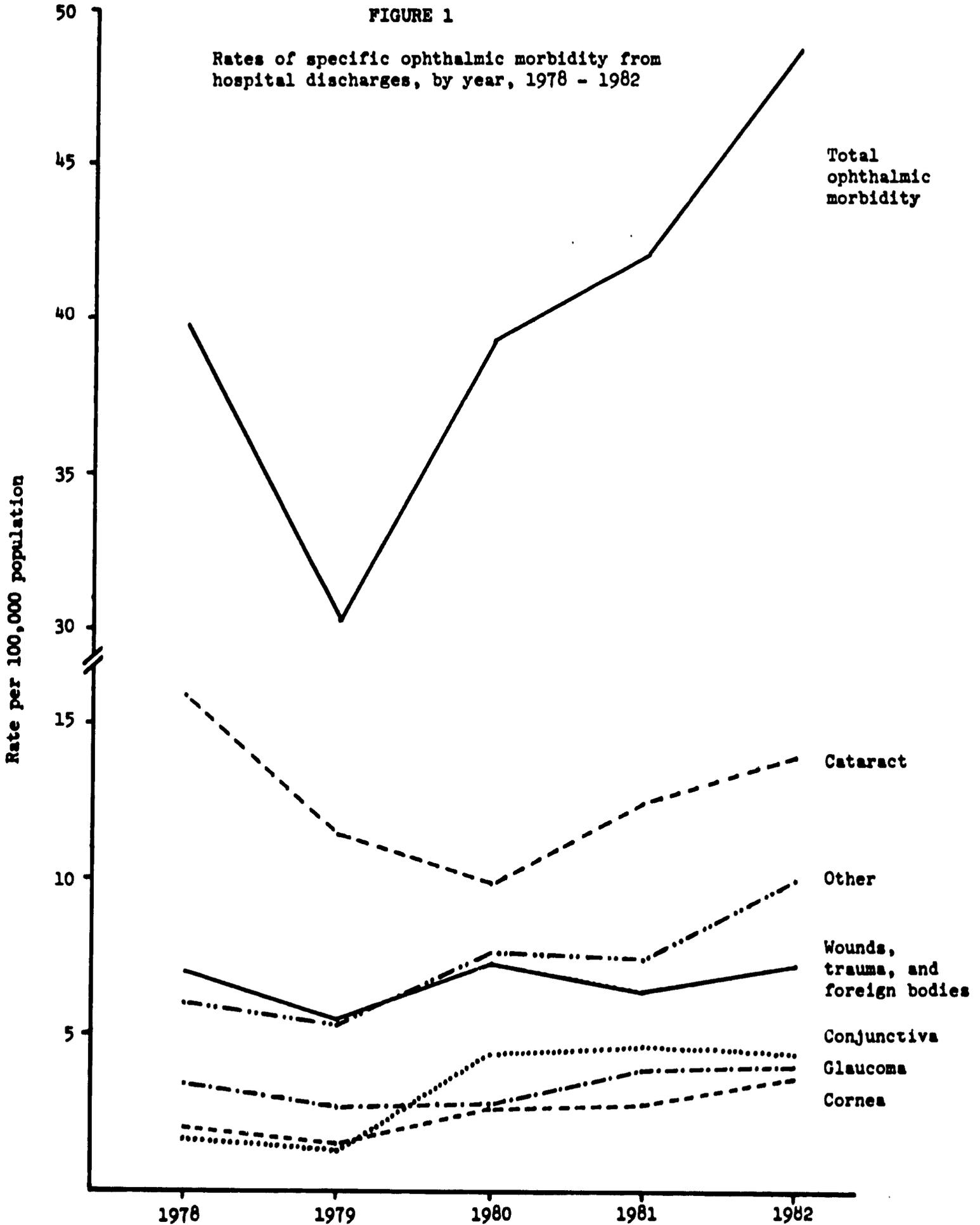
Source: Ministry of Public Health, Statistics Department.

* Numbers refer to ICD International Classification of Morbidity, Ninth Edition.

55

FIGURE 1

Rates of specific ophthalmic morbidity from hospital discharges, by year, 1978 - 1982



Source: Table 9.

TABLE 10

Reported ophthalmic morbidity from outpatient visits (a) at rural health centers,
1980 and 1982

Specific Morbidity*	1980		1982		Percent Change (b)
	Number of Visits	Rate per 100,000	Number of Visits	Rate per 100,000	
Disorders of the conjunctiva (372)	1,259	34.1	1,386	35.0	+2.6
Refractive errors, vision disorders (376,368)	239	6.5	75	1.9	-70.8
Disorders of the lid (373,374)	150	4.1	163	4.1	0
Cataract (366)	139	3.8	146	3.7	-2.6
Strabismus (378)	93	2.5	146	3.7	+48.0
Wounds, burns, trauma (870-950)	94	2.5	103	2.6	+ 4.0
Glaucoma (365)	83	2.2	42	1.1	-50.0
Disorders of the cornea (370,371)	58	1.6	33	0.8	-50.0
Other disorders of the eye	191	5.2	384	9.7	+87.5
Total Eye Morbidity	2,306	62.5	2,478	62.7	+ 0.3

Source: Ministry of Public Health, Statistics Department

(a) 10% sample of daily reporting forms

(b) Change in rates

*Numbers refer to WHO International Classification of Morbidity, Ninth Edition

TABLE 11

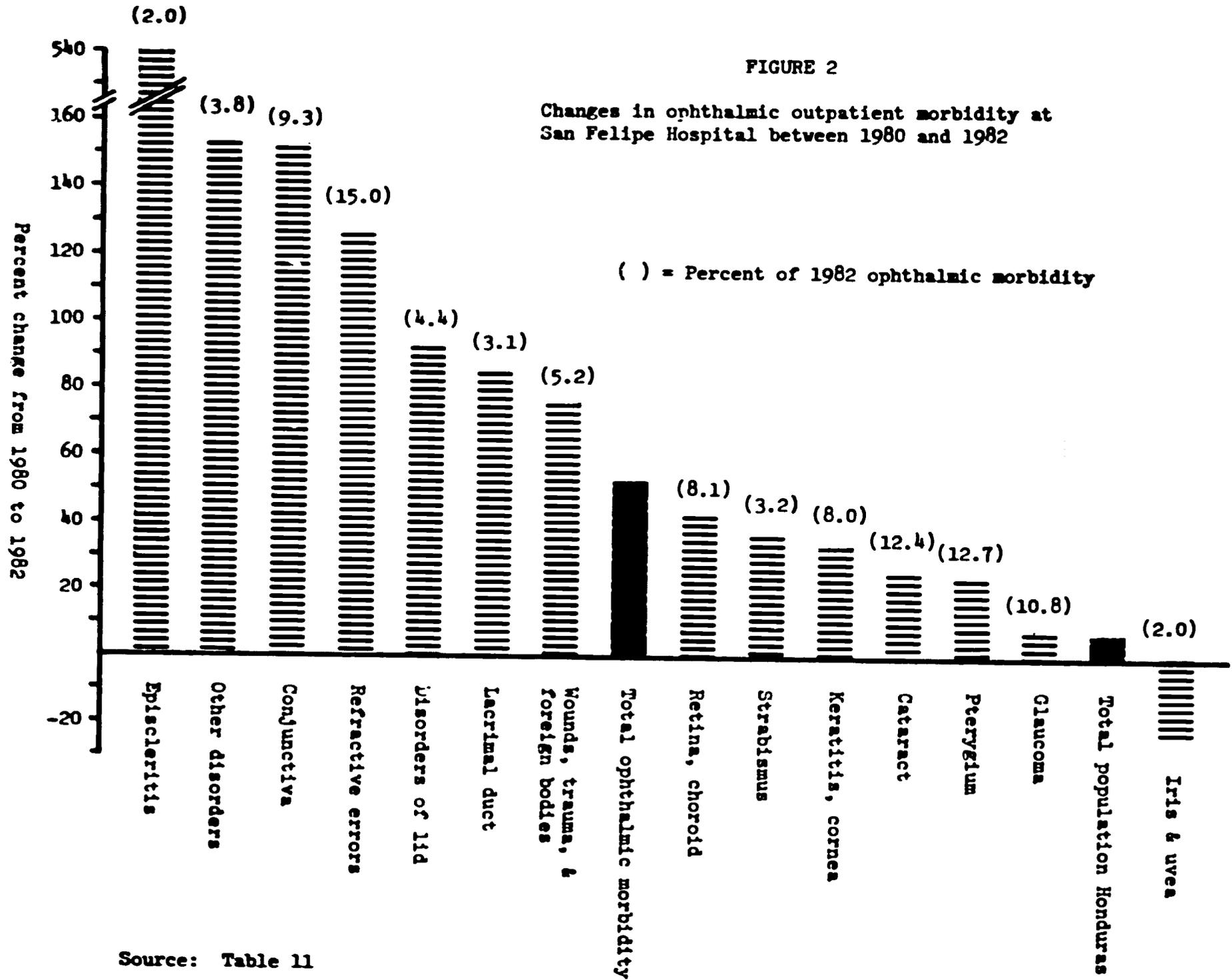
Ophthalmic outpatient morbidity at San Felipe Hospital (a), 1980 and 1982.

Specific Morbidity	1980 Consultations (b)		1982 Consultations (b)		Percent Change	Relative Change (c)
	Number	Percent	Number	Percent		
Pterygium	166	15.7	205	12.7	23.5	.5
Cataract	160	15.1	200	12.4	25.0	.5
Glaucoma	159	15.0	173	10.8	8.8	.2
Refractive error, vision disorders	106	10.0	241	15.0	127.4	2.5
Keratitis, disorders of the cornea	97	9.2	129	8.0	33.0	.6
Disorders of the retina, choroid, etc.	92	8.7	131	8.1	42.4	.8
Disorders of the conjunctiva	59	5.6	149	9.3	152.5	2.9
Wounds, trauma, foreign body	48	4.5	84	5.2	75.0	1.4
Disorders of the iris and uvea	41	3.9	32	2.0	-22.0	-.4
Strabismus	38	3.6	52	3.2	36.8	.7
Disorders of the lid	37	3.5	71	4.4	91.9	1.8
Disorders of the lacrimal duct	27	2.5	50	3.1	85.2	1.6
Episcleritis	5	0.5	32	2.0	540.0	10.4
Other disorders of the eye	24	2.2	61	3.8	154.2	3.0
Total sample morbidity	1,059	100.0	1,610	100.0	52.0	1.0
Estimated total annual cases and rate/100,000 pop.	8,472	229.5	12,880	325.7	41.9 (d)	-

Source: San Felipe Hospital, Department of Statistics.

- (a) University teaching service in ophthalmology, adult (14 years and older) attention only.
 (b) 25% sample of outpatient reporting schedules for months of February, March, June, August, November, and December.
 (c) Percent change in specific morbidity divided by percent change of total morbidity (52.0).
 (d) Total population of Honduras increased by 7.2% between 1980 and 1982.

46.3



Source: Table 11

APPENDIX B

LIST OF DONATED EQUIPMENT AND SUPPLIES

San Felipe Hospital, Teucicualpa

E-Carpine, 2%	2148	bottles
E-Carpine, 6%	540	bottles
Glaucon, 1%	1116	bottles
Decadron eye drops	1728	bottles
Prednisone eye drops	720	bottles
Tetracaine HCl, 0.5%	480	bottles
Cleara	2000	bottles
Isopto PES	900	bottles
Statrol	59	bottles
Statrol	48	tubes
Econochlor	564	bottles
Achromycin (tetracycline), 1%	3000	tubes
Vitreous control console unit	1	unit
Trephine control console unit	1	unit
Ocular hypertension indicators	7	units
Fluor-I-Strips	11	boxes
Ophthalmoscopes	4	units
Chalazion kits	7	units
Rust ring removers	6	units
Aphakic glasses	319	units
Schiotz tonometers	2	units
Opti-Visors	7	units
Visual acuity occluders	5	units
Titmus fly test	4	units
Eye dressing kits	58	units

Leonardo Martinez Hospital, San Pedro Sula

Decadron eye drops	1728	bottles
Prednisone eye drops	720	bottles
Tetracycline ophthalmic ointment	864	tubes
Alcaine ophthalmic drops	24	bottles
Fluor-I-Strips	4	boxes
Visual acuity occluders	2	units
Titmus fly test	1	unit
Opti-Visor	1	unit
Ophthalmoscope	1	unit
Chalazion kit	1	unit
Wirt drill	3	units
Ocular hypertension indicator	3	units
Prism bar	1	unit
Aphakic glasses	20	units

Plastic "E" charts	2	units
Primary eye care manuals	20	units
Red eye charts	20	units
Nutrition charts on Vitamin A	5	units

Atlantida Hospital, La Ceiba

Tetracycline ophthalmic ointment	100	tubes
Alcaine ophthalmic drops	3	bottles
Opti-Visor	1	unit
Chalazion kit	1	unit
Rust ring remover	1	unit
Fox shields	2	units
Ophthalmoscope	1	unit
Plastic "E" chart	1	unit
Landolt "C" charts	15	units
Primary eye care manuals	20	units
Red eye charts	20	units

Medical Centers (CESAMO) in Nacaome, Catacamas, Tela, Santa Rosa de Copan, La Esperanza, and Comayagua

Tetracycline ointment	unspecified number
Alcaine ophthalmic drops	" "
Opti-Visor	" "
Chalazion kit	" "
Rust ring remover	" "
Ocular hypertension indicator	" "
Fox shields	" "
Ophthalmoscope	" "
Primary eye care manual	" "
Red eye chart	" "
Plastic "E" chart	" "

APPENDIX C

BIBLIOGRAPHY

- Harris, J.L. Honduras (IEF evaluation report). October 1977.
- International Eye Foundation. Primary eye care for health workers.
- _____. Quarterly reports (OPG Honduras), Nos. 1 to 7. September 1979 to August 1981 (no report submitted for June-August 1980).
- _____. Blindness prevention and primary eye care program, Honduras: evaluation protocol (OPG). ca. August 1981.
- _____. Primary eye care delivery and training program: matching grant proposal. February 1981.
- _____. Matching grant brief quarterly narrative reports, Nos. 1 and 2. July to December 1981.
- _____. Primary eye care delivery and training program: matching grant annual report. May 1982.
- Headers, R.H. Eye health care delivery systems. 1982.
- _____. International Eye Foundation, matching grant, Honduras, FY 1982 (progress report). January 1983.
- Ministerio de Salud Pública y Asistencia Social. Convenio entre el Ministerio de Salud Pública y Asistencia Social y the International Eye Foundation. August 1979.
- _____. Convenio entre el Ministerio de Salud Pública y Asistencia Social y the International Eye Foundation. September 28, 1981.
- _____. Documentos de programación. División de Planificación. 1981 and 1983.
- Overbeck, T. Honduras project monthly reports. January 1980 to September 1982. (except September and November 1981 and May 1982)
- _____. Honduras primary eye care project: final report. September 1982.
- Universidad Nacional Autónoma de Honduras. Plan de estudios para enfermería profesional. 1983.

APPENDIX D

LIST OF PERSONS CONTACTED

International Eye Foundation

Robert H. Meaders, M.D.	Medical Director
Jack W. Swartwood, M.P.H.	Administrative Director
Tamara G. Overbeck, R.N., C.O.T.	Program Advisor, Honduras
Victoria Sheffield, C.O.T.	Training Director
Jane D. N. Lewis	Administrative Assistant
V. Veerappan	Accountant
Joseph M. Deering	(former) Executive Director

Ministry of Public Health

Gustavo Corrales S., M.D.	Director General of Health
Elio Sierra, M.D.	Chief, Division of Planning
Digna Estrada	Health Planner
Arely Paz	Chief, Department of Statistics
Marta Inez de Rosales	Deputy Chief, Department of Statistics
Adalid Ortega, M.D.	Chief, Division of Hospitals
Anarda Estrada, M.D.	Chief, Division of Human Resources
Liliana R. Mejia	Continuing Education, Div. Human Resources (former Instructor, Choluteca Training Center)
?? Guzman, M.D.	Chief, Division of Epidemiology

Public Health Regions

Belén Nuñez	Supervisor Area 2, Health Region 1
Olga Marina Pineda de Flores	Area Supervisor, Health Region 2
Erundina de Madrid	Area Supervisor, Health Region 2
Martha de Rodríguez	Regional Supervisor, Health Region 3
Norma Padilla	Regional Supervisor, Health Region 4
Jorge Ponce	Area Supervisor, Health Region 4
Alicia Heiber	Area Supervisor, Health Region 4
Victelia Alvarez de Gomez	Area Supervisor, Health Region 4
Abigail Hernandez	Director of Nursing, Choluteca Hospital
Juana Orfilia Lopez	Professional Nurse, CESAMO San Lorenzo
Arcelia Garcia de Hernandez	Auxiliary Nurse, CESAR Pavana
Norma de Carias	Asst. Regional Supervisor, Health Region 6
Leticia Valle de Foot	Asst. Regional Supervisor, Health Region 6
Sonia Azucena Rodriguez Romero	Regional Supervisor, Health Region 7
Dilcia M. Peralta de Lobo	Auxiliar Nurse, CESAR Zopilotepe

Schools of Nursing

Lic. Alfonsyna de Abarca	Instructor, University, Tegucigalpa (former Chief, Division of Nursing)
Lic. Ana María de Sanchez	Instructor, University, Tegucigalpa
Mirtha Cano de Villafranca	Instructor, University, La Ceiba
Sonia de Serrano	Director, Training Center, San Pedro Sula

Mayra Chang
Emma de Garcia
Lic. Mirian Chan
Rina Andina
Mirian Rodriguez
Lic. Elsa Zelaya
Carmen de Paz
Idania Alcantara

Director, Training Center, Tegucigalpa
Coordinator, Auxiliary Nurse Course, Tegucigalpa
Sub-Coordinator, Auxiliary Nurse Course, Teguc.
Educational Materials, Training Center, Teguc.
Librarian, Training Center, Tegucigalpa
Director, Training Center, Choluteca
Instructor, Training Center, Choluteca
Instructor, Training Center, Choluteca

San Felipe Hospital

Edgardo Navarrete, M.D.
Laura Nuñez, M.D.
Elias Handal, M.D.
Mario León Gomez, M.D.
Gerardo Waimín, M.D.
Margarita de Hernandez

Chief, Department of Ophthalmology
Staff Ophthalmologist
Staff Ophthalmologist
Staff Ophthalmologist
Staff Ophthalmologist
Chief, Department of Statistics

Other Interviews

Hugo Villegas, M.D.
Victor Ramos, M.D.
Nicholás Odeh-Nasralla, M.D.
Hector Valle S., M.D.

Representative, Pan American Health Organization
Vice Dean, School of Medical Sciences
(former Deputy Chief, Division Human Resources)
Former Chief, Department of Ophthalmology,
San Felipe Hospital
Ophthalmologist, San Pedro Sula

USAID Mission to Honduras

Ronald Witherell
Tom Park
Barry Smith

Chief, Human Resources Division
Human Resources/Health
Human Resources/Health

APPENDIX E

ITINERARY OF THE EVALUATION

12 July 1983	IEF home office, Bethesda, Maryland
31 July to 4 August	Tegucigalpa, Honduras (Ministry of Health central offices; Health Region No. 1)
5 August	Choluteca and San Lorenzo, Honduras (Health Region No. 4)
6-7 August	Tegucigalpa, Honduras
8-9 August	Comayagua, San Pedro Sula & La Ceiba, Honduras (Health Regions Nos. 2, 3, and 6)
10-12 August	Tegucigalpa, Honduras
24 August	IEF home office, Bethesda, Maryland
Note:	Interviews and site visits were conducted in Juticalpa and Zopilotepe, Honduras (Health Region No. 7), concurrent with another PVO evaluation, on July 21 and 23.