

CARIBBEAN EYE CARE PROJECT, 538-0111  
Project Assistance Completion Report

I. Background and Current Project Status

The Caribbean Eye Care Project (538-0111) was initiated as an Operational Program Grant (OPG) to the International Eye Foundation (IEF) on July 1, 1983 in the amount of \$250,000 over a period of three years. Its purpose was to improve the level of eye health care services to selected Caribbean countries by training physicians and nurses in intermediate-level eye care service delivery. The project followed on a 33-month (September 1980 to June 1983) OPG with IEF for the provision of preventive and curative eye care services in St. Lucia through which a physician and several nurses were trained in intermediate ophthalmic services.

It was under this earlier project that the Pan American Health Organization, the Inter-Island Eye Care Service (IIES), and IEF first conducted studies which found that over 70 percent of the blindness in the Eastern Caribbean was either preventable or curable: the major causes of preventable blindness being glaucoma, untreated or improperly treated eye infections, and eye injuries, and the major curable causes being cataracts and errors in refraction. The ophthalmologist/patient ratio in the Eastern Caribbean was found to be 1:325,000. These few physicians were engaged almost exclusively in private practice, thus reducing the opportunities for proper eye care services to the majority of the public. Although historically Jamaica and Barbados served as the principal referral centers for eye care patients from the less developed Eastern Caribbean islands, by the time referred patients sought treatment, their eye diseases and conditions were so advanced that treatment was often ineffective.

In 1978 Dr. (Miss) Anthea Connell, a Barbadian-resident ophthalmologist, established the Inter-Island Eye Service to respond to the need for local eye care delivery. Working with such private voluntary organizations as the Royal Commonwealth Society for the Blind in Britain, Operation Eyesight Universal in Canada, and the Helen Keller Foundation, the IIES coordinated intermittent eye care services at the country level by ophthalmologists and residents from hospitals such as Moorfields in London and Lenox Hill and Mount Sinai in New York. This program, while successful in providing some curative eye care services to several Eastern Caribbean countries, did not address the long term needs for primary and secondary care on each island.

The objectives of the Caribbean Eye Care Project consisted of (1) establishing a training program for one public sector physician from Antigua and Barbuda, St. Kitts/Nevis/Montserrat, Dominica, St. Vincent and the Grenadines, and Belize to qualify them as Intermediate Eye Care Specialists; (2) providing training to eye care nurses to assist the newly-trained physicians; (3) assisting participating countries in the integration of primary and secondary eye care services into the broader health care systems; and (4) providing initial supplies and basic equipment to countries which sponsored a physician to the training program. The strategy called for the

intermediate eye care physician/nurses team to provide periodic, refresher training to primary-level health workers who could be taught to recognize and treat or refer eye infections and injuries at an early stage. Those patients requiring more advanced care than the primary or secondary levels would continue to be sent off island for tertiary level care.

The Queen Elizabeth Hospital in Barbados was selected as the site for this regional physician training program for three reasons:

1. The training facilities in Barbados were deemed appropriate but not so technologically sophisticated as to raise false expectations of the trainees upon returning home.
2. QEH was already serving both as a teaching hospital for the medical school of the University of the West Indies and as a referral center for the Eastern Caribbean. The strategy of providing the training at this facility would have the added advantage of strengthening the QEH Eye Clinic. As if not more importantly, it would foster an allegiance to and confidence in the QEH by the trainees upon their "graduation" thus encouraging them to rely further on QEH rather than other extra-regional tertiary facilities for advanced care.
3. Sending students to England for ophthalmic training would be expensive, require a longer training period (2 years minimum), and would result in the trainee having acquired an internationally "saleable" degree which would permit emigration to Canada or the United Kingdom.

Training under this IEF grant was conducted through IIES (Miss Connell and two consultant ophthalmologists). The third immediate party to the project was the University of the West Indies School of Medicine which was to certify the training under Miss Connell's tutelage.

The project was completed on September 30, 1987 after a three-month extension had been provided to ensure delivery of ophthalmic equipment. At that time one physician (a Vincentian) had completed training under the project (two more were still at QEH undertaking the clinical part of their training), approximately 150 nurses from the region had received basic primary eye care training, and eye clinic equipment had been delivered to St. Vincent and Dominica.

## II. Summary of Inputs and Accomplishments

The success of the project was contingent on the planned contribution of several parties: the Grantee (IEF), the IIES, the UWI, and participating governments.

International Eye Foundation. IEF was responsible for (1) the initial design and overall programmatic and financial management of the project, (2) contributing to the design of the physician training program including the selection of textbooks and training materials, (3) the provision of basic diagnostic and surgical equipment for the participating countries, and (4) the design and implementation of nurses training.

The degree of IEF management oversight provided to the project was minimal until a March 1985 internal IEF evaluation resulted in corporate structural re-organization and the naming of a Caribbean program manager, Dr. Marilyn Mayers. As a result, on-site review and management increased, e.g., a total of three field visits were made over the first 23 months of the project compared to four visits made during the final 15 months. Even with the additional field trips, however, project management was weak.

In the area of technical inputs, IEF Nursing Consultant Tamara Oberbeck designed and conducted both primary level training programs and "training of trainers" nursing programs in eye health care. Over the course of the program approximately 150 nurses attended primary eye care training seminars and between four to six nurses participated in "training of trainers" workshops in St. Vincent, Antigua, Dominica, St. Kitts/Nevis and Montserrat. Appendix A provides a listing of the surgical and diagnostic equipment provided to the Kingstown (St. Vincent) General Hospital and Princess Margaret Hospital in Dominica and Appendix B lists the textbooks and professional journals provided by IEF to the project.

Inter-Island Eye Service. IIES was responsible for (1) making the planning visits to participating countries to introduce governments to the training program, and (2) implementing the training program in Barbados.

The initial visits were made by Miss Connell over the first quarter of the project. The training program thereafter designed followed the British "learning through apprenticeship" model. The original training plan in the project proposal was based on the University of London Diploma in Ophthalmology course structure although shorter and with greater focus on clinical and surgical training. It consisted of seven months of didactic and clinical instruction, followed by an in-country practicum of three months during which QEH consultants would visit the trainee regularly to assess progress, and a two month "refresher" course back in Barbados. The training design which was finally stipulated in the grant agreement required one year of didactic, clinical and surgical training at QEH consisting of lectures and three-month rotations through the clinics, theatre and wards of the eye care clinic under the supervision of each of the QEH ophthalmologist consultants followed by six months of in-country training under the supervision of a qualified ophthalmologist. Upon completion of the in-country training and in lieu of a UWI examination (see below), arrangements were made for graduates to sit the University of London Diploma in Ophthalmology exam.

Medical School of the University of the West Indies. The contribution required from UWI was one of the less clear components of the project development. From the early conceptualization of the program the intent was to offer training which would lead to competence in providing an intermediary level of eye care, but not to an internationally-recognized degree that would encourage emigration. The original proposal called for UWI to confer credits to the program which could count towards Diploma in Ophthalmology (DO) studies if and when such a program was established through the University. By the time the course outline and syllabus were forwarded to the Vice Dean of the Cave Hill (Barbados) UWI Campus in March 1984, they were submitted with the request for UWI certification of the package as a DO program. As it became apparent that the certification process would take longer than originally

anticipated, the decision was taken to proceed along parallel tracks: thus training was initiated while certification was pursued. Following the standard internal review procedures for program establishment, the proposal reached the final step (consideration by the University Board for Higher Degrees) in July 1985. The program which was finally approved in late 1985 required 18 months of didactic/clinical training at a UWI training institution followed by six to 12 months of supervised in-country training.

Participating Governments. Governments wishing to participate in the program were responsible for (1) nominating candidates for IEF and USAID approval, and (2) financially-sponsoring the candidate by continuing his salary during training. Candidate selection was left to the respective Ministries of Health who did so without any formal guidance by either the IEF or IIES.

The first candidate to enter the project was Dr. Junior Bacchus from St. Vincent who began his training in June 1984. He returned to St. Vincent one year later. Dr. Bacchus did not receive the benefit of a full-time supervisory ophthalmologist during his in-country training component due to scheduling difficulties although he did receive ad hoc supervision similar to the original proposal. Since his 12 months of QEH training was not equivalent to the UWI diploma requirement established in November 1985, following refresher training in January and February 1986, Dr. Bacchus sat and passed the University of London DO exam which was administered in Barbados.

Dr. Bacchus' acceptance by Vincentian health colleagues since returning home has been complicated by two factors: (1) the absence of a full-time supervisory ophthalmologist upon completion of his post studies as noted above, and (2) the level of certification of his program which is not equivalent to that of a full ophthalmologist's. Dr. Bacchus has been most effective when paired with the skills of a visiting ophthalmologist to the island through the IIES. In such collaborative situations he has provided public service at Kingstown General Hospital each morning and managed a private practice in the afternoons. Dr. Bacchus has nonetheless made significant strides in introducing eye care services at primary and secondary levels. Working with the local society for the prevention and rehabilitation of blindness, he has organized glaucoma screenings in the community which included public education motivational campaigns and has carried out primary eye care training for hospital and district nurses and nursing students.

In July 1985 two other physicians, Dr. Euditer Allport of Dominica and Dr. Victoriano Valdez of Belize, started their QEH training. Dr. Allport completed her Barbados studies in June 1985 and returned to Dominica as the grant closed for in-country supervised training by an ophthalmologist provided by the Brenda Strafford Foundation of Canada. She unfortunately elected not to complete her supervised training in Dominica and has currently left the government health service.

Dr. Valdez arrived in Barbados in the midst of completing his Internship at a medical school in Costa Rica and was initially accepted into the program without USAID approval or sufficient credentials. He was obliged to return to Costa Rica to complete his Internship from October through December 1985 after which he returned to Barbados to resume his training. After four additional

months of training at QEH from January to April, he transferred to an IEF training program in Guatemala and thus did not complete his training under this program.

No candidates were nominated by Antigua and Barbuda, St. Kitts/Nevis or Montserrat.

### III. Developmental Impact

A review of the project-specific inputs and outputs noted above suggest that the project clearly achieved some of its stated objectives, while some targets were not reached and others will require further time to assess.

The project was successful in establishing and certifying an eye care training program for the Caribbean through the University of the West Indies. The establishment of a local program designed and taught by West Indian medical professionals will help to ensure that the contents are most relevant to the prevalent eye care problems in the region. It also fosters a stronger relationship between the student and the teaching facility for continuing cooperation and assistance.

It is important to note that the program provided training not only to three physicians from the OECS under this project, but to five additional physicians sponsored by external funding. IEF sponsored a St. Lucian physician, Dr. Emsco Remy, who was the first student of the course. A Grenadian physician, Dr. Elliot MacGuire, entered the program with Dr. Bacchus through a separate RDO/C activity, the Grenada Blindness Prevention and Treatment Project (538-0129). He sat and passed the London DO with a very respectable score. Additionally, the Royal Commonwealth Society for the Blind has financed the training of candidates from Barbados, Guyana and Tortola in this continuing program.

The overall impact of this training program receives a mixed score. Of the three physicians to have undertaken QEH training under the project, one suffers from poor acceptance by his peers, one left government service before completing her in-country practicum, and one transferred out of the program. Of the five physicians to have completed the training with extra-project support, four have used the program as the first step towards advanced training in ophthalmology.

It is clear that one of the objectives of the project--training at least six intermediate eye care specialists--has not been achieved. The fact that a total of six physicians completed the course, however, and all passed the University of London DO exams (with a pass rate generally of only 20 percent or less) suggests that the quality of the program was not at fault. Several possible reasons taken individually or together can be considered. They include (1) the candidate selection process, (2) the delays and uncertainties surrounding the certification process, and (3) the intention of the training program itself.

As noted above, no selection criteria were provided to Ministries of Health for proposing candidates for study under this program. Additionally, despite written and telephone communications with governments by IEF and IIES

encouraging early and conscientious identification of candidates, it appears that governments found it difficult to identify even one candidate for training and generally did so only at the last moment. One of the reasons for this difficulty might have been the uncertainties which surrounded the program at its initial stages vis-a-vis the level of certification and recognition ultimately to be conferred on the training program by the University of the West Indies. Here it is important to note that certification was not assured nor did it occur until nearly 30 months into this 36 month program, a leadtime which was not anticipated during the design of this project. Even more to the point, the concept itself--"intermediate eye care training"--might hold some insight into the lack of interest by physicians in the region. Certainly the poor esteem which the medical community in St. Vincent hold for Dr. Bacchus' certification might have been envisaged from the beginning by other physicians, i.e., weighing the loss of private clinic revenues for 12 to 18 months against diploma-level studies was apparently not seen to be a beneficial trade-off. The original objective of training to a level of competence while discouraging advanced studies towards an internationally-recognized ophthalmology degree and possible emigration should be held suspect. Indeed, those students who saw the program as the first step towards the Fellow of the Royal College of Surgeons (FRCS) degree have done remarkably well. Assuming these physicians return to their home countries following the completion of additional training, their credentials are sure to be accepted by their medical brethren and the program will have played a critical role in expanding the level of ophthalmic services to the region.

Nurses training conducted by the IEF trainer and Dr. Bacchus has already paid off in the introduction of glaucoma screening programs and public education campaigns on preventable eye disease and injuries. Nurses training has been formalized in a standardized curriculum with teaching materials which have been distributed to all of the project countries for use by trained nurse educators. Thus despite the battle for recognition, Dr. Bacchus with the cooperation of visiting ophthalmologists and project-trained nurses have ensured that a major step has been taken to integrate eye care services at the primary and secondary levels. Even in those countries which did not benefit from physician training, the training of district nurses (widely recognized as the major providers of improved health care at the primary health care level) has resulted in quicker identification of eye disorders and greater attention to eye injuries within a more reasonable time.

An indisputable success of this project has been its ability to leverage greater donor assistance and better coordination of that assistance to maximize its impact. In fact, under the project the first Caribbean Eye Care Seminar for the Prevention of Blindness was held in Barbados in November 1983. Participants represented various donor and implementing agencies including PAHO, CARICOM, the Royal Commonwealth Society for the Blind, IEF, the National Eye Institute, Operation Eyesight Universal, Helen Keller International, the International Agency for the Prevention of Blindness, the Barbados Association for the Blind and Deaf, the Caribbean Council for the Blind, and the Caribbean Inter-Island Eye Service. The purpose of the meeting was to review the professional interests and progress of various regional programs underway or planned for the region. A similar meeting, with the inclusion of the U.S. Agency for International Development, has been held annually since then, culminating in 1986 in the formal establishment of an Inter-Agency Committee for Eye Care in the Caribbean.

Coordination of activities and cooperation in meeting regionally-agreed upon objectives and programs has been demonstrated several times during this project. Thus, while USAID financing provided for the development of the regional training program, other private voluntary organizations have supported the candidacy of physicians outside of the scope of the project. PAHO support was secured in the reproduction of training materials for the nursing curricula developed by IEF and IIES under this project and IEF was able to place Dr. Allport upon completing QEH training under the supervision of an external PVO in Dominica (although she did not elect to complete this final phase of her training).

#### Recommendations for continuing monitoring and post-project input

RDO/C retains an interest in the model of relying on and strengthening regional institutions for training OECS health specialists where possible. The conditions which exist in near-equatorial countries with their heightened risk factors for glaucoma and cataracts are endemic to their geographic location and thus will always require constant monitoring and support. Mission monitoring also continues through its long-term interest in the rationalization of medical referrals to regional institutions rather than to extra-regional facilities where appropriate. Through the Mission's continuing association with the University of the West Indies including medical training programs at teaching hospitals and its satellite (UWIDITE) teaching facilities, this informal coordinative function is expected to be maintained.

A.I.D. in general and the Mission in particular continue to monitor the work of the International Eye Foundation in the region through their eye clinic in St. Lucia (soon possibly to move to Grenada), their RDO/C supported project in Grenada, and participation in the Inter-Agency Group for Eye Care in the Caribbean. However, given the degree of coordination and cooperation by international eye care PVO's which has been strengthened at least in part by the training and equipment support provided through this project, no further Mission funding is anticipated.

#### Grantee reporting requirements and evaluation summary

An internal evaluation was conducted of this training program by an independent consultant on behalf of the grantee. The evaluation was conducted by Dr. William Glew, the President of the Washington National Eye Center in November 1985. Dr. Glew's assessment focused primarily on the quality of clinical and didactic training at the QEH as no candidates had taken the DO examinations at that time. He visited both St. Vincent where Dr. Bacchus was in the midst of in-country temporarily-supervised training, and Grenada where Dr. MacGuire was under supervised training by the Grenada project resident ophthalmologist. Dr. Glew concluded that the training was of a high quality and that Drs. Bacchus and MacGuire were performing competently in their new capacity as intermediate eye care specialists. An addendum to his report, prepared in April 1986 by IEF, more fully assessed the critical issues of physician recruitment and retention, teaching curriculum and program certification. While also noting the successful nurses training and plans for

better equipping country-level eye care facilities, it provided a more realistic assessment of the limitations and unanticipated implementation difficulties addressed in this close-out report.

### Lessons Learned

A final grantee report provided a thorough review of project activities, successes and insurmountable obstacles. It identifies some basic lessons which are transferrable to future training and other development projects which are fully subscribed to by this author. They include:

1. Project expectations must be clearly understood and agreed to at the onset of the program. In this case, expectations on the part of the donor, trainers and students differed somewhat and contributed to difficulties in identifying candidates and encouraging them to opt for immediate service to their countries over professional advancement.
2. A clear understanding and acceptance of the roles of participating agencies and the level of effort required to fulfill their roles must be obtained prior to initiating a project. In this case, the specific demands on the University of the West Indies and the time required to certify the training were poorly understood leading to a high degree of uncertainty on the part of prospective students of the ultimate value of their training. Whether the decision to proceed before certification was obtained served the best interests of the project remains debatable, however the IES deserves recognition for its efforts to arrange certification through the University of London. UWI certification procedures progressed.
3. Interim evaluations can make substantial contributions to improved project implementation by pointing out the need for mid-course corrections. In the case of this project, the interim evaluation pointed out the need for improved coordination and communication between the grantee and its local counterpart organization to improve the management of the project and its potential for achieving its objectives.

In addition to the lessons noted above, the author would offer three additional lessons learned from this project.

1. Participant training programs should be assessed not only for their content relevance, but also for the relevance/acceptance of the training methodology by local organizations. Relative somewhat to the first lesson noted by the grantee, the concept of "intermediate level" training should be carefully reviewed to understand its intended as well as unintended results. In this case, the idea that program graduates would not be qualified ophthalmologists but would have received some degree of advanced training in eye care was not well accepted by the communities considering them. Alternative strategies should also be reviewed at the local level to ensure that graduates of whatever program is finally agreed upon will be able to successfully put their skills to work in their communities.

One alternative strategy for securing ophthalmologists services while reducing the possibility of "brain drain" might have been training at the degree level with bonding clauses in participant training contracts.

2. Despite the problems noted above, the project did demonstrate the ability of local training organizations to provide high quality training as measured against international standards. That 100 percent of the graduates of the QEH program passed the London DO exam (which generally has a 20 percent pass rate) on their first effort speaks for itself. Whether the QEH training is adequate as a terminal study level or as a first step to further advanced programming is open to interpretation, however even as a first step the benefits of high quality, cost-effective, regionally-specific training available within the region cannot be denied.

3. Donor and private voluntary organization coordination can create synergetic effects to maximize development impact. This project clearly demonstrates the benefits of coordinating the inputs of relevant agencies in addressing development objectives. By funding the developmental costs of the QEH training program, the project directly facilitated the training of physicians from non-project countries who received external sponsorship to the program.

# Equipment Delivered to St. Vincent

1 Topcon slit lamp  
1 adjustable table for slit lamp  
1 Goldmann applanation tonometer for slit lamp  
1 Fision indirect ophthalmoscope  
1 Nikon clear-coat indirect lens  
1 MIRA ophthalmic cryo unit  
1 Focimeter with marking device  
1 Gonio lens  
2 Occluders  
1 Horizontal prism  
1 Vertical prism  
1 Set loose prisms  
1 Pr. Diplopia goggles  
1 Pr. Bagolini's striated glasses  
1 RAF binocular gauge  
1 Maddox wing  
1 Set targets for Bjerrum screen  
1 Ishihara color test  
1 Trial lenses  
1 Cautery and Transformer  
1 Cautery  
1 Autoclave  
1 Mobile light  
1 Maddox rod  
1 Trial frames, lt. wt.  
1 Test-type  
1 Mirror on floor stand  
9 Artery mosquito forceps curved  
3 Artery mosquito forceps straight  
3 St. Martin's forceps  
4 Moorfield's conjunctival forceps  
3 Corneal Barraquer forceps  
3 Barraquer spring-lid speculum  
3 Chalazion forceps  
1 Set Chalazion Curettes  
3 Lang's canaliculus dilator  
1 Set Lacrimal probes  
2 Pigtail probes  
2 Measuring calipers  
1 Box air injection needles  
1 Colibri forceps  
2 Hess periph Irid forceps  
3 Manchester capsule forceps  
3 Hudson's strabismus forceps  
2 Bow-type strabismus scissors  
2 Dewecker's iris scissors  
1 Enucleation scissors  
2 Beaver handles  
2 Bard-Parker handles  
1 Iris retractor  
3 Iris repositors  
1 Chalazion forceps  
3 Lacrimal cannulae  
3 Troutman cannulae  
4 A.C. cannulae  
4 Chavasse's strabismus hooks  
2 Castro. cyclodialysis spatulas

## Equipment Delivered to Dominica

- 1 Topcon Slit Lamp, Model SL3E, Table Model, complete with standard accessories, Hruby Lens, and extra eyepieces, spare bulbs, 220v
- 1 Adjustable table
- 1 Goldmann R-900 Applanation Tonometer for Slit Lamp
- 1 Topcon Binocular Indirect Ophthalmoscope complete with standard accessories, 220v
- 1 Nikon 20D Indirect Lens
- 1 Goldmann 3 mirror lens
- 1 Winter Schiotz Tonometer
- 1 Marco 356TW Trial Lens Set
- 1 Marco Trial Frame
- 1 Good-Lite Illuminated Test Cabinet, 220v
- 1 Topcon Lensometer, Model LM-6ES
- 1 Jackson Cross Cylinder +/- 0.25
- 1 Lorgnette Occluder
- 3 Pinhole Occluders
- 1 Pair, Red/Green Glasses
- 1 Maddox Rod
- 1 Horizontal Prism Bar
- 1 Vertical Prism Bar
- 1 Worth 4-dot Distance Test
- 1 Black occluder
- 1 Welch-Allyn Halogen Ophthalmoscope and Spare Bulb
- 1 Welch-Allyn Halogen Streak-Retinoscope and Spare Bulb
- 1 Welch-Allyn Halogen 220v wall transformer
- 1 Mark I Operating Microscope
- 1 MIRA cryo unit complete with hose connection, footswitch retinal probe, and curved cataract probe
- 6 Reading cards
- 1 Transformer

## Appendix A

### Textbooks Used

Six copies of the following textbooks were provided to the project:

OPHTHALMOLOGY: Ophthalmology Principles and Concepts  
by F.W. Newell and J. Terry Ernest

OPTICS: Clinical Optics  
by A.R. Elkington and H.J. Frank  
Handbook of Orthoptic Principles  
by Cashell and Durran

PHYSIOLOGY: Focus on Vision  
by R.A. Weale

SURGERY: An Atlas of Ophthalmic Surgery  
by J.H. King

PATHOLOGY: Ocular Pathology  
by C.H. Creer

Subscriptions to the American Journal of Ophthalmology and the British Journal of Ophthalmology were also provided to the project.