

PDNAU-072

MID-PROJECT EVALUATION OF THE NATIONAL
INSTITUTE FOR HEALTH SCIENCES PROJECT

Prepared by

Raymond B. Isely, M.D., M.P.H., D.T.M.
Team Leader
Associate Director
Water & Sanitation for Health Project

Zebulon C. Taintor, M.D.
Research Professor of Psychiatry
New York University

Sharon Pines
Program Analyst
Asia/DP - Evaluation Division
U.S. Agency for International Development

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EXECUTIVE SUMMARY

PROBLEM and OVERVIEW. The Government of Sri Lanka (GSL) is attempting to improve the health status of its largely rural population through the implementation of a Primary Health Care (PHC) Plan. Execution of the plan requires the development and application of a national health manpower utilization plan and the training of a sufficient number of qualified personnel equitably distributed. The National Institute of Health Sciences (NIHS) at Kalutara is charged with training personnel to implement the plan, coordinating all PHC training, performing relevant health services research, and advising the Ministry of Health on health manpower policy issues.

U.S. ASSISTANCE. USAID obligated \$2.2 million to finance the preparation of a master plan for the NIHS campus expansion, architectural and engineering designs for the buildings to be constructed, and the auditorium and maintenance facilities for the new campus.

PURPOSE OF EVALUATION. The Project Agreement between the GSL and USAID stipulates a mid-term evaluation to assess progress in the construction of facilities. Assessment of the administration and program of NIHS was also requested by USAID/Colombo in order to ascertain both the advisability of a project extension and the possibilities for other assistance. The evaluation was carried out by a team consisting of one AID/Washington staff person and two outside consultants in consultation with the AID Mission, MOH officials, NIHS staff and students, health workers in the field, and others. NIHS needs to be viewed primarily as a supplier of personnel to the MOH primary health care system. In this role it is the primary supplier of three categories of workers: Medical Officers of Health (MOH) who receive a short preparatory course at NIHS (the course has been suspended for two years), Public Health Nurses (PHN), who supervise Family Health Workers (FHW), and Public Health Inspectors (PHI), who are charged with water supply and sanitation work, among other tasks, at the community level. All three occupy key positions in the PHC system and NIHS is the only institution producing them.

NIHS is one of several suppliers of two other categories of primary health care workers: Family Health Workers who are trained by six other training centers, and Assistant Medical Practitioners (AMP) are trained in four other training centers. The relative contribution of NIHS differs between these two programs. For Family Health Workers NIHS provides only Phase 2, six months of public health training and probably provides the best training in public health, largely because of the rather well developed practice zone. For Assistant Medical Practitioners, however, NIHS is at a disadvantage because of shortages of qualified faculty, books and other materials, laboratory facilities, clinical facilities and living quarters. There seems however a determination to continue the program to take advantage of NIHS's orientation to public health.

Since the role of NIHS in shaping policy on health manpower and in coordinating training programs for primary health care across institutions is minimal at best, the major way open to influence the Ministry's efforts to shift emphasis from cure to prevention is through training Medical Officers of Health/Public Health Nurses and Public Health Inspectors. There are severe shortages of personnel in both categories. NIHS could do no better than to reinforce and expand its capacity to train these two categories of primary health care personnel.

A second way open to NIHS to influence the direction of the PHC system is through the PHC Management Course offered every year to supervisory personnel in several disciplines.

Overall NIHS plays an essential but not predominant role in influencing the operation of PHC. It is a role it shares with other training and educational institutions across the country, some of which perform certain educational tasks better than NIHS (e.g., Assistant Medical Practitioner training) and some of which do worse (e.g., public health training for Family Health Workers).

FINDINGS

1. The master plan and architectural and engineering designs have been completed and approved and (as of the time of the evaluation) the tender for the contractor let.
2. Progress in construction of new campus facilities is minimal, consisting of only four residences constructed with UNICEF funds. Construction of facilities being financed by AID has not yet started.
3. NIHS has provided a considerable amount of training during the period under review.
4. The administration of training programs at NIHS is handicapped by an overburdened and poorly regulated training calendar, by irregular faculty communication, by problems of space, and by the absence of clear direction or support for coordinating mechanisms, training priorities, and research from the Ministry of Health.
5. Curriculum revisions have been completed for each of the four basic training courses but implementation has been impeded because of problems of recruitment, confusion about job descriptions, or underdevelopment of sound educational technology. Many of the recommendations of the 1982 WHO evaluation, even those accepted, have not been implemented.
6. Teaching/learning materials have been collected in the library in impressive numbers but are mostly in English and mostly for the use of Assistant Medical Practitioner trainees. There are virtually no course-specific teaching and learning packages and no texts or references students can carry away at the end of the course.
7. Faculty development has made good progress in the sense of academic preparation of faculty, by which more than 90% have received some training; but many staff need further training in teaching techniques and research.

methods. There is also need for an improved climate for intellectual exchange.

8. Although a WHO consultancy resulted in the production of several good research protocols, NIHS is far from having a well-established research program.

9. In view of the space problems mentioned in (4) above, there is still a clear need for the facilities being financed by AID (i.e., the purpose and objectives of the project remain valid).

RECOMMENDATIONS

A. Priority recommendations, i.e., without which the NIHS contribution to implementing PHC will be handicapped.

1. Priority should be given to strengthening the implementation of the courses for Public Health Nurses, Public Health Inspectors, Family Health Workers, Medical Officers of Health, and Assistant Medical Practitioners.

2. Teachers and students manuals based on career and course objectives should be developed for each course.

3. A practical and feasible annual training calendar should be drawn up with the Ministry of Health and other health training institutions, and few deviations from it permitted.

4. Priority should be given to creating promotional prospects within the ranks rather than recruiting new personnel as supervisors. Supervisors should be trained from this pool of personnel. Public Health Nurses and Supervising Family Health Workers and Supervising Public Health Inspectors should be trained in sufficient numbers.

5. The field practice area should be developed as a teaching and research laboratory and should be expanded to include other selected districts as well.

6. The Ministry of Health should further clarify the primary health care delivery reporting, referral, and supervisory duties of all classes of personnel, but particularly the Family Health Workers, to give a better sense of priority among the objectives of the PHC program, and should clarify PHC team member roles in achieving these purposes. These changes should be officially announced and reflected in amended job descriptions and new curricula for training. Prior graduates should be reoriented through in-service training.

B. Lesser priorities, but still essential recommendations for an optimal role for NIHS.

1. Coordination mechanisms for resolution of issues involved in the training of Family Health Workers and Assistant Medical Practitioners and other training issues should be established and used.

2. Refresher courses for all categories of personnel should be offered regularly, taking into account such courses offered by bureaus of the Ministry of Health, such as the Family Health Bureau and the Health Education Bureau.

3. NIHS should hire a qualified biostatistician as a research administrator to set up data-gathering and research activities.

C. Non-priority items, but still highly recommended.

1. Attention should be given to assisting the Ministry of Health to develop an operational health manpower policy.

2. A long term consultant in research administration should be considered.

3. A medium term consultant in educational science should also be supported.

Responsibilities for Implementing Recommendations

1. NIHS Recommendations: A-1, A-2, A-4, C-2, C-3, and A-5.

2. Ministry of Health Recommendations: B-1, A-3, C-1, B-2, B-3, and A-6.

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Chapter 1

CONDITIONS FOR A VIABLE NATIONAL INSTITUTE FOR HEALTH SCIENCES (NIHS) PROGRAM AND RECOMMENDATIONS

In considering the results of this evaluation (see Chapter 3 for the methodology and Chapters 4 through 6 for the results of the evaluation) the team decided not to simply list these findings in a pseudo-objective manner, but rather to derive from them an idea of changes in NIHS itself and in the NIHS/Ministry of Health relationship that would be possible in the next two to three years. These changes are called "conditions for a viable program." Some of these conditions (printed in capital letters) could serve as criteria against which the next evaluation could be set. Others are of lesser priority. Finally, the recommendations are made with implications more for long-term development of NIHS. Suggested timing for conditions and recommendations is found in Table 1.

1.1 Conditions for a Viable NIHS Program

1.1.1 At the NIHS

Administrative Process

1. Maintenance of an atmosphere in which faculty relationships are generally open, collegial, mutually supportive, and hierarchical only when administratively necessary.
2. FACULTY MEETINGS SHOULD BE AT LEAST MONTHLY AND AS OPEN AS POSSIBLE WITH MINUTES POSTED AFTERWARD SO ALL DISCIPLINES AND PROFESSIONAL STAFF MEMBERS CAN FEEL EQUALLY INVOLVED AND CONSULTED.

Educational Technology

3. All long term courses should have:
 - a. Goals, objectives, (both in terms of training outcomes and in terms of the conditions for optimal learning) schedules, readings, and learning and evaluation methods that are communicated to the students at the first meeting.
 - b. PRE-TESTING AND EVALUATIONS SO THAT STUDENTS HAVING DIFFICULTIES ARE IDENTIFIED EARLY.
 - c. Tutorials and other assistance for students having difficulties.
 - d. STUDENT AND FACULTY EVALUATIONS OF CONTENT, FACULTY, METHODS, AND MATERIALS WITH MODIFICATIONS BASED ON EVALUATION DATA.
 - e. ONE COPY OF HANDOUTS, KEY READINGS, AND TEXTS FOR EACH STUDENT'S PERSONAL USE, PREFERABLY TO TAKE ALONG FOR REFERENCE IN LATER PRACTICE.

Training Priorities

4. Existing courses must satisfy the above educational requirements before other courses are given a permanent place in the curriculum.
5. Courses should be supported in the following order: Public Health Nursing, Public Health Inspection, Medical Officer of Health orientation, Family Health Workers training (after their role is reassessed), and training of Assistant Medical Practitioners.
6. Management, continuing education, primary health care (PHC) orientation, etc., courses should be given only if they meet at least the educational standards of the present management course.

1.1.2 NIHS and the Ministry of Health

Administrative Processes

1. THE TRAINING CALENDAR FOR A YEAR SHOULD BE SET BY THE FIRST OF SEPTEMBER OF THE PREVIOUS YEAR WITH NO DEVIATIONS ALLOWED UNLESS ADDITIONAL RESOURCES ARE PROVIDED.

Educational Coordination and Content

2. STUDENTS AND SUPERVISORS SHOULD BE TRAINED FOR THE FULL RANGE OF PRESENT-DAY JOB CONDITIONS.
3. The Advisory Board and Coordinating Committee should meet at least quarterly. Minutes should demonstrate significant involvement with the educational process of NIHS and other centers training Family Health Workers and Assistant Medical Practitioners.
4. The Ministry of Health should foster exchanges of staff and examiners among faculties involved in the same training programs.
5. The Ministry, NIHS, professional associations, the universities and others should collaborate in reviewing issues of training vs. practice. Curricula should be reconsidered annually.

Health Services Research

6. Because of the pressing need for health services research, the Ministry should develop plans to sponsor and obtain funds for the research that will address its more pressing questions, preferably by using a competing grants and contracts award system. This will relieve NIHS of the responsibility of being the sole source of Ministry-sponsored research. This condition implies an active role for the Ministry in designing and funding some research.
7. NIHS AND THE MINISTRY SHOULD DEVELOP A FIELD PRACTICE AREA DATA BASE FOR HEALTH SERVICES RESEARCH, INCLUDING USE OF THE LATEST INFORMATION SYSTEMS.

Health Manpower Policy

8. Advice from NIHS to the Ministry of Health on manpower policy should be based on research data.
9. THE CRITICAL NEED FOR THE PHC SYSTEM OF AN ADEQUATE SUPPLY OF SUPERVISORS, PUBLIC HEALTH NURSES, SUPERVISING FAMILY HEALTH WORKERS, AND SUPERVISING PUBLIC HEALTH INSPECTORS SHOULD BE ADDRESSED AS A PRIORITY.
10. The role of the Assistant Medical Practitioner (AMP) as a leader of the PHC team should be carefully reassessed. A system for identifying and encouraging AMP students who already have a strong commitment to public health should be established.

1.1.3 Ministry of Health: Policy and Procedure

Health Manpower Policy

1. The Ministry should petition to have Public Health Inspectors, Public Health Nurses, and Family Health Workers exempted from the job bank and/or any other political mechanism. The only criteria for recruitment should be professional merit, and, admissions standards having been met, the commitment to work in an underserved area.
2. The Ministry should consider which of its manpower problems are actually amenable to solution by training as opposed to other means, e.g., supervision. Training must be perceived as part of the overall health manpower policy along with policies related to needs assessment, recruitment, selection, training, utilization and retention. Too little attention has been paid to the last two aspects, which require considerable research. This research is so urgent that external funding should be sought.
3. Health manpower policy should be broad-based, involving the many constituencies originally proposed in the UNICEF Project Paper and the 1982 WHO evaluation for the Advisory Board. Since the national committee on health manpower has met only once in two years, donor agencies should collaborate with all interested parties to create study materials and a health policy forum that could be galvanized by outside speakers.
4. THE MINISTRY SHOULD HAVE A MANPOWER UNIT THAT CAN ASSESS THE COST/BENEFITS AND EFFECTIVENESS OF VARIOUS APPROACHES. SOME QUESTIONS THAT MIGHT BE CONSIDERED ARE: WHERE IN THE FLOW OF PATIENTS SHOULD HIGH LEVEL DIAGNOSTICIANS BE LOCATED? IS STAFF RETENTION AFFECTED MORE BY ALLOWING PRIVATE PRACTICE OR BY GRANTING HIGHER SALARIES? WHICH HEALTH CARE PROBLEMS ARE BEST ATTACKED ONE AT A TIME? WHICH SIMULTANEOUSLY?
5. The Ministry should develop automated data bases on manpower needs, personnel training, work experience, merit, etc. These data would be useful for education, service, and research.

1.1.4 NIHS Operations:

Research

1. NIHS should develop and publish a data base for the field practice area, which can be used to point up needed areas for research and for comparative purposes.
2. NIHS should develop and implement a system to follow up on alumni to understand how training actually relates to field-work.
3. NIHS should develop a means of communicating the results of research to those making health policy and manpower-related decisions.
4. AT LEAST ONE STAFF PERSON SHOULD BE RECRUITED FOR THE STATISTICS AND DEMOGRAPHY UNIT SO AS TO EXPAND THE UNIT AS RECOMMENDED BY WHO.
5. WHO'S RECOMMENDATION TO CREATE FOUR RESEARCH ASSISTANT POSITIONS SHOULD BE IMPLEMENTED.
6. NIHS should develop its own resources for research to supplement current foreign assistance and to ensure the continued momentum of the research program when foreign assistance activities cease.
7. WHO recommended that staff selection criteria should include experience and/or training in research. The team endorses this recommendation.
8. NIHS SHOULD GIVE ITS FACULTY TIME TO DO RESEARCH.

Faculty Development

9. EACH STAFF MEMBER RETURNING FROM TRAINING SHOULD BE REQUIRED TO MAKE A PRESENTATION TO RELEVANT STAFF SO ALL CAN BENEFIT.
10. There should be an annual retreat for all NIHS staff to provide a forum for intellectual exchange regarding progress and needed improvement.
11. REASONABLE PROGRESS SHOULD BE MADE TOWARDS FILLING VACANT POSITIONS.

Training of Assistant Medical Practitioners

12. Faculty assigned should be motivated as demonstrated by enthusiasm and longevity.
13. The curriculum should conform closely to the anticipated Assistant Medical Practitioner role when the balance of curative and preventive roles is fully decided.

Training of Public Health Inspectors

14. THE NEW 1-1/2 YEAR CURRICULUM SHOULD BE IMPLEMENTED AS SOON AS POSSIBLE.

15. REFRESHER COURSES FOR PUBLIC HEALTH INSPECTORS IN THE FIELD SHOULD BE ORGANIZED WITH REGULARITY. THEY SHOULD BE CARRIED ON IN CONJUNCTION WITH REFRESHER COURSES FOR FAMILY HEALTH WORKERS, PUBLIC HEALTH NURSES, AND MEDICAL OFFICERS OF HEALTH, AS RECOMMENDED BY OTHERS. THE SELECTION OF PUBLIC HEALTH INSPECTORS FOR THE COURSE SHOULD BE DECENTRALIZED TO ASSURE BETTER QUALITY OF PARTICIPANTS.

Training of Family Health Workers

16. A PERIOD SHOULD BE DECIDED ON (ONE OR TWO YEARS) DURING WHICH FAMILY HEALTH WORKER TRAINING PROGRAMS SHOULD SEEK ONLY TO MAINTAIN NUMBERS IN THE FIELD, THAT IS TO MEET THE DEMANDS OF ATTRITION.
17. During this period attention should be given to:
 - a. COMPLETING THE DESIGN OF THE FIELDWORK COMPONENT ALREADY UNDERWAY.
 - b. PUTTING THE ENTIRE PHASE II TRAINING ON A SOUND EDUCATIONAL FOOTING INCLUDING CLARIFYING OBJECTIVES FOR THE TRAINEES AND PREPARING OBJECTIVE-BASED LEARNING AND TRAINING MATERIALS AND EVALUATION PROCEDURES.
 - c. CLARIFYING THE JOB DESCRIPTION AND THEREFORE THE DEFINED ROLE OF THE FAMILY HEALTH WORKER THROUGH CAREFUL OBSERVATION OF WORKERS IN THE FIELD IN VARIOUS CONDITIONS OF REMOTENESS, SUPERVISION, AND LEVEL OF SERVICE.
 - d. PREPARING ADEQUATE NUMBERS OF SUPERVISORS: PUBLIC HEALTH NURSES AND SUPERVISING FAMILY HEALTH WORKERS. FOR THE LATTER, SCREENING PROCEDURES SHOULD BE DEVELOPED TO RECRUIT SENIOR FAMILY HEALTH WORKERS WITH SUPERVISORY POTENTIAL FOR A SHORT COURSE IN METHODS OF SUPERVISION AT NIHS.
18. At the end of this period, the curriculum should be revised based on the redefined job description. Then the pace of training could be increased again to meet the needs of areas deficient in numbers of Family Health Workers.
19. Teacher and student manuals should be developed for each program. These should be written according to course and PHC program objectives and should include copious case material from Sri Lanka.

The foregoing conditions should be satisfied by 1986. The recommendations to follow are simply urged but not required, with no time frame specified.

1.2 Recommendations

1.2.1 NIHS Administration

1. A reward system for teaching should be created, including ranked titles for positions, promotion by merit, and financial recognition (non-medical faculty should receive salaries). Salaries of senior tutors should be equal to the salaries of teachers of other post-basic courses.

2. NIHS should have more student placement sites than students. There should be some competition based on demand for students, and placement should be a mark of excellence and prestige. To insure this, there should be financial reimbursement for supplies and other expenses incurred by having students. Faculty in the field-practice area should have at least the usual privileges accorded to part-time or volunteer faculty, such as attendance at conferences and lectures, maintenance and upgrading of skills (including study tours), etc.
3. The field-practice area should be a model area in which professionals want to work and health services research can be carried on. This can be promoted by a health information system. Computerization would help to ensure that a pool of data is available to anyone interested. Fortunately battery operated micro-computers are now available to overcome the problematic electrical supply situation.
4. As part of developing more field-placement sites for students, consideration should be given to ways of placing them outside the field-practice area. This would provide experience working in underserved areas and allow for recruitment of students by the district council system. Such placements would allow NIHS to identify and use its superior alumni in teaching and eventually in research. A variety of teaching/research sites would reinforce the national role in health service research and manpower policy of NIHS.

1.2.2 Teaching Programs

Assistant Medical Practitioner

1. All faculty and staff who teach Assistant Medical Practitioner (AMP) students should be given a strong orientation in the community dimensions of medical care and urged to stress this dimension in lectures, tutorials, readings, ward rounds, and case conferences. Conferences and seminars to ensure a constant exposure to the community and environmental aspects of health care should be carried on.
2. AMP students with a demonstrated aptitude, interest and/or commitment to public health should be identified early in their studies, given special guidance and help, and followed carefully throughout the three years to nurture and enhance their growth and understanding in public health.

Public Health Nursing Program

3. There are two curricula, that of 1979 which was arrived at by group consensus and that of 1980 developed by the WHO consultant. The latter curriculum is not detailed, and the present process of trial and error for finding the best allocation of time, teaching methods, etc., should continue. Feedback from alumnae indicates a need for training and preparation for working in areas isolated from other health workers. There is an emerging consensus that more time for management and supervision is required. This is consistent with the team's field observations. The proposed modifications are therefore heartily endorsed.

Public Health Inspectors

4. Ways should be found to extend this curriculum even further so as to include more in-depth study of:
 - a. Field epidemiologic methods as recommended in the 1982 WHO Evaluation Report.
 - b. Technical aspects of the construction, repair, and maintenance of low cost water supply and excreta disposal and other sanitation facilities.
 - c. Methods of promoting community participation in PHC to supplement the already strong emphasis on health education which is now defined more as message transmission.
5. Trainees should be permitted to complete their certification theses during the formal training period as conditions permit, and perhaps use the field practice to carry out studies.

Family Health Workers

6. The fieldwork component of Family Health Worker (FHW) training should be done in close coordination with Public Health Inspector as well as with Public Health Midwife students to encourage team work.
7. A reward system should be established as an incentive to home visiting wherein the name of the FHW in each district with the greatest number of home visits in each month would be posted at the Medical Officer of Health Office with the number she had made.
8. A program of refresher training should be planned for FHWs probably on a decentralized basis using all seven training centers in order to redress some of the deficiencies in the basic maternal and child health role.
9. For all categories of workers, there should be a permanent course in the curriculum in how to train and collaborate with volunteers.

1.2.3 Development of Teacher and Student Materials

1. A series of teaching manuals should be developed for use by course instructors. One possibility would be to develop a PHC module to which would be added other modules specific to each group of trainees. The materials should include hand-outs for each stage in teaching a course.
2. Learning manuals should be developed in parallel and handouts could be added as the course progresses. A copy of this manual should be made available to each student to serve as a field manual in subsequent years.
3. Materials in the library should be arranged according to a standard system and cross-referenced in the card catalogue according to the courses for which they are used.

1.2.4 Faculty Development

1. A medium-term consultant in educational support should be recruited to assist staff in the development and use of effective teaching methods. This consultant could continue to supplement the work of the national WHO consultant already identified.
2. Provision should be made for a limited number of fellowships for study on short- and long-term training tours outside of Sri Lanka to assist staff to keep abreast of current PHC knowledge and applications.
3. There should be an absolute increase in the staff positions at NIHS to assure at least four full-time faculty in each unit, including the two new units suggested, namely: educational support and statistics and demography.
4. The requirement that each unit be headed by a physician with an MD in Community Medicine should be removed. This would permit faculty with equivalent qualifications (Ph.D. or Dr. P.H.) to head units.

1.2.5 Research

1. A long-term consultant for NIHS should be recruited to serve as a research administrator to:
 - a) Assist staff in choosing research topics.
 - b) Assist in technical aspects of research methodology.
 - c) Conduct workshops.
 - d) Assist NIHS and the Ministry in developing and implementing a process for using research results.
 - e) Enable NIHS to procure research funds.
 - f) Assist staff in publication of research.
 - g) Develop a forum, such as a journal, at NIHS for discussing research projects.

1.2.6 Construction and Maintenance

1. All preconditions are in the contracts signed or being offered. Maintenance may require considerably more attention than most public buildings in Sri Lanka receive. It is recommended that a well functioning maintenance unit be established at NIHS.

Table 1
Suggested Timing of Implementation of Conditions and Recommendations

<u>Item</u>	<u>Date of Projected Fulfillment</u>
Collegial atmosphere	1986
Monthly faculty meetings	January 1, 1985
Goal and objective setting for courses	September, 1984
Pre-testing of students	Academic year 1984-85
Tutorials for students with difficulty	Academic year 1984-85
Student evaluations	Academic year 1984-85
Handouts for courses	1984-85
Prioritization of courses	September, 1984
Training calendar	Academic year 1985-86
Bringing courses into line with job conditions	Academic year 1985-86
Meetings of Advisory Board and Coordinating Committee Regular	January, 1985
Exchanges of staff and examiners	1986-87
Curriculum review mechanism set up	1986-87
Ministry of Health research priorities defined	1986-87
Practice-zone data base set up	End 1985
Priority given to Public Health Nurse training	1985-86
Reassess goal of Assistant Medical Practitioner role	mid-1985
Revision of recruitment standards for Public Health Inspectors and Public Health Nurses	1985-86
Research on manpower issues	1985-86
Health manpower	1986

<u>Item</u>	<u>Date of Projected Fulfillment</u>
Ministry of Health manpower unit set up	1985
Data base on manpower	1985
NIHS system to follow up alumni	1986-87
Communication of field research results to Ministry	1987
Recruitment of statistician	1985
Establishment of RA positions	1985
Supplemental funds for research	1986
Inclusion of research experience in staff selection criteria	1986
Time for faculty research	1985-86
Faculty returning from study tours making presentations	1986
Faculty retreat	1986
Fill vacant positions	1986
Implement new Public Health Inspector curriculum	1984-85
Refresher courses for Public Health Inspectors	1985
Process for revising Family Health Worker curriculum	1986-87
Development of PHC training materials	1986
<hr/>	
<u>Recommendations</u>	
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Reward system for teaching	1987
Additional field-practice sites	1986
Reorientation of all Assistant Medical Practitioner faculty	1985-86
Tracking Assistant Medical Practitioner students interested in Public Health	1985-86

<u>Item</u>	<u>Date of Projected Fulfillment</u>
Completion of Public Health Nurse curriculum	1985-86
Further expansion of Public Health Inspector curriculum	1986-87
Public Health Inspectors permitted to complete these during course	1985
Coordinated fieldwork for Family Health Workers	1985-86
Rewarding Family Health Workers home visiting	1986
Refresher training for Family Health Workers	1985-86
Inserting how to work with volunteers in all curricula	1985
Teacher/learner manual for all long-term courses	1986-87
Reorganization of materials in library	1985
Consultant in educational technology	1985
Fellowships available in PHC updates	1984-85
Increases in faculty for each unit	1987-88
Non-physicians heading some units	1987
Long-term research consultant	1986
Funding maintenance unit at NIHS	1985

Chapter 2

CONTEXT OF THE NATIONAL INSTITUTE OF HEALTH SCIENCE (NIHS) PROJECT

Public health training in Ceylon can be said to have begun with sanitary (now public health) inspection in 1913. In 1926 training of auxiliary midwives started and, with Rockefeller Foundation assistance, the first medical unit to combat epidemics was initiated at Kalutara (26 miles south of Colombo). This prototype unit was replicated (there are now 107) to cover the island in 1935. Malaria control training was started at Kalutara in 1937. Public health rural training began in 1940. By 1966 the Kalutara health unit was recognized as the nation's premier site for training public health personnel and was designated the Institute of Hygiene. It was moved to its present site, a two-story administration/classroom/laboratory building on an old RAF base, provided by Australia through the Colombo Plan. Other buildings were added, including two hostels for Public Health Inspector students.

The public health system has been organized geographically along provincial, and increasingly, district lines. To date there are 20 public health areas. The system is headed by a Superintendent of Health Services (SHS) whose area contains several Medical Officers of Health (MOH) areas staffed by Public Health Inspectors (PHI), Public Health Nurses (PHN) and Public Health (as contrasted to institutional) Midwives (PHM). The last were redesignated Family Health Workers (FHW) in 1979 as reorganization of PHC got under way.

The PHC system, as planned, will combine the preventive public health staff with the curative staff on three levels. The plan represents a national consensus and the recommendations of several consultants.

The plan is based on a number of underlying factors:

1. Recognition that environmental factors contribute to most of the country's health problems and therefore that preventive measures should be the predominant feature of community health care.
2. A need for greater integration of the curative and the preventive components of health care at all levels.
3. A need for more involvement of the professional cadres in the management of the health services.
4. In view of the rising costs of curative medicine, a generally held view that preventive health care may well hold down the costs of curative services.

A generally acknowledged sub rosa cause for the preventive-curative merger is the great difficulty in recruiting personnel, especially physicians and nurses, for public health work.

Because of the need to reorient existing staff and train new staff the Institute of Hygiene at Kalutara was upgraded in 1979 to be the National

Institute of Health Sciences (NIHS). The NIHS mission announced by the Ministry of Health in 1978 is:

1. To address itself to all aspects of health manpower development of Sri Lanka (viz. planning, production, and management) and to advise the Ministry of Health on policies relating to health manpower development.
2. To co-ordinate health manpower development activities in Sri Lanka between the educational and health service agencies.
3. To initiate and undertake training programs for the members of the PHC teams with a view to a multidisciplinary team approach to training.
4. To initiate and undertake continuing education programs for the members of the health team.
5. To conduct research and other studies as related to health services and manpower development.

In August 1978 a health manpower development scheme was proposed in consultation with donors.

Donor and Government of Sri Lanka Commitments

The United Nations Development Program (UNDP) worked through the World Health Organization (WHO), which also contributed from its own budget, and with the United Nations Children's Fund (UNICEF). A request was made to USAID for assistance in several areas, but the USAID project was limited to construction because of limited supervisory time and expertise in the AID Mission in Colombo.

The first source of external funding was UNICEF in January 1979 which expected to spend US\$770,000 in four years. It noted that in 1978 "there are 962 PHI, the optimum number being 1,400, 1,978 PHM as opposed to the optimum of 3,500; and 245 PHN as opposed to the optimum of 450." The UNICEF project paper specified ways the NIHS might carry out its mission, e.g., "to plan manpower requirements, evaluate and re-design training programs, and to test alternative models of cost effective primary health care systems." A broad-based governing board was included.

Short-term UNICEF objectives for 1981-83 included establishing "a mechanism for the co-ordination of planning and management of health manpower development policies.... To review the revised curricula and undertake further activities required for multidisciplinary training of health team...." There was to be "a nine-month Advanced Course in Community Health for Medical Officers, Health Educators, Supervising Public Health Inspectors, Supervising Public Health Nurses and Food and Drug Inspectors." Training in 1981-83 was to include 240 PHIs, 120 PHNs, 150 PHMs, 75-90 AMPs (for one month only). Monitoring and control was to be vested in the Director of NIHS, the senior NIHS staff, and "an international project manager" with periodic reports to the donor agencies. Detailed activities, times, and duration were specified. The NIHS table of organization, based on training units (health planning and management, family health and nursing, environmental health, disease

prevention, health behavioral change, and administration) rather than disciplinary structure was included.

UNICEF's major contributions were in constructing quarters and hostels for trainees (\$256,000 to be spent in 1980-81) and four primary health care centers (\$40,000 in 1981-82) and making additions and improvements to hospitals (\$67,000 to be spent 1980-81).

Faculty study tours were budgeted for \$119,300 over the four years, with \$19,200 for additional workshops. WHO agreed to pick up \$54,100 in fellowships and training in 1979-80. UNICEF projected other needs in 1981-83 of \$301,200 in training and study tours, almost all assumed by WHO.

The UNDP was to contribute US\$533,000 for three years and four months beginning September 1980. The principal new development is that the UNDP narrative mentions full-scale training of 60 to 70 AMPs under a revised, community-oriented curriculum of almost three years. Previously NIHS offered only intermittent one-month in-service training for particular AMPs. The AMPs were initially known as apothecaries in an institutional role, viz. hospital/clinic-based physicians' assistants. Training of AMPs ceased in 1964 when there were temporarily more medical graduates than jobs. AMP training was reinstated in 1972 by the Medical Faculty Councils in Colombo and Peradeniya and later the medical faculty at Jaffna. The AMP mandate for NIHS brought AMPs into a training program that used more technology (especially for preclinical subjects) and was three times longer and more faculty intensive than any previously attempted. The course emphasized curative medicine but was to be restructured as preventive/ primary health care.

All five of the immediate UNDP objectives were concerned with AMP training, as were four of the six anticipated outputs. The other two outputs were organizing the training of primary health care teachers and "strengthening the faculty for training and research responsibilities."

Commitment of the Government of Sri Lanka is difficult to discern. The amounts vary from UNICEF, to UNDP, to USAID planning documents. Table 2 attempts to summarize the budgeted and expended contributions of various donors and the Government of Sri Lanka. The budget figures were rather easy to obtain, but reported expenditures were more difficult to pin down with precision. The latter point explains the discrepancies found in the table.

The USAID proposal is in Project Paper 383-0062, "Sri Lanka -- National Institute of Health Science," and was based on the Nutting-Salvo consultation report. The summary budget on page 33 proposes (in US\$) construction (\$630,000), utilities and related equipment (\$405,000), design and supervision (\$173,000) and evaluation (\$50,000).

The buildings to be placed within the AID financed master plan were an auditorium (5,000 sq. ft.), library/documentation/administration/staff rest rooms (3,500 sq. ft.), six lecture halls (4,200 sq. ft.), two seminar rooms (2,000 sq. ft.), audiovisual labs (1,000 sq. ft.), demonstration rooms (1,000 sq. ft.), a demonstration center (2,000 sq. ft.), six lab rooms (4,200 sq. ft.), and a cafeteria (1,500 sq. ft.). The equipment and supplies were all related to the proposed buildings.

While many aspects of the project paper could be described, such as its excellent summary of a health care system, the document mostly speaks for itself. The evaluation now being carried out was planned for 1981. The implementation schedule on page 37 of the Project Paper does not take into account many of the intermediate steps discussed in this evaluation.

The purpose of this evaluation then, is to provide AID (and anyone else interested) with an assessment of the program conducted at the NIHS, an institution to which the United States has made a \$2.2 million construction grant and which is likely to apply for other support. This evaluation is carried on in the context of an institution with a broad mission of training and research in public health and a long history of involvement with the Sri Lankan public health service. The context is enriched by the interest of the multiple donors and the heightened interest at present in finding effective modes of delivering health services.

Table 2
Donor Commitments and Expenditures

Donor	Item	Year	Commitment (US\$)	Expenditures (US\$)
UNICEF	Curriculum consultants and advisors	1979-80	26,850	26,850
	Workshops	1979-80	13,700	13,700
	Supplies and equipment	1979-80	37,669	37,669
	Research and surveys	1979-80	5,000	5,000
	Construction at NIHS	1980-81	256,000	nearly complete
	Additions to hospitals and health centers	1980-81	67,000	67,000
	Construction of new health centers	1981-82	40,000	40,000
	Equipment and furniture for NIHS	1982	59,000	59,000
	Vehicle shop equipment maintenance	1982	687	687
	Equipment for health centers	1982	5,043	5,043
	Vehicles	1979	25,900	25,900
		1980	17,000	17,000
		1981	44,000	44,000
	Faculty study tours	1979-82	119,300	119,300
Additional workshops	1979-82	19,200	19,200	

Donor	Item	Year	Commitment (US\$)	Expenditures (US\$)
WHO	Fellowships & training (to UNICEF)	1979-80	54,100	54,100
	Training and study tours	1981-83	301,200	301,200
			WHO TOTAL	355,300*
UNDP	AMP training	1980	70,000	
		1981	196,000	
		1982	176,400	
		1983	90,000	
	Administrative consultant	1980-81	109,400	
	Other consultants	1980-83	93,900	
	Training	1980-83	169,500	
	Equipment for AMP training	1980-83	155,700	
Miscellaneous	1980-83	<u>4,500</u>		
	UNDP TOTAL	533,000	473,200	
Government of Sri Lanka	Staff, recurring costs, & construction	1979-83	3,174,078	Reported variously but probably around \$1,200,000

*In some documents WHO figures are reported as follows:

Overall management of program, including	1980-83	310,000	310,000
- evaluations (?)			
- consultants			
- fellowships			

Chapter 3

PURPOSE AND METHODOLOGY OF EVALUATION

The evaluation of the National Institute of Health Sciences (NIHS) described in this report is essentially normative in nature, although some summative measures are undertaken. Its purpose is to measure the progress of the NIHS program as a whole and of the USAID project to construct buildings for the NIHS campus. Based on the results of this evaluation, it is hoped USAID/ Sri Lanka will be able to ascertain whether NIHS should receive USAID support in the future. As needed improvements in the program are identified, it is also hoped that NIHS itself will be able to seek other support for making these improvements.

The team consciously tried not to apply American or any other arbitrary standards. Several standards were selected and were applied simultaneously.

1. Evaluation of achievements vs. those promised in the project papers.
2. Responses to previous evaluations and recommendations.
3. Internationally accepted standards for carrying on educational programs.
4. Standards set by the achievements of Sri Lankan educational institutions.

The model used in designing this evaluation is found in Figure 1. The model views the program in three phases:

1. Inputs in the form of financing, materials and technical assistance.
2. Operations of the program in six areas.
3. Outcomes of four types.

Appendix 1 is the outline of evaluation questions for each phase of the model, together with a suggested set of methods for obtaining the answers to these questions. Three general methods of evaluation emerged in practice; semi-structured interviews with individuals and groups, observations, and document review. From the evaluation questions in the outline, specific questions were developed for the semi-structured interviews (see Appendix 2 for an example of the questions asked). Interviews were held in Colombo with officials of USAID, the Ministry of Health, the World Health Organization, the United Nations Development Program, and UNICEF, and in Kalutara, with the entire direction and professional staff of NIHS. Group interviews were held with Assistant Medical Practitioner students in Kalutara and individual interviews with all categories of workers in the field, in both the NIHS field practice area and in four additional districts of Sri Lanka: Anuradhapura, Badulla, Kandy and Nuwara Eliya (see Appendix 3 for a list of persons interviewed). In all a total of over 80 staff members at NIHS, students, and field personnel were interviewed. Most NIHS staff were interviewed at least twice by members of the evaluation team.

Observations were made of several classes and laboratories at NIHS and of hospitals and peripheral units in the field-practice area and in the other districts. Relevant documents obtained from nearly every aforementioned interview were reviewed. (See Appendix 4 for a list of documents reviewed).

INPUTS	OPERATIONS OF THE NIHS PROGRAM	OUTCOMES
USAID	Administration Construction	Behavior of health workers' knowledge, skills and attitudes
UNICEF	Curriculum revision and implementation	Changes in the health services delivery and training systems
Financing Materials Equipment	Development of teaching/ materials	
WHO	Faculty development Applied research	research utilization
Financing Materials Technical assistance		
UNDP		
Financing		
Government of Sri Lanka		
Financing Personnel Materials		

Figure 1. Evaluation Model

Chapter 4

CURRENT STATUS OF INPUTS

The project documents are highly detailed, except for those by WHO which customarily does not provide a narrative. While the evaluation team was clearly not to provide a complete audit of the other donors in detail, a brief description does allow certain common themes to emerge: delay, diversion of funds from foreign consultancies and fellowships to support training programs, failure to complete proposed training, little research or time for it, little authority to co-ordinate training, and no health manpower policy advice. Despite these deficiencies a great deal has been accomplished, as described below.

UNICEF hostels are still under construction. Four quarters have been completed. The USAID evaluation team was delighted to attend the opening of one of the primary health care centers. The construction has been plagued by several problems: little on-site supervision, water supply problems, poor cash flow (a check left sitting at the Ministry for several months) contractor failure, delays in approvals (especially when the Building Department is involved), shortages of materials and of semi-skilled and skilled labor, etc. The vehicles were purchased and have been of great use to NIHS. The audio-visual equipment has been purchased and NIHS is about to start (when the A-V officer returns from training) producing its own teaching materials. The laboratory equipment is in use. The workshops have been held. Other faculty and resources (consultants and fellowships) have been used more slowly than planned, and some funds have been re-allocated to the short courses conducted at NIHS (as shown in Appendix 5). Core training has lagged, as reported in Chapter 5.

Probably the most important observation to be made about UNICEF support is that it is nearly finished. Our informants were inconsistent in describing the rationale for not asking for further UNICEF support after 1983. It is not even clear who made the decision, although it is perceived by the Ministry that UNICEF made the decision.

UNDP noted similar trends. Funds totalling \$473,200 were spent more slowly than expected. Not all planned consultants were used, but nearly all the fellowships were. The long-term administrative consultant thought he should stay but found just before his assignment ended that the NIHS did not want an extension, preferring to ask for more specialized staff. Funds were diverted to short-term training (the UNICEF-UNDP-WHO total is perhaps \$100,000).

The UNDP consultant and NIHS staff did develop a request for continued support. The initial amount earmarked has already been decreased, at least in part because of delays in submission. The new proposal requests US\$517,500 (NIHS \$187,500, Primary Health Care Training \$330,000) for 1984-86. The immediate objectives are as follows:

1. To consolidate and strengthen the newly established Assistant Medical Practitioner training program (by evaluating the course in all four training centers, strengthening the teaching labs, library, documentation

and audio-visual sections, and developing a health exhibition and demonstration center).

2. To strengthen the field-practice area.
3. To evaluate the NIHS courses and those at other centers for Family Health Workers and Assistant Medical Practitioners.
4. To develop team and multi-disciplinary training at NIHS and elsewhere.
5. To promote faculty development.
6. To develop an advanced course in community health.

The budget includes \$72,000 for short term consultants for the advanced course in community health, team training, and evaluation of team training; \$120,700 for national professional staff; \$330,589 for training (of which \$92,000 is for individual fellowships with the rest for the in-service and intersectoral training); and \$66,211 for equipment.

WHO did not have a detailed project narrative. Its budgetary contribution has been \$310,000 (or possibly \$355,000) since 1980. It has contributed two evaluations, a few consultants, and several fellowships. The 1980 evaluation, conducted prior to the start of the AID project and carried out in five days, found that NIHS existed in name only. The January 1982 evaluation by Drs. Mya Tu (Chief Health Manpower Development WHO South East Asia Regional Office) and Rex Fendall, Professor at the Liverpool School of Tropical Medicine, was critical of the project as measured against the Ministry mission statement for NIHS and the initial project papers. The evaluation recommended that Assistant Medical Practitioner training be outpatient- and community-oriented, that the director of NIHS be upgraded to Deputy Director status in the Ministry to co-ordinate training and the NIHS workload better, and that research should no longer be put off by having more consultants. Instead the faculty should be given funding and plunge in. It was suggested that NIHS not continue direct service responsibilities. The evaluation pressed for the originally proposed Advisory Board of Management and other co-ordinating activities, a regular educational calendar, interdisciplinary teaching of a common core curriculum, and improved status and relationships to established academic institutions (perhaps through an affiliation). The Ministry of Health appointed a committee to consider these recommendations. The Committee's findings are described in Chapter 5.

Government of Sri Lanka (GSL): The team was not able to clarify the status of the GSL contribution, except to note there have been budgetary cutbacks. The UNDP, UNICEF, and WHO found that funds were diverted to support short-term training. That training has raised some concern about the stability of the GSL contribution. Donors had assumed this training would be financed by GSL. No AID files contained recent GSL budgetary data regarding NIHS. Further, personnel changes at the Ministry made these data difficult to track. What did emerge are the NIHS budget figures for administration, training, patient care, and community health services: 1978 Rs/6,915,60; 1979 Rs/7,508,225; 1982 Rs/13,145,054; 1983 Rs/16,298,130. But all donors feel the GSL contribution seems to be shrinking, as Ministry funding in real terms has been doing since 1977. USAID should obtain an exact accounting from GSL.

USAID: Since the construction project was approved, the following events have taken place:

29 Aug. 1980	Grant agreement.
22 Sept. 1980	GSL letter re. legal conditions precedent (CPs).
30 Oct. 1980	USAID implementation letter no. 1, explaining the agreement and what GSL should do to carry it out.
Nov.-Dec. 1980 (60 days)	Discussions re. use of Sri Lanka Construction Consortium (SLCC). Preparation of draft terms of reference (TOR).
7 Jan. 1981	USAID letter submitting draft TOR for Ministry of Health approval.
2 Feb. 1981	USAID director's waiver of AID regulations regarding advertising.
13 Feb. 1981	USAID approval for GSL to proceed to contract through SLCC.
17 Feb. 1981	MOH letter to SLCC fails to include TOR.
25 Feb. 1981	USAID delivers copies of TOR to SLCC.
30 Mar. 1981	SLCC submits names of 5 architectural and engineering (A&E) firms.
31 Mar. 1981	SLCC submits names of 2 additional firms.
24 Apr. 1981	USAID advises MOH that USAID financing will not cover design work done by the Ministry of Local Government (MLG) Buildings Department (BD). The BD had become involved at the Ministry of Health's suggestion since the Cabinet opted to stop using the SLCC and to rely on competitive bids.
4 May 1981	The Ministry of Health decides to select a design consultant by calling for tenders. (Note: 90 days lost in discussions re. use of SLCC, i.e., from 2/2/81 until 5/4/81.)
4 May 1981	USAID submits revised draft advertisement calling for <u>technical proposals only</u> , cost being deferred to a second step.
14 May 1981	The Ministry of Health agrees to revised advertisement and initiates action to have a tender board appointed.
27 May 1981	USAID formally approves advertisement and TOR of tender for A&E services (implementation letter no. 2).

31 May 1981	Advertisement for technical proposals for A&E services. (Deadline for submitting proposals is 15 July 1981.)
8 Jun. 1981	Cabinet approves appointment of a tender board. Some members appeared inexperienced.
15 July 1981	14 proposals received. Bids are closed.
28 July 1981	First "preliminary" meeting of tender board.
21 Aug. 1981	USAID letter concerning lack of progress in evaluating proposals.
24 Aug. 1981	First meeting of technical committee (appointed by tender board); again some members were inexperienced.
28 Oct. 1981	Tender board selects Surath Wickermasinghe Associates (SWA) on basis of their technical proposal.
17 Nov. 1981	Ministry of Health submits documents re. selection of SWA.
25 Nov. 1981	USAID concurs in selection of SWA subject to successful negotiation of contract.
23 Jan. 1982	SWA submits cost proposal.
8 Apr. 1982	Ministry of Health advises USAID of agreement on cost for A&E services.
26 Apr. 1982	USAID concurs in cost proposal.
May-July 1982	Site problem: because of possible reactivation of airfield, at President Jayawardene's request, review of draft A&E contract is called for. Perhaps the contract and cost proposal should have been reviewed together but that approach was not selected. The Ministry did not have a draft contract acceptable to USAID, so USAID provided a draft for the Ministry.
6 Aug. 1982	A&E contract signed by Ministry of Health & SWA.
27 Aug. 1982	Ministry of Health notice to proceed.

The landmarks in the master plan proposed and (actual) were: master plan report 27 August to 11 October 1982; draft master plan by 25 November 1982 (23 February 1983) with comments and approvals by 25 December 1982 (8 March 1983); and final master plan by 23 February 1983 (30 March 1983). No time had been allowed for approval of the master plan which was done on 29 April 1983. These delays were due to lack of organization and slowness in comprehending the scope of work at the A&E firm on the part of the Ministry of Health.

The landmarks for architectural and engineering design services, proposed and (actual) to date are: preliminary designs and plans from 23 February 1983 to 22 August 1983, was to begin officially on 29 April 1983 but actually began

when the draft was approved on 8 March 1983. Final designs were to have been done by 31 December 1983. Although some changes in final design have been agreed to, they have not been effected. Agreement was close enough at the time of this evaluation to allow invitations for bids (including 400 + pages to be reviewed) to be offered on 2 November 1983. Prospective contractors had to respond by 16 December 1983. Bids were to be evaluated by the A&E firm, which would make recommendations to the tender board, which would in turn ask the technical committee, chaired by the director of NIHS, for recommendations. USAID expected to review the recommendations and to see the contractor(s) chosen by 31 January 1984. At that time the tender documents had been picked up by eight local and one American firm for a cost of about US\$100.

Construction is expected to last about 18 months. Although the USAID project ends 31 August 1984, it can be extended for one year by the AID mission director. Therefore, construction must begin by 1 March 1984 to avoid problems with USAID regulations that prohibit approval of a project that will take longer than previously agreed. An extension would require approval from USAID/Washington. This tightness of the schedule was pointed out to GSL in a letter from the USAID mission director on 13 March 1983.

USAID has insisted on the following safeguards that may help avoid the problems encountered by other donors:

1. A supervisory architectural and engineering (A&E) firm will supervise construction, having previously developed the approved master plan and design. The master plan itself is also a safeguard.
2. The Buildings Department, Ministry of Local Government and Construction, will maintain a team on site to check construction (materials, adherence to design, measurements). They will conduct all measurements simultaneously with the A&E firm. Only two other buildings in Sri Lanka (the Sri Jayawardenepura Hospital and the Bandaranaike Memorial International Conference Hall) have had resident Buildings Department personnel.
3. There will be fixed price agreements for all firms involved, the A&E firms first.
4. USAID can approve any voucher for payment if the Ministry does not act within 30 days. Payment does not go through the Government of Sri Lanka and may be partial.
5. Damages must be paid if construction exceeds time allowed. Liquidated damages for US\$2,000/day are included.
6. Prequalification assessments (technical capabilities; staff experience; financial soundness) must be carried out on all firms involved before cost proposals are submitted. SWA was chosen from among 14 firms.
7. A knowledgeable, experienced engineering staff in the AID mission will make independent assessments of the entire process. In fact, this staff wrote most of the construction contract set out for bid on 2 November 1983 and will hire a local engineer who will visit the site once weekly.

Summary: The original schedule was unrealistic, but all agree that progress has been very slow. Some delays, such as President Jayawardene's suggestion that the airport be reactivated (one runway will be used, use of the second would have required moving the campus) were unavoidable. Perhaps a direct USAID contract would have saved some months by making up for the Ministry's contractual inexperience. However, such a contract would have required at least a local engineer here and additional space and supervision. There would have been no acceleration of Ministry approval of the master plan. The proposed safeguards and the contractual mechanism are encouraging. However, local courts may not be responsive to complaints. Construction to date has been plagued by water supply problems, financial delays, poor on-site supervision and security, running out of supplies, labor disputes, drainage problems, and sewerage problems. The new US Embassy building has also been greatly delayed. Unanticipated problems can easily arise, and old ones may not have been solved. Therefore, only a fair prognosis can be given.

Chapter 5

ASSESSMENT OF OPERATION AND FUNCTIONING OF NIHS/MINISTRY OF HEALTH (AS RELATED TO TRAINING)

5.1 Administration:

NIHS is administered by Dr. Godwin Fernando, who has directed the program since 1972. He seems most comfortable in one-to-one discussions. The demands on his time are many. While faculty meetings have been held and minutes published, there was no regular schedule and faculty members were not sure who was regularly included and who was not. A review of meetings since 1 January 1982 reveals that there were three faculty meetings in 1982 (28 January to meet Drs. Myja Tu and Rex Fendall, 19 April, and 27 August). Eight faculty met on 13 July (re: primary health care). Three meetings were held in 1983 (1 February, 24 May, and 2 September). Minutes exist for the last of these meetings. Special meetings in 1983 involved two with the WHO consultant on curriculum, Dr. O.P. Gupta, one of unit heads about the Advisory Board meeting, two smaller groups regarding the curriculum and one small group regarding physical facilities. This situation is only slightly reassuring to some faculty members who feel isolated and left out of the process. The lack of an administrative assistant or officer may contribute to communication problems, and one has been requested. It is not clear how much of what occurs is related to staff overload, administrative deficits or style or on another level to relationships with the Ministry of Health. In any event, regular meetings at least monthly and a wide circulation of minutes are recommended.

The Ministry of Health staff dealing with NIHS has changed. Dr. D. Wijesinghe has been reassigned from being additional secretary and his role as chairman of the progress review meetings to discuss project progress and constraints with the donors has been assumed by Dr. Malinga Fernando, Director of Health Services. Dr. Mohan Rodrigo assumed the post of Deputy Director for Public Health in February 1983.

While NIHS reports to Dr. Rodrigo, it is not clear how manpower needs are determined in the planning carried out by the Ministry. The deputy directorship for planning, which is vacant, plays a role, as does Nursing (for FHWs and PNs), but there is no identifiable focus for manpower planning and policy in the Ministry aside from the (overall) Planning Unit. That role (as deputy director for manpower policy or deputy director of health) has been repeatedly recommended for the director of NIHS since 1979, but no steps have been taken (or seem contemplated now). The director of NIHS does serve as secretary and convenor of the Advisory Board (which is chaired by the secretary of the Ministry) and in a similar position on the Co-ordinating Committee (chaired by the director of health services). Both groups have met only once, the Advisory Board on 16 June and the Coordinating Committee on 11 April 1983. A task force of the latter met later to consider child mental health training for Family Health Workers. Presumed members of the Advisory Board encountered by the evaluation team were unaware of this single meeting. It is recommended that both groups meet with sufficient regularity to develop some momentum and genuine involvement with the curriculum. Little coordination is seen in the donor progress review meetings, which are regular, but often seem bogged down in administrative minutiae.

Without better co-ordination, it is likely that NIHS will continue to be asked to do courses on only a few days' warning and there will continue to be neither an NIHS nor a national training calendar (the last attempt at publishing one was in 1981). The evaluation team's proposal for teaching a core curriculum to several disciplines simultaneously cannot be implemented because NIHS cannot be sure when its courses will be held. For example, Public Health Inspector training was projected for early 1983, but the class has yet to be chosen. At the same time, unanticipated short courses on various topics are often requested with little notice. A training calendar, concentration on basic courses, and tying resources to work load are recommended.

The Ministry's problems regarding manpower policy run deeper. The Assistant Medical Practitioner (AMP) training curriculum remains basically curative (recommendations in the WHO evaluation were rejected), yet the Ministry expects the AMP to lead the primary health care team at the subdivisional health center level, although the Medical Officer of Health exercises this function at the divisional level. Informants in the Ministry acknowledged that supervision of health personnel was inadequate in numbers and mobility but still seemed to blame NIHS for not producing graduates who required no supervision. This sort of thinking and related behavior shows that the Ministry has a tendency to see problems as being solvable through training when some other means as well, such as tighter supervision might be preferable. Careful analysis of problems for their possible solution through training is recommended. The evaluation team urges the development of a health manpower group within the Ministry that would develop and use automated data bases and assess their needs on the basis of grouped epidemiological data and reports of what workers do (and what they need to know how to do). No research has been done on utilization and retention of personnel, yet graduates leave and curricula remain theoretical. Policies, such as private practice privileges, are adopted without data to indicate their effect. Costs, effectiveness, and benefits should be calculated. Politically determined recruitment hinders professional attitude formation; the Ministry should ask that health jobs be exempted from any process of political recruitment.

All of these manpower problems are amenable to analysis through health services research. Donor funds spent on such research would be well spent. The Ministry should define questions for grants and/or contracts and award these competitively, rather than burdening NIHS as it moves towards fulfilling its research role. Such research might help clarify attitudes at the Ministry toward NIHS as an educational rather than merely a training institution. NIHS faculty are paid and generally treated just like health service personnel. Academic status is recommended.

The next area proposed by NIHS for development is the field-practice area. The workers encountered seemed well motivated for public health and prevention and the fixed health facilities were clean but lacking in many amenities. However, the area has the same problems as health services elsewhere in the country.* Legions of patients crowd outpatient facilities where records are scant or

* Supplies are, for example, extremely limited. A few pairs of gloves are enough for vaginal examinations by the staff, but not when 14 AMP students arrive.

non-existent (all patients are "new" because there is no patient record; however, even if there were one, there would be no time for the staff to obtain it). Hospital patients at the district or rural hospital level have only urine or blood tests, and sputum smears, x-rays, or other studies must be referred to General Hospital/Kalutara or the NIHS Laboratory.

The model Family Health Worker we visited had kept her fourteen registers/reports in excellent condition, but no others were seen elsewhere. We also visited an impressive group of volunteers. Alumni in the field, however, were sometimes critical of their field experience, and the field-practice area suffers from having more students than placement sites available.

The practice area should be strengthened by (a) improving, streamlining and automating the information system, (b) promoting competition among faculties for students, and (c) developing student placements elsewhere on the island.

Field faculty should feel rewarded and involved in NIHS. Recommendations dealing with these needs can be found in a proposal from NIHS to USAID. Of the ten areas requested for USAID attention, the team most highly favored managerial processes and information, followed by strengthening AMP outpatient training, establishing a referral system, and research development. Some support might be given to maternal and child health facilities at the Kalutara General Hospital and to other facilities as part of a total package. Re-organization and establishing linkages were not thought to require foreign assistance. More campus construction was thought to be premature. The USAID \$2.2 million construction project has not even begun. Its progress and effects should be assessed before more construction is done.

Finally, the lack of an effective health manpower policy goes beyond the Ministry of Health. There is a national committee on health manpower, but it has met only once in two years. Donors should foster policy discussions through forums, outside consultants, and the preparation of study materials.

5.2 Construction of Facilities

NIHS remains severely impaired in its expanded functions since none of the planned construction from any donor has been completed. Staff quarters are about to be occupied; however, the UNICEF hostels are many months from opening and USAID construction won't begin until 1 March 1984 at the earliest. The result is demoralization because of overcrowding of facilities. One can only hope the situation is temporary. It should be pointed out that NIHS's difficulties in carrying out all its proposed activities are due in part to the lack of adequate facilities. The obvious recommendation is to proceed with construction forthwith, which is happening. A related problem is maintenance. The condition of the present facilities justifies AID's and the other donors' concerns. Requirements for maintenance are embodied in the construction agreements and contracts that are signed or offered for bid. However, since most maintenance problems are said to be related to desultory attention and delays from the Buildings Department which has responsibility for overseeing maintenance of government building, it is recommended that the Ministry of Health receive its share of funds to maintain the buildings directly.

5.3 Concepts, Strategies, and Curriculum Revisions in the Implementation of the Teaching Program

Each of the three traditional training programs at NIHS, e.g., for Public Health Inspectors (PHIs), Public Health Midwives (PHMs), and Public Health Nurses (PHNs) has undergone revision since 1979. In addition a new training program for Assistant Medical Practitioners (AMPs) has been added since 1981. Finally short term training programs for Medical Officers of Health (MOH), for other existing field staff, and for a wide variety of other persons have been carried out, some according to plan, but a great many on an ad hoc basis (see list in Appendix 5). The basic thrust of these programs has been an attempt by the Ministry of Health to prepare the personnel in its extensive system for roles in the new PHC plan.

The purpose of this part of the evaluation is to assess progress in the implementation of new curricula for the four new basic categories of worker: AMPs, PHNs, PHIs, and PHMs (hereafter referred to as Family Health Workers or FHWs) and the degree to which the curricula have been implemented. In addition, the entire training program at NIHS will be examined to assess the balance among various courses and their relevance to the overall commitment of the Institute to PHC. Finally, short term training programs will be examined, both in terms of their intrinsic value and of their impact on the basic courses.

5.3.1 Assistant Medical Practitioners

Findings

1. Curriculum Implementation: The new curriculum is fully detailed for only the community medicine component and, as visits to Peradeniya and Colombo indicated, it is not fully standardized. Anatomy is invariably emphasized. Physiology is merged with anatomy in Peradeniya's course called Structure and Function. The Peradeniya course is much more affected by medical educational technology and uses at least one self-instruction package. The Colombo AMP students formerly came to NIHS for community training and now receive none. The amount of biochemistry varies from none to some; it may or may not focus on nutrition. The field experience varies according to case material, setting, student-faculty ratio, interests and abilities of faculty, etc., but none of these are assessed in any program. While it is regrettable that the Jaffna program was not visited, it is doubtful that it would have narrowed the range of diversity.

The NIHS AMP course consists of anatomy and physiology in the first term (taught variably by medical officers hired for AMP training, a transient group) and parasitology and microbiology with some introduction to clinical work in the second term (each taught by one permanent NIHS staff member). Pathology, community health, pharmacy, and pharmacology make up the third term. These subjects are taught by the NIHS faculty pathologist who has heavy service duties or by the medical officer for AMP training. The community health experience includes individual projects. The fourth term includes classes and clinical experience in medicine, gynecology and obstetrics, pediatrics, and surgery that are taught by field-practice area clinicians. The

AMP course is in English, which many of the students appeared not to know well.

The instructional method at NIHS is almost exclusively lectures with a few handouts and texts available only as library references. The students thirst for more. No photomicrographs are shown in pathology but some are being developed. Goals and objectives are not communicated. There is no pretesting or identification of students having difficulties. Students do not learn basic skills in clinical pathology.

2. Staffing and Other Resources: The AMP program, as noted in Chapter 2, has received the bulk of the UNDP assistance. This has enabled NIHS to approach, but not yet equal, the resources available to AMP students at Colombo and Peradeniya. While the teaching of parasitology, pathology, and bacteriology is as good or better than elsewhere all professors have significant other commitments, and there are no substitutes to cover for them when they are away. The medical faculties are able to provide more depth of coverage. For example, fourteen departments at Peradeniya are involved in the AMP course. At Kalutara the rest of the teaching, aside from minor contributions from the other units, is handled by a staff of medical officers appointed for AMP training only. There are three (perhaps two) of these now, with perhaps a maximum of eight which could be appointed. The field-practice area and hospital staffs are certainly adequate for AMP training by Sri Lankan standards.

Recommendations: It was suggested that NIHS consider offering only clinical and community training, but the faculty feel they can do the job and noted that their students do as well as those from other centers on the standard national examination. We recommend identifying AMP students particularly interested in public health and a greater saturation of faculty in community medicine concepts. This is planned in the next UNDP project period.

5.3.2 Public Health Nurses

Findings

1. Curriculum implementation: There are two PHN curricula. One was developed by consensus in 1979, the other with a WHO consultant (Mrs. Loudy, UK) in 1980. The course remains a one year post-basic training course. The job description has not changed much, but the PHN is clearly evolving into a supervisor of FHWs and clinic operations and learning more how to monitor and evaluate programs. Since the new curriculum does not specify teaching methods, the present course co-ordinator, Mrs. Jayaratne and her two nursing colleagues have been trying to develop the best approaches. They seem highly committed. They obtain comments from alumnae and from students in the course. They have used films and are developing their own. The course is in Sinhalese, which limits available learning materials. The emphasis is on practical field experience and classroom exercises that provoke discussion. One observed session was a lively mutual critique of charting one's health education activities. Goals and objectives are not communicated in advance. There is pretesting.

2. Staffing and other resources: The core staff consists of three nursing tutors. All are experienced and appear to be greatly involved in their work. One is also the Family Health Worker (FHW) course coordinator. All are somewhat involved in the FHW program. The work as they would like to do it is too heavy. There seems to be no time to develop student evaluation or Sinhalese teaching materials. They are assisted by 12 PHNs in the field. The usual division of teaching time each week is two days of didactics and three in the field, with the half-day on Saturday for special projects in two remote villages the nurses have adopted.

Recommendations: The present course of specifying the new curriculum with more management and (as alumnae request) Medical Officer of Health unit involvement seems best suited to the role of the PHN in Sri Lanka. Time for developing Sinhalese learning materials and other teaching aids should be budgeted.

5.3.3 Public Health Inspectors

Findings

1. Curriculum Implementation: The new 1-1/2 year curriculum for PHIs has not yet been implemented. In fact, no PHIs have been trained since 1982. An advertisement has recently appeared in the press announcing openings for applications for a new class. This class is expected to begin in late 1983 or early 1984. When it begins it is not certain whether the old one-year program will still be in force or the new 1-1/2 year curriculum will be enacted. A real test of the new curriculum may thus have to wait at least until 1985.

Some aspects of the new curriculum have already been introduced. Intermittent field and classroom teaching are such that students spend at least one day per week in the field. In the past, fieldwork had taken place during a two month block of time at the end of the course. The new emphasis on health education and management skills has also already found its way into the training of PHIs. Field projects assigned to trainees have in fact centered on health education approaches to various problems in various settings. These projects have been evaluated by staff from the Health Education Bureau (see Appendix 6).

In addition to the basic course for PHIs a refresher course is also in principle offered every year for existing PHIs with five or more years experience. The most recent refresher course took place in September-October 1983 (see Appendix 7).

It is notable that this course was characterized by both a pre- and post-test and by a significant degree of group fieldwork. Subject matter focused on new roles for the PHI in family health and on updating sanitation skills such as meat and milk inspection and water supply and excreta disposal planning.

In the 1982 WHO evaluation of the NIHS training program some specific recommendation for the PHI training program were made. These recommendations included an increased emphasis on training in field epidemiologic techniques, joint fieldwork with other students, use of a core course in PHC management, and more materials for use during field practice. The first recommendation is

particularly important if the PHI is to fill his primary role as an investigator of the social, economic, and environmental factors influencing the occurrence of communicable diseases. There is no evidence that this recommendation has yet been enacted.

The second recommendation, group fieldwork, is a practical way to prepare the PHI for the collaboration with Family Health Workers that will be an important aspect of future work. Since 1977, PHI students do their field projects in isolation from other students although they encounter other students in the clinics.

The establishment of a core course in primary health care management would satisfy the recommendation of a somewhat recent WHO report urging common training for all PHC personnel, but the evidence is that these suggested changes are only in the development stages at the present time.

The need for technical materials was emphasized during interviews at NIHS. They are particularly needed during the fieldwork component. There is apparently a Ministry of Health Manual for PHIs. A copy could not be found, and it is said to need updating. In any case, any field manual should probably follow the course objectives laid down in the new curriculum.

2. Staffing and other resources: To implement the new curriculum there is a full time staff of one Public Health Physician, one senior Public Health Inspector (PHI), and two tutors (also PHIs). To this core staff are added from time to time other NIHS lecturers to teach courses in certain areas such as rodent control, agriculture, traffic safety, human biology, entomology, port hygiene, engineering, mass media, family planning, ayurvedic medicine, first aid, food hygiene, food inspection, meat inspection, mental illness, public health law, English, drafting, and physical science. A staff of 16 PHIs assist in teaching students in the field and providing role models.

One such field PHI was engaged in organizing and training a group of youthful volunteers who assist him and the Family Health Worker in home visits, maternal and child health activated family planning promotion, and latrine construction. It is not known how active the other 15 PHIs in the Kalutara Field-Practice Area may be.

Recommendations

1. The new curriculum should be implemented as soon as possible. The rationale for increasing the course to one and a half years is sound and the curriculum is well laid out. A test of its value through actual implementation is urgently needed. The formation of a new class in a few months will provide such an opportunity.
2. A case can probably be made for extending the course even further in the future. The technical content on sanitation and water supply, while adequately covered in the curriculum, probably deserves more time for fieldwork. Each student group should probably actually construct a latrine from start to finish and should follow the maintenance schedule of a water supply installation.

A second reason for an even longer curriculum is the time needed for students to acquire the skills necessary to perform all the surveys for which they should be prepared including environmental and sanitary surveys to determine the incidence and/or prevalence of communicable diseases, insect and larval surveys, socioeconomic surveys in connection with community organization, and demographic surveys to determine population size and composition. In short, students need a thorough grounding in field epidemiologic skills. It is important not only to understand the principles of sampling, survey design, data collection, data compilation, analysis and interpretation, but also to experience the problems, pitfalls, and successes of such efforts.

Finally, the section of the curriculum devoted to health education seems heavily weighted toward the acquisition of skills in message formulation and transmission and mass media in general. These skills are useful only in informing target groups about health problems and their solution and are of little use in bringing about the behavioral change needed to improve the village environment, to induce better nutrition and child care, and to bring about voluntary compliance with pre-natal care and immunization regimens. For the latter, a greater emphasis is needed on group work and community organization skills. While these skills are not neglected in the new curriculum, it should be recognized that a considerable expenditure of time is necessary if they are to be acquired. Less time is needed for visual aid production and more time for actual group practice in working with communities.

A further reason for extending the course would be to create the opportunity for some qualified Public Health Inspectors to go on for a diploma in environmental sciences. As the preface to the new curriculum notes, the Public Health Inspector is the only member of the primary health care team who has no opportunity for professional advancement. An extended course leading to a diploma program in environmental science would provide such an opportunity.

Even if such an extension is not possible, however, efforts should be made to give increased emphasis to the epidemiological, technical, and community organization skills mentioned earlier.

5.3.4 Family Health Workers

Findings

1. Overall Management of Training: The new FHW curriculum has been in effect since 1980. In an effort to meet its goals of 2,600 FHWs in the field, the government has opened up nine temporary centers for Phase 1, which consists of one year of midwifery training. Phase 2, six months of public health training, has been carried out meanwhile in seven permanent centers. Now that most of the 2,600 have been trained, however, the temporary centers for Phase 1 will be closed, and only the seven permanent centers will continue. Kalutara General Hospital was a temporary Phase 1 center while the NIRS is a permanent center for Phase 2.

In order to produce the numbers of FHWs projected, increased numbers also had to be trained in each center. Up to 80 students, for example, have been received at NIHS for a single six month session. The present group, however, consists only of 18. It is expected that recruitment levels will level off in other centers as well.

All centers are using the same curriculum and the same final examinations for Phases 1 and 2. A committee charged with coordinating training functions among centers that train the same cadres has been formed but has met only once. Thus, an intended exchange of examiners among centers has not yet taken place.

2. Curriculum Implementation:

Phase 1

While Phase 1 training is supposed to concentrate on developing midwifery skills, certain skills required for the new tasks added to the FHW job description might be taught better in the hospital setting. These skills include treating minor ailments, making a blood film for malaria, withdrawing blood for serological tests for syphilis, making intramuscular injections of triple vaccine and inserting an IUD. Although some of these functions, such as treating minor ailments, have since been withdrawn, some centers have assigned trainees to medical and surgical wards to acquire those skills, while reducing the time spent in the maternity wards. Phase 1 trainees are supposed to make a visit to a FHW in the field at least once a week, but it is doubtful that this takes place in every training center.

Phase 2

This discussion is drawn only from observations at NIHS. Implementation of the curriculum for Phase 2 has been difficult. Objectives are deemed to be too broad for the fieldwork portion, although they have been useful in designing the classroom work, which is mostly by lecture. For the fieldwork portion, which consumes two thirds of the six month period, a major structuring of the activities is under way. Each objective has been transformed into a set of activities (see Appendix 8). Activities are then broken down into minute steps so that trainees understand their function precisely. For example, under Activity No. 2 entitled "Care of the Ante-natal Mother," the following steps have been outlined:

1. walk around the village
2. speak with the people
3. develop rapport with village leaders
4. find out about any new mothers
5. pay a visit to each one
6. have a friendly chat with the mother
7. if there are pre-schoolers in the household inquire about their health and immunization status

8. observe the environment of the household
9. inquire as to which pregnancy this is
10. ask if there have been complications
11. ask when she had her last menstrual period
12. test the urine for albumen
13. check the blood pressure
14. test blood for hemoglobin
15. enter findings in record

In this way the objectives of the course can be operationalized in field practice. If this detail is eventually organized into a field manual which the FHW can carry away with her, she will have a permanent reference for her work to which could be added handouts and technical notes from time to time.

Faculty otherwise regard the new curriculum as a general guide to planning classes and other activities rather than as a rigid set of instructions.

Fieldwork is carried out in coordination with classwork and in close connection with the field training of public health nurses so that they are learning to supervise FHWs as FHWs are learning to depend on them for supervision. Sixty FHWs in the field-practice area, many of whom are new, work with students.

3. Faculty and other resources: To implement the curriculum there are one Maternal and Child Health Physician, a senior Public Health Nursing Tutor, and a Public Health Nursing Tutor. Other physicians on the faculty of NIHS, a supervising Public Health Midwife, and staff from the Department of Agriculture are called on to teach particular courses: communicable diseases, demography, population dynamics, bacteriology, nutrition, and home gardening.

Recommendations

1. Complete the structure of the fieldwork component already under way. It is necessary to press home to trainees just what is expected of them.
2. Put the entire Phase 2 training on a sound educational footing including clarifying the objectives in operational terms and preparing objective-based learning and training materials and evaluation procedures.

The uncertainty about the FHW role in the field, due in part to the inclusion and then the withdrawal of certain new tasks, left faculty hesitant to launch wholeheartedly into implementing the new curriculum. A careful objective-by-objective review of the curriculum with preparation of specific course guides and other materials corresponding to each objective for both instructor and student needs to be undertaken. Tasks that are unclear should be identified and every attempt made to clarify them before they are included in the teaching program. Above all the

course and the career objectives for FHWs should be made clear to the student and should become the basis for student evaluations.

3. Attention should be given to preparing FHWs in the field practice area as trainers of students, with particular emphasis on the provision of adequate models of Family Health Worker functions.

5.4 Development of Teaching/Learning Materials

5.4.1 Findings

Although there is an excellent collection of mostly up-to-date reference materials in the library, there is a general lack of curriculum-specific teaching and learning materials. In fact most of the volumes in the library are medical books intended for Assistant Medical Practitioner students and are in English. The collections of references in Sinhalese and Tamil are exceedingly limited. Library hours are also quite limited, and only a few references are in multiple copy.

Materials in the library seem to be arranged rather chaotically. It was explained that individual course instructors had requested that certain books be grouped together to facilitate their students' finding them. In addition there have been special requests for certain books to be set apart. The small size of the library finally militates against an adequate organization of the large volume of material on hand.

Only a few course instructors regularly give handouts to students and almost none before a lecture or other activity. One teacher keeps books out of the library for students to use.

NIHS has produced some useful guides found in the library, one on management of minor ailments for FHWs and another on interviewing techniques.

There is a collection of slides and video tapes but no 16 mm films. Many video tapes have deteriorated in the tropical environment. Students are encouraged to design their own health education materials in some courses, and there is a rather good collection of these.

5.4.2 Recommendations

1. A series of teaching manuals (such as the medex materials) should be developed for each course for use by course instructors. One possibility would be to develop a core primary health care module to which could be added other modules specific to each group of trainees. The manuals should include handouts for each stage of teaching a course.
2. In parallel, learning manuals should be developed to which handouts could be added as the course progresses. They should contain self testing questions for each section of a course. A copy of a manual should be made available to each student and could become a field reference manual in subsequent years.

3. Materials in the library should be arranged according to the standard system used in their classification and then cross-referenced in the card catalogue according to the courses in which they are used as well as title, author, and number. Such a step could help to partially relieve the present chaotic organization of library materials until such time as the new library is opened.

5.5 Faculty Development

5.5.1 Findings

Introduction

As the Institute of Hygiene at Kalutara was transformed into the National Institute of Health Services and its mission considerably broadened, the need for faculty development became clearly apparent. The essential needs were to strengthen current staff expertise, expand existing staff, and fill vacancies. These activities were perceived as central for NIHS to carry out its mission. Convinced of these needs, several donors (UNDP, WHO, UNICEF), offered assistance in the form of fellowships to faculty members. The assistance was specifically designed to strengthen staff expertise in the effective preparation and implementation of the new curricula and in the design and implementation of health services and manpower related research. Other dimensions of faculty development such as staff expansion, the filling of vacancies, and the development of an atmosphere fostering intellectual exchange was viewed as the responsibility of NIHS and the Ministry.

Strengthening Staff Expertise to Implement Curricula

Many appropriate training opportunities have been provided for NIHS faculty. In fact, according to Table 3, 21 faculty members* or 75 percent** of the total either have already completed or are currently in training. Training is planned in the near future for five of the seven faculty members who did not receive fellowships during the last four years. No official training has been planned to date for the two remaining staff. These two faculty members are relatively new and presumably arrived after commitments were made for the remaining training fellowships.

Counting training still underway, approximately 181 person months of training have occurred since 1979. While this level of training is impressive, it also represents approximately 18% of available staff months*** and therefore an

* Three of these 21 staff members received fellowships for training directly from WHO; whereas, the other 18 received their fellowships through donor financing to NIHS.

**This percentage is based on the total of 28 faculty members.

***Assuming all 21 members work 12 months a year.

Table 3

STAFF TRAINING RECEIVED (BY UNIT)

<u>NAME</u>	<u>DURATION</u>	<u>PLACE(S) OF STUDY</u>	<u>FIELD OF TRAINING</u>
<u>Director of NIHS</u>			
Dr G P C Fernando	1 Month	India, Malaysia, Singapore, Indonesia	Study Tour in Community Health Training
<u>Deputy Director of Training & Research</u>			
Dr N T Cooray	3 Months	U K	Teacher Training in PHC
	1 Month	Malaysia, Indonesia Thailand	Study Tour in Community Health Training
<u>Deputy Director of Field Services</u>			
Dr Gnanissara	1 Month	India, Malaysia, Singapore, Indonesia	Study Tour in Community Health Training
	3 Months	U K	Teacher Training in
<u>Deputy Director of Medical Care Institutions</u>			
Dr Bernard	Nominated for 4 Months	U S A	Health Planning Managerial and Administration
<u>Epidemiology Unit</u>			
Dr H M Fernando, Assistant Director	6 Months	Prague	Epidemiology
	3 Months	U S A	

FAMILY HEALTH UNIT

Dr S D de Silva, Assistant Director	9 Weeks	Yugoslavia	Planning and Management of PHC in Developing countries
	12 Months	London	M A Community Health
Mrs M A Weerasuriya, STPHN	3 Weeks	India, Thailand	Nursing Education
Mrs H S Livanage, SPHN	10 Weeks	India, Indonesia Thailand	Nutrition Education

HEALTH EDUCATION UNIT

40 Dr K Javalath, Assistant Director	12 Months	U S A	M P H
Mrs G Javaratne, TPHN	4 Months	Australia	Educational Science
Mr A K Seniviratne, TPH	24 Months	U S A	M P H
Mr D H W Peiris, TPHI	3 Weeks	India	Urban and Rural Sanitation
	1 Month	Thailand and Indonesia	P H C
	3 Months	South Korea and Philippines	Communications and Health Education

ENVIRONMENTAL HEALTH UNIT

Dr A M Fernando,
Assistant Director

Proposed for training in Population and Demography

: 3 :

Mr D H Perera	24 Months	Australia	M P H Environmental and Occupational Health
Mr D S Sanjhanayake, STPHI	12 Months	U K	Food & Hygiene

BIOLOGICAL SCIENCES UNIT

Dr de Fonseka, Pathologist	Nominated for 3 Months	Philippines, Malaysia and Thailand	Disease Surveillance
Dr J Anwardene, Bacteriologist	2 Months	India, Bangladesh	Bacteriology
Mr V A Weerakody, Medical Lab Technician	1 Month	Burma, Indonesia	Lab Technology

HEALTH PLANNING & MANAG. UNIT

Dr K C S Dilpathadu, Assistant Director	9 Months	U S A	Community Management and Planning
	4 Months	U K	
	1 Month	India	
Mr K Ramachandra	12 Months	India	Sanitation Science and Epidemiology

Mr H Leelananda, Social
Worker

No training

Mr L R Amarakoon, Librarian

2 1/2 Months

India

Information, Storage
and Retrieval systems

Dr R R W Dalpathadu, Assistant
M O H

No Training

Dr T D V Perera, A M P
Coordinator

Nominated for
6 Months
(3 Months) ?

Australia or U S A
(U K & Thailand) ?

Educational Science

Mr A L Perera

12 Months

India

Environmental Sanitation

Mr V Samarasekera, Field PHI

2 Weeks

Region

Environmental Health

Mr. Amararatne, Officer in
Audio Visual
Technology

18 Months

U S A

Audio Visual Technology

Mr. T. B. Wijesundera

Nominated for
1 Month

Thailand and
India

Audio Visual Technology

overburdened workload for the remainder of the faculty. On a more positive note, many of the faculty members have received the long-term training they most need for their teaching roles and most of the faculty still engaged in training will return in the near future. Some relief of the workload of other staff should therefore occur. This statement, of course, assumes that staff is not burdened with additional work, and that NIHS retains the present cadre. It should be noted here that all staff members completing their fellowships have returned to their NIHS posts.

To reliably assess the degree to which training has strengthened staff capacity to effectively implement curricula, student acquired knowledge and skills should be quantitatively assessed. Since this level of testing cannot be carried out in this evaluation and data are not otherwise available, the value of staff training will have to be assessed by considering its appropriateness and applicability to the tasks of the various personnel categories. Final judgment is based, to a large extent, on the faculty's own perceptions of the appropriateness and utility of their training to their needs and their presentation of specific examples of direct applications.

The effective implementation of the revised curricula demands staff proficiency in two areas: (1) knowledge of content areas and related technical activities and (2) ability to transmit information to facilitate acquisition of needed skills, knowledge, and attitudes.

Most staff training was designed to increase staff proficiency in their knowledge of some aspect of primary health care or in their respective technical areas. According to Table 3, 22 of the 25 fellowships were for these purposes. Thirteen of the fellowships involved study tours or short or long-term training in countries of the Asia region to allow NIHS staff to learn appropriate technology for PHC under conditions similar to their own. In all 13 cases, the training areas were thought to have direct relevance to the work at NIHS and according to all faculty members interviewed* their training experiences were extremely useful. Only one staff member indicated that, although directly relevant to NIHS work, parts of the training were a repetition of information already known. When asked to provide examples of how they have applied their training to their work, faculty members could do so (see Table 4 for examples of applications). In fact, only one staff member could think of a technique learned during training which would not be applied at NIHS. In this case application would require more time than was currently available.

The nine remaining fellowships were designed to increase knowledge of PHC in a developed country. Four received MPH degrees and five training short of a degree in various aspects of PHC or in a technical support area. As with the training taken in regional developing countries, the fellowships offered in developed countries were also thought to have relevance to occupational requirements. Some of these fellowships helped fulfill post-graduate requirements for completing MD programs. These were often granted directly to the

*Consists of staff receiving regional fellowships excepting three members still in training.

Table 4

EXAMPLES OF APPLICATION OF REGIONAL TRAINING

<u>NAME</u>	<u>TYPES OF TRAINING</u>	<u>APPLICATION</u>
Dr G P C Fernando NIHS Director	Study Tour in Community Health Training	Studied the development of post-graduate courses for PHI. Has explored with MOH the possibility of offering post-graduate courses to PHI for promotional purposes
Dr Gnanissara, Deputy Director of Field Services	"	"
Mrs M A Weerasuriya STPHN	Nursing Education	Studied the approach used to train FHWs which involved doing very detailed social/medical work-ups on entire families. She has directly applied this holistic approach to training FHws at NIHS, emphasizing that FHws must understand family health as it exists within the total family situation.
Mrs H S Liyanage TPHN	Nutrition Education	Was exposed to PHC workers teaching small children about nutritious foods. This was a new concept to her. Although she has just returned and has not had the opportunity to apply learning, she intends to teach the NIHS approach, used to instruct small children about nutrition.
Mr D H W Peiris TPHI (Received three Fellowships)	Urban and Rural Sanitation PHC Communication and Health Education	Studied the preparation and use of hand puppets Teaches NIHS students how to prepare these puppets and present them to the community for the purpose of conveying health messages.

Dr J Gunawardene Bacteriologist	Bacteriology	Studied new methods in isolating intestinal pathogens and uses these methods in clinical bacteriology.
Mr V A Weerakody Medical Lab Technician	Lab Technology	Studied new techniques in parasitology. Since returning teaches by practical demonstration the use of these new techniques for preparing certain specimens.
Mr L R Amarakoon Librarian	Information, Storage and Retrieval systems	Studied concepts of selected dissemination services and current awareness services. Since his return, he started a News Bulletin and Bibliographies and developed a Publication Alerting Service to inform teachers of new acquisitions on an individual basis. Classifies materials based on the Universal Classification Scheme taught during training.

faculty member rather than through donor financing to NIHS. In these cases, it appeared that the fellowships primarily served personal career goals although NIHS is required to have physicians with Doctorates in Medicine as unit heads.

Although all faculty members who trained in a developed country found their experience useful, they had more difficulty in directly applying their training to NIHS than faculty trained in developing countries. Although the content of training was relevant, the techniques acquired were sometimes not needed at NIHS or not useful because of lack of equipment. Such was the case for those receiving MPH degrees and also for some other training in developed countries. For instance, one faculty member took training in food and hygiene in the United Kingdom. The training experience, according to this faculty member, was helpful and relevant to his work yet it was difficult to transfer to students techniques used to inspect meat because of a lack of meat specimens at NIHS. Naturally there is a good argument to be made for training in developed countries because of exposure to the most current knowledge and technology available. However, when the training cannot be directly adapted to NIHS work, it remains questionable. However, without a cost/benefit analysis of training in developing vs. developed countries, judgments must be reserved, and thus these conclusions are tentative.

Nonetheless, the training received by faculty and staff has been, for the most part, appropriate for their functions, useful, and applicable to their teaching roles at NIHS, including both the field-practice area as well as classwork. Based on staff perceptions of utility and their examples demonstrating direct application, it appears that staff capacity to implement the revised curricula has been strengthened.

As previously stated, however, effective implementation of curricula demands proficiency in helping students acquire knowledge, skills, and attitudes appropriate for their work. To help staff develop teaching skills, NIHS held two teacher training workshops for faculty. One was held for five days in 1980 in which 20 faculty members participated, the second was held in 1982 for the same duration for 22 participants. In addition, three of the fellowships were for teacher training. The appropriateness and usefulness of these fellowships is without question. Faculty getting this type of training felt it helped them to improve their teaching skills immensely. For these faculty members, teaching approaches have changed from only lectures to a lecture-discussion format. They now set objectives for training at the beginning of the course. The course materials are then directly related to the objectives. These faculty members sense that, through the use of these new techniques, students are able to follow their classes better than before.

While all faculty were presumably exposed to teacher training during workshops at NIHS, with the exception of the three faculty members who received fellowships in teacher training, most faculty felt they needed more training as teachers. In fact, several staff members had indeed perceived a difference among those with this extra training. Naturally a full range of competence in teaching was found.

In conclusion, most faculty members feel that their abilities to implement the revised curricula have been strengthened through training. Interviews with 20 faculty members who cited specific examples demonstrating the usefulness of their training were sufficient to convince the team of the value of the

training. The effect of training has been an increasing faculty understanding of the content areas of their courses. Less progress has been made in preparing faculty as teachers.

Strengthening Staff Expertise to Design and Conduct Research

Until recently, the level of training offered to faculty in research methodology was nominal. Dr. Gandhi, the WHO long-term consultant, ran a research workshop at NIHS for faculty which included information on how to identify research problems, develop methodologies, and collect data. Research was, however, peripheral to his main purpose. Training activities to strengthen staff expertise in their research role really only began with Dr. Fisek's arrival in September 1983 for three months. In fact, prior to Dr. Fisek's arrival, 26% of staff interviewed about their research experience had had no previous research experience. 58% indicated they had some basic research experience and 16% felt they knew research methodology fairly well.

Dr. Fisek, a WHO consultant, was charged with helping NIHS faculty improve their knowledge and skills in developing and implementing research projects specifically in the area of health services and manpower development. He ran a five-day workshop for 17 faculty members in which he provided instruction on the following concepts and procedures:

- o identifying and defining relevant projects
- o developing the research design
- o sampling methods
- o identifying a list of independent and dependent variables or characteristics to be measured
- o designing and pre-testing questionnaires
- o preparing dummy tables
- o developing methods of data analysis

Following the five-day workshop, all participants were instructed to develop a research protocol which they would carry out. Each participant was asked to prepare a paper containing each of the elements mentioned above and describing how the findings would be used to improve health services. Dr. Fisek has been available for private consultation to assist faculty members in the preparation of their protocols. Fifteen of the 17 participants are actually developing research protocols. Because of time constraints a few faculty members prepared joint protocols. Preparation of the protocols involves the completion of eight tasks. Dr. Fisek has closely monitored the progress made in each of these tasks. Based on the tasks completed as of November 1983, Fisek reported the following progress for the 11 protocols:

<u>Tasks</u>	<u>No. Completed</u>
1. Development of objective and rationale	11
2. Development of research design	11
3. Sampling procedure	10
4. Development of list of variables or characteristics to be measured	5
5. Designing of questionnaire	5
6. Pretesting of questionnaire	0
7. Development of dummy tables	1
8. Description of methods data analysis	0

Regardless of whether or not a participant is currently preparing a protocol or how far he or she has managed to progress or the level of previous research experience, there was a consensus among all participants that this research training has been extremely helpful. It was felt that the didactic section of the training was presented in a simple manner which facilitated understanding of the basic concepts and procedures of designing and implementing research protocols. They feel the practical portion of the training in particular has offered them an excellent opportunity to apply what they learned to developing research they would actually carry out with the close supervision of a research expert. Because of the technical knowledge one must have in order to design and carry out good research projects, it is felt that Dr. Fisek's on-going assistance has been indispensable. However, it was noted by most faculty members, that the consultancy occurred at an extremely busy time for NIHS resulting in a diminution of the level of utilization. This effect was also reported by Dr. Fisek. Because of this factor, Dr. Fisek will be leaving before most protocols are even completed, much less implemented.

Although the capacity to design and conduct research is strengthened, the technical nature of the work and the time and training required for most people to learn research concepts and techniques requires much more. The team agrees that the training offered in this area has made an excellent start but has not prepared the faculty to assume their desired research roles. For faculty members who had already a fairly solid research background (16%), this training may have strengthened their skills enough that they now feel capable of assuming research roles. Some faculty had felt this readiness prior to the training.

Other Dimensions of Faculty Development

The team felt that progress in this regard was unsatisfactory. Staff shortages are quite evident and workloads permit only time for training activities. The team was convinced that management at NIHS has every intention of filling vacancies along with plans for staff expansion. Sensitivity to their overburdened staff was quite evident, and there is a strong desire and awareness of the importance of permitting time for research and intellectual exchange.

Unfortunately, however, because of an apparent shortage of Ministry of Health funds, it is questionable when or if these developments can begin.

Strengthening Staff Capacity to Implement Curricula

Considerable progress has been made towards strengthening the capacities of this qualified faculty. Most faculty members feel well equipped to handle the technical content of their teaching areas. A limited number of fellowships should be requested for study tours and short- and long-term training to help faculty members keep abreast of the most current ideas and technologies available. Considering questions of cost and relevance of the training to application at NIHS, most of this training should be pursued in other developing countries in the region. To ensure a diffusion of benefits from each training experience, each faculty member returning from training should be required to prepare a presentation to relevant staff.

With the exception of those few faculty members who have received short-term training in teacher training techniques, most faculty members felt a need for further training in this area. This finding was further exemplified by the absence of important educational techniques in the classroom (e.g., statement of course objectives at beginning of course, use of handouts, etc). Since most of the faculty have been exposed to teacher training workshops at NIHS, the team feels that the greatest need lies in assistance in the application of educational methodologies to the courses being taught.

5.5.2 Recommendations

1. Either NIHS must strive to provide materials and equipment needed or the faculty must learn to transfer skills by adopting less sophisticated aids that can be produced at little cost.
2. Except in some cases where advanced technology is essential and adaptable, there should be a greater emphasis on PHC training in other developing countries in the region. This policy would also permit training for more staff because of the lower cost.
3. There is a need on the part of the faculty for further assistance and practice in the application of research methodology.
4. As stated above, faculty development means much more than offering training to faculty members. It involves ensuring that vacancies are filled and units are expanded so that the responsibilities charged to NIHS faculty can be successfully undertaken. Faculty development also involves the creation and maintenance of an academic atmosphere which fosters intellectual exchange and time for the development of research projects and for experiments with training approaches in the classroom as well as the field-practice area.
5. Considering questions of cost and relevance of the training to application at NIHS, most of this training should be pursued in other developing countries in the region. To ensure a diffusion of benefits from each training experience, each faculty member returning from training should be required to prepare a presentation to relevant staff.

6. With the exception of those few faculty members that have received short-term training in teacher training techniques, most faculty members felt a need for further training in this area.
7. Assistance should be requested for a medium-term consultant to assist faculty in the integration of effective teaching methodologies in their course work. Full integration takes time, and it would be extremely helpful to faculty members to have such a resource person readily available (as Dr. Fisek was available for developing research protocols) to help answer questions and stimulate creative approaches to teaching.
8. NIHS should persist in getting vacancies filled and expanding the staff so it can reasonably carry out the responsibilities with which it is charged. Attention should be given to creating and maintaining an academic atmosphere capable of fostering intellectual exchanges and time for research and experimentation. NIHS should make every effort to conduct an annual retreat where all faculty members can gather together to discuss the needs of NIHS and ideas for its direction.

5.6 Applied Research Activities

5.6.1 Findings

Introduction

One of the broad missions of NIHS is to play an advisory role to the Ministry of Health on health manpower policy development. Integral to this role is the expectation that NIHS provide the Ministry advice based on field research. At the same time, by conducting this research it is expected that NIHS would continually monitor the relevance of its own training programs and make needed modifications. An expectation such as this presumes in turn an existing research capability at NIHS. In support of the Ministry's belief that health policy in Sri Lanka must be based on sound research and its recognition of NIHS as the selected sole producer of such research, WHO offered its assistance. As indicated in the previous section, WHO financed a research consultant for three months to train faculty in research methodology. The purpose of the consultancy was also to help faculty apply the training received to the development and implementation of relevant and useful research projects. In addition to the services of this consultant, WHO also provided grants for carrying out some research at NIHS.

Current Status of the NIHS Research Component

An accounting of all research reports published at NIHS during the last four years is as follows:

1. Helminths, Soil, and Man: A Study Conducted as a Field Exercise in the Basic Training of Public Health Inspectors -- Kalutara 1978.
2. A Study of Decision Makers in Matters of Health within Family Units -- 1981.

3. A Study of the Utilization Patterns of Triposha (Food Supplement) Kalutara -- 1982.
4. A Study of Nurses' Attitudes Towards Patients -- Kalutara 1983.

While the faculty members that produced these reports should be commended for their work, the evaluation team was unable to document use of their findings for either fine-tuning the training program at NIHS or in providing advice to the Ministry of Health on policies. While these studies most likely represented an interesting and useful experience for the researchers, an important test of the viability of the research component is whether or not research findings are utilized to make changes or to support the maintenance of effective health services or manpower development strategies. Whether or not a study can be used is reflective of the relevance and quality of the study done. However, if a mechanism does not exist to communicate research findings to decision-makers, the intrinsic value of the research may be irrelevant. Whatever the reasons for the failure to use the results of the few research studies produced, it is quite evident that NIHS at this point does not have a viable, active research component capable of supporting its advisory role. Although a few more studies have been produced since the 1982 WHO evaluation, the following conclusion by Mya Tu and Fendall still describes the situation quite well: "Its potential effectiveness as a major policy influencing organization is nullified by the almost total absence of activities providing the fundamental data which are essential for the formulation of objective advice and position papers." (2)

The fact that the development of a research component at NIHS has been progressing at an extremely slow pace is not an unexpected finding. Besides having been pointed out in several past evaluations, this concern was stated by everyone whom the team interviewed. Reasons for the slow progress were elicited during the discussions with officials at the Ministry, Donor Agencies, Universities, other Ministries and the NIHS Faculty. The following list of reasons was generated during these interviews:

1. The preoccupation with training and administrative tasks precludes devoting time to research.
2. Lack of adequate knowledge and skills among many staff members or a feeling of inadequacy to initiate and conduct research without assistance.
3. Lack of funds for costs associated with conducting research, e.g. paying per diems to Family Health Workers to collect data in the field.
4. NIHS staff primarily interested in education rather than research.
5. No extra incentive or remuneration for doing the extra work involved.

Faculty responses generally focussed on the first three reasons. Of the 18 faculty members that offered possible reasons for the slow progress in research, the first factor, lack of time, was mentioned by 67% or 12 staff members; the lack of competency was cited as one of the factors by 50% or 9 staff members; and lack of funds was cited as a constraint by 39% or 7 of the faculty members. A lack of interest and a lack of incentive or remuneration was mentioned by only one faculty member. While some faculty members (33%)

maintained that time was not a problem -- that if you want to do research you could even take it home and do it -- time was mentioned as the sole reason for 28% of the group. Similarly, while 22% of the faculty felt that a lack of competency was the sole reason for not doing research, 50% did not feel it was an issue at all. Obviously, individual responses were primarily reflective of individual reasons for not doing research rather than a reflection of the faculty as a whole.

In an attempt to accelerate the present slow development of the research component at NIHS, the WHO Research Consultant was brought to NIHS for three months. As noted previously, Dr. Fisek offered instruction in the concepts and procedures of research methodology for five days and then assistance to the participants in the development of their own research protocols. A list of the research projects planned during this course, as well as other research projects underway at NIHS, is provided in Table 5. While the number of items on this list is impressive, it should be noted that progress made in each of these projects varies greatly.

For some of these projects, researchers are only at the stage of defining the problem they wish to investigate. In other cases the researchers have developed the research design, chosen sampling methods, prepared a list of variables and designed the questionnaire to be used.

In a few cases the research projects are finished and the results have been analyzed and in some cases even used for course work materials. However, because of a lack of time, the researchers have not prepared reports; they question when time will even be available for this task. Although each researcher interviewed displayed enthusiasm and interest in the piece of research being worked on, several were concerned about the progress they would be able to make once Dr. Fisek departed.

In order to assess the quality and potential utility of the research projects underway, each researcher was asked to discuss the methodological approach used and how the results of the study could be used to stimulate health services and/or manpower development. In addition, the team reviewed questionnaires or protocols when available. For the most part, the team was quite impressed with the application of sound research techniques. Many if not most of the studies employed quasi-experimental designs involving random sampling techniques for forming treatment and control groups. The samples were of a reasonable size and adhered to the principles of sampling. Pre-testing of questionnaires was planned for each effort. Choice of topics corresponded generally to the faculty member's area of personal interest. In most cases the research topic chosen would presumably produce results which could be of daily relevance to their work at NIHS. This is not to say that these topics, as revealed in Table 5, are so narrow as to only be of concern to the faculty member during the study. On the contrary, most of the studies planned are potentially far-reaching in terms of their use at NIHS in monitoring the relevance and effectiveness of training, and determining course content, as well as for use at higher levels in the Ministry of Health.

Unfortunately, all that can really be referred to now are potential effects. Since these studies are still underway, we cannot judge how many will actually be completed and provide data that will be useful in making decisions related to health services or manpower development. Although most of these studies

Table 5

RESEARCH PROJECTS CURRENTLY UNDERWAY AT NIHS

1. The role of the traditional practitioner in primary health care.
2. An epidemiological study of poliomyelitis in Kalutara.
3. The effect of education of men in family planning on the acceptance of FP practice.
4. Risk approach strategy in family planning.
5. Medical care utilization pattern in the out-patient department in Kalutara General Hospital.
6. Prevalence and control of goiter among pregnant women.
7. Prevalence and prevention of cardiovascular disease, diabetes, and oral cancer.
8. Hospital infections in surgical wards in Kalutara Hospital.
9. The propagation of the use of oral rehydration in the communities.
10. Dental hygiene education.
11. Epidemiological investigation of polio outbreak.
12. Unwanted pregnancies among women attending ante-natal clinics in Kalutara NIHS District.
13. Anemia among pregnant women in Kalutara NIHS District.
14. Selection criteria for Public Health Nurse students.
15. Breastfeeding in Kalutara NIHS District.
16. Job satisfaction of Family Health Workers in NIHS Field-Practice Area.
17. Measurement of health status at health center level.
18. A study of the performance of Assistant Medical Practitioners in relation to their training.

have potentially far-reaching implications for health services and manpower development, there are many fundamental areas of investigation yet to be pursued. In the January 1982 WHO evaluation of NIHS, Mya Tu and Fendall point out several aspects of health care which must be studied before educational programs can be planned.

Thus, while it is quite evident that at this point NIHS does not have a well-grounded research component capable of supporting its advisory role to the Ministry of Health the potential is there and real movement in this area has begun.

A system for following up on alumni would offer NIHS a wealth of information on existing field conditions: manpower requirements, health needs, the types of health services most utilized, the appropriateness of training, gaps in training, etc. The generation of these data is fundamental to the advisory role on manpower development. It will also offer NIHS a system by which it can continually make its program more relevant, thereby ensuring that changes made in curricula are dictated by actual experience in the field as opposed to only theoretical notions. To ensure that research findings are utilized, a process must be developed and instituted whereby research results are communicated to those involved in health policy and manpower-related decisions.

Considering the time constraints on management at NIHS, the evaluation team believes that the full implementation of the actions stated above are doubtful unless a full-time person could be made available to handle the tasks involved. The role of a research administrator would be to coordinate and facilitate the implementation of these actions, to assist staff in research methodology, and to develop devices such as a Journal Club to create enthusiasm.

5.6.2 Recommendations

1. The following is from the WHO evaluation of January 1982 and is from the list of research topics for designing projects which should be followed.
 - a) Social studies revealing the knowledge, attitudes, practices, expectations and aspirations of communities regarding health and health practices. It is important to ascertain whether aspirations and expectations are being met by the present delivery system and behavior of field health personnel.
 - b) A study of actual patterns of diseases, as they exist at the village level and as revealed through available data and surveys. Environmental studies should be included in this epidemiological assessment.
 - c) Analyses of activities of field and clinic staff in terms of task and knowledge, leading to consideration of new job specifications more appropriate to the current situation.
 - d) Analyses of facilities and tools (e.g., drugs and resources, finances).

All these aspects need elucidation before educational programs or delivery systems can be planned.

2. In addition, the following questions should be answered

- What is the pattern of the by-passing phenomenon?
- What are the patterns of traditional versus modern health care?
- What is the percentage of referrals at various delivery levels?
- What mishaps are caused by inadequate knowledge and skills of health personnel?
- What are the deficiencies in the drug supply system?
- What is the cost to patients compared with the value of the services rendered?

With respect to evaluative studies that are required, some relevant questions would be:

- Are training curricula in conformity with actual field requirements?
- Do graduates perform tasks effectively and efficiently?
- Do work loads mitigate against adequate standards of performance?
- Are the graduate field supervisors effective?
- Are supervisors knowledgeable concerning standards and practices expected from educational courses?
- At what point in time following qualifications has loss of knowledge and skills rendered the field-worker incompetent, i.e., how often are refresher courses required?

3. The evaluation team agrees that NIHS should initiate and conduct research projects and use the findings to advise the Ministry of Health on various aspects of health services and health manpower development as well as to continually monitor and modify its own training programs as needed. At the same time, the team agrees that because NIHS is still in the early stages of developing a vital research component, the total responsibility for health services and manpower research should not be conferred on NIHS alone but diffused to other entities in Sri Lanka as well (e.g., universities and research institutes).

4. The coordination of research efforts needs to be improved. The conduct of research at NIHS must be approached in a more systematic way. While it should still be possible for faculty members to pursue research projects that fall into areas of personal interest, choices should fit into a larger picture. In order to determine areas of need, NIHS must develop and publish a data base for the field practice area. The following taken

from the Juya and Jendll WHO evaluation are examples of data fundamental to such a system:

- a. Basic demographic data on all households (e.g., characteristics of each household by sex, age, occupation of each family member, etc.).
- b. Health knowledge and practices (including environmental analyses).
- c. Patterns of utilization of health services (e.g., Western, traditional, etc.).
- d. Environmental variables.
- e. Health status.
- f. Development and job descriptions of health personnel.

Once these data are published, they can be used by the Ministry and NIHS to determine which of these areas most needs further investigation. The development of such a data base is therefore fundamental to improving the utility and relevance of NIHS research projects. The data collected will also serve as baseline information in determining changes in health status and practices.

5. To fully understand manpower requirements throughout the country, NIHS should develop and implement a system to follow up alumni.
6. To assist in removing the current constraints which inhibit the production of research at NIHS, the following steps should be taken:
 - Staff expansion -- recruit persons for the statistics and demography unit and fill four research assistant positions.
 - Develop resources for research to supplement current foreign assistance to ensure the momentum of the research program when foreign assistance activities cease. The step will involve developing a network of resources and learning the application procedures for procuring funds.
 - Faculty must be given time to fulfill their research obligations.
 - As recommended in the 1982 WHO NIHS evaluation, establish staff selection rules which would ensure the requirement of research in job descriptions and career progress based on a demonstrated capacity for research.
7. The USAID evaluation team encourages NIHS to request donor assistance for the assignment of a long-term research administrator.

Chapter 6

ASSESSMENT OF OUTCOMES OF TRAINING PROGRAMS

It is difficult indeed to attribute to training aspects of professional performance and attitudes beyond a few short months from the close of training. The most enduring impacts of training are those from experiential acquisition of knowledge and skills and the influence of role models seen in teachers and fellow students.

Most skills acquired are modified over the years through experience within the limits imposed by the system in which one learns. However, attitudes acquired in training may endure, just as those possessed by students before training may endure through the training period.

The same is true for the results of research. Unless one has either participated in the research, met and discussed research findings with the author, or used research results directly in one's work, they have little impact.

It was with those thoughts in mind that the evaluation team decided to focus on the behavior and attitudes of primary health workers in the field not so much as a measure of NIHS performance but as a means of making recommendations to NIHS on ways to bring its training and research programs more in line with field reality, and to the Ministry of Health on ways to facilitate the use of skills and attitudes acquired.

Four sets of outcomes are discussed:

- a. Worker performance in the field.
- b. Knowledge, skills, and attitudes.
- c. Organization and administration of primary health care services.
- d. Use of NIHS research results by the Ministry of Health

6.1 Performance of Primary Health Care Workers

6.1.1 Assistant Medical Practitioners

Few public health field-workers reported contact with AMPs, raising further doubts about the decision to move AMPs out of an institutional/curative role into the role of a PHC team leader. The press of clinics rarely allows more than a minute per patient. Records are scant or non-existent. Antibiotic dose and duration must be highly problematic, although antibiotics are frequently unavailable. The new curriculum could not be assessed since no graduates from it have reached the field. While the AMPs encountered said they were willing to do whatever they were asked to do, most had private practices.

The role of the AMP is important for future assessment as a barometer of the preventive vs. curative balance.

6.1.2 Public Health Nurses

All PHNs encountered were animated, bright, and highly committed to public health. They had adapted to the supervisory roles thrust upon them and had developed their own ways of proceeding to make up for the lack of preparation for covering entire Ministry of Health units. All thought that their training time at NIHS was basically worthwhile. Some criticized NIHS for administrative chaos, not providing handouts, texts, lectures when scheduled, accommodations, etc. Some praised individual NIHS faculty warmly. The important quality of this group of health workers was that they had chosen public health with full knowledge of what it was like, even though they had considerable freedom of choice to choose something else.

6.1.3 Public Health Inspectors

Findings

Although the sample of PHI interviewed was small (12) an impression definitely emerged in all four areas that this group of workers is probably well equipped for a whole range of on-the-ground PHC tasks. Skills observed included home visitation, community organization, health promotion, working with volunteers, training, school health, administering immunizations, and school health education, as well as those normally associated with the work of a sanitarian (environmental health, excreta and solid waste disposal, housing, meat, food and milk inspection, etc.). Public Health Inspectors were observed as well working collaboratively with Family Health Workers, Public Health Nurses, and with the Medical Officers of Health. Working relations with Medical Officers of Health were observed to be particularly close.

One PHI had focussed his program on school health and on working with volunteers. In the school health program, not only had the children been examined and immunized but they also had been organized to promote health. In one instance a program had been organized wherein students presented health drama and puppet shows, gave talks, and displayed posters. About 1,000 people attended.

This PHI has trained 35 volunteers to work with him on his program of village latrines and other sanitary improvements and with the Family Health Worker in making home visits to pregnant women and those with small children.

Another PHI was involved with over 200 volunteers in the Mahaweli Development Area. These volunteers, who assist with home visits, clinics, and village sanitation are, significantly, older adults who can participate in sustained efforts over the years to come. When volunteer groups are composed of only young people, it appears the strength of a group tends to be intermittent as young women marry and young men go off on jobs. One way around this difficulty may be to find an older volunteer to serve as advisor. One such volunteer, a retired school teacher, is providing this service to a volunteer group organized by still another Public Health Inspector in the Kalutara Field-Practice Area.

One PHI was found working closely with the Sarvodaya Organization. Since in his area there are only two fixed health facilities, the people must travel

long distances for medical care, even for minor ailments. The PHI has organized small dispensaries managed by a Sarvodaya volunteer in eight villages. Only a very few simple medications are provided by the Ministry. Those who use the service leave a small donation. The money is then used to replenish the stock.

Among their many responsibilities PHIs perform demographic surveys in the 50 villages to which they are assigned. In each village the PHI visits every home gathering basic information on the inhabitants, their health status, and their environment. The accumulated results of this work could eventually provide a nationwide baseline for use in program evaluation and health services research.

Despite a generally high level of motivation and the evidence of good performance cited above, PHIs encounter problems that impede their work. Those working with volunteers, for example, find it impossible to provide even the smallest amenities such as tea at meetings to the volunteers out of their own pockets without mentioning uniforms, a place to meet, or some stationery for correspondence which would be of even greater benefit to volunteers. In working with school children and villagers similar difficulties are encountered, as well as problems of materials and supplies for local projects such as latrines, health education meetings, puppet shows, and dramas. Further some PHIs themselves don't have housing or transport except bicycles. Where distances are great, such as for one PHI who covers 200 km², a push bicycle is simply not enough.

Lastly, for the younger PHIs, the thesis they must prepare on an assigned topic prior to certification presents a problem. The thesis must be based on a study performed with no fewer than 500 subjects. PHIs interviewed had not started their theses because of lack of specific instructions and lack of materials and transport to do the work. They felt unanimously that it would be better to complete the thesis before leaving NIHS.

Recommendations

1. Find ways to support viable local projects and organizations through small grants for the purchase of supplies and two-wheel vehicles. If funds could be obtained, a system could be established both for identifying local programs, where health personnel are highly motivated and where the response of the community or school has been positive, and for dispersing small grants to enable those local groups to overcome hurdles that would otherwise impede their efforts.
2. NIHS should seek to incorporate the preparation of the thesis into the PHI training period. If it was long enough the fieldwork component could serve as the time to gather data relevant to the assigned project. In this way proper faculty support could be given to the effort before the PHI is encumbered with his many job responsibilities.
3. NIHS should train PHIs in the management and administration of immunizations. PHIs are called on to do this work in the field and have had to learn techniques on their own.

6.1.4 Family Health Workers

Findings

Among the sample of FHWs interviewed there was a great deal of variation in the quality of performance. This evaluation was undertaken, one should note, amidst reactions to a recent study of family planning utilization in which only 23% of the respondents reported hearing about family planning from a FHW. Concern had been expressed as to whether or not FHWs were making home visits, registering new mothers in the home, and communicating family planning information. These questions then were foremost in the minds of the evaluation team as it visited workers in the field.

Those concerns were to an extent both confirmed and allayed during the interviews. FHWs were found with low home visiting rates (5 or 6 a day), poorly kept records, and scanty knowledge of the families they are supposedly serving. Others appeared to visit an adequate number of homes per day (12 to 15) and gave sharp, clear answers to questions about the number of families served, the number of mothers being registered and the family planning information given out. For all the attendance at clinics (antenatal, well child, and combined) appeared to pose no problems. More mothers appear to be registered in clinics than in homes, however, and clinics appear to be the primary place where family planning information is disseminated.

Most FHWs must get to their villages on foot or by bus. Some have push bicycles. Most interviewed have no adequate place to live, see clients, or store supplies and equipment. Some are discontented in their role, having been seen, for example, removing their brown collars in order to appear as nurses.

Those difficulties notwithstanding, it appears that it is the quality and frequency of supervision that determines performance. Where supervisors have a reasonable number of FHWs to manage, workers are visited more frequently and more time is taken with each visit. As a stop gap, supervisors ask mothers in the clinic if FHWs visit them. It was not unusual for a supervisor to have 40 FHWs in her charge.

The new PHC functions (treatment of minor ailments, child mental health, and detection of oral cancer, for example) were found to be little understood by either FHWs or their supervisors. Only the treatment of minor ailments appeared to be much appreciated, but this function, if carried to its logical extreme, could produce a FHW spending undue amounts of time receiving clients and dispensing medications.

A second factor that appears to determine FHW performance is the presence of volunteers in the area and the quality of the working relationship with them. It seems doubtful however that volunteers could compensate for a worker who performs poorly. However, volunteers can extend by several fold the work of a conscientious person. FHWs were observed who were working effectively with volunteer groups. Ineffective workers generally did not work with volunteers.

The FHW's relationship with the Public Health Inspector deserves special mention. It was the most frequently occurring relationship found in the interview. Where a PHI is active in promoting community participation, visiting homes, and training volunteers, the FHW can only benefit. There

appears also to be a potential for mutual help--she helping him in the area of domestic sanitation, and he helping her in approaching males about family planning. This potential was being realized in one case only.

FHW performance thus presents a mixed picture, not surprising in view of the rapid influx of new FHWs into the system since 1980. Supervisory functions have been simply overwhelmed by the numbers, and faculty recruitment has allowed a proportion to pass who were not well motivated. Added to these factors are the difficulties of role discontent, transport, supplies, equipment, and lodging which only multiply the overall problem.

Recommendations

1. The next few years should be used to reassess the role and functions of the FHW. Any new tasks should be carefully appraised for the feasibility of their being done by FHWs, their relative importance, and their impact on her role. For this purpose a sample of FHWs should be carefully followed in various conditions of remoteness and level of service. At the end of the study, her role should be consolidated around essential functions.
2. Meanwhile, adequate numbers of supervisors, especially Public Health Nurses but also FHWs, should be prepared in order to have a ratio of at least 1:20 throughout the country. NIRS or the Family Health Bureau should take the lead in this matter.
3. FHWs should be given special field experience in working with volunteers during their training.
4. FHW-PHI teams should be formed during training in order to foster future collaboration.
5. Supervisors might consider posting the name of the FHW who made the most home visits during the month on a bulletin board, as an incentive to this activity.

6.2 Knowledge, Skills, and Attitudes

Present-day educational and evaluation distinguishes among the knowledge acquired and tested by examinations, the skills developed that are assessed by observation, and the attitudes that determine behavior that will probably be unobserved. The team could not attempt any systematic evaluation of any of these parameters.

Knowledge examination questions were scrutinized and seemed reasonable as measured against the curricula. Fail rates are low, 2 or 3%. Previous evaluators have wondered if they shouldn't be higher. The USAID team's chief concerns were:

4. Students in difficulty in any course should be identified early so they could receive some remedial assistance.

- b. The knowledge required should be based in part on field studies of the roles and functions of the workers.

Future evaluations should look for pretesting, early identification of students in difficulty, midpoint evaluations for all, final tests that required more than mere regurgitation of facts, and some test of worker knowledge in the field (especially after in-service training). Some progress in using questions that measure analysis, synthesis, and application of knowledge rather than repetition of facts would be encouraging.

Skill measurement occurs on some examinations and in practical work but is generally not rated systematically by supervisors. The audiovisual facilities will be useful in teaching and rating skills. The team was concerned that the Assistant Medical Practitioner students are not required to rotate the clinical pathology laboratory at the hospital and do not learn how to stain or examine blood or sputum smears. Future evaluations should look for evidence of systematic skill assessment.

Attitudes of students were not sought. Field-worker attitudes varied widely and were related to current jobs rather than training. Future evaluations should look for pre- and post-attitudinal measures to determine the effect of training. Attitudes toward professional work, continuing education, ethics, and job satisfaction will be important parameters of health systems research on retention, utilization, and supervision. Attitude change is worth pursuing because it may be the most important enduring effect of a good educational program. It is fair to say that a poor program will not instill professional attitudes; products of such a program would require very close supervision. Attitude change seems to be related to introjections of role models.

6.3 Impacts on the Administration of the Health Delivery System

The purpose of this section is to assess any present indications that NIHS is having an effect on the health service system as well as to suggest measures of this type against which the NIHS performance may be assessed in the future. Such an exercise is necessarily problematic, because the indicators involved do not represent immediate effects of NIHS, but endpoints related to how the whole health care system functions. There are many intervening variables between the status of students and their job performance years later. Supply and supervisory shortages, low salaries (and the need/desire for income supplementation), housing problems, lack of in-service training or job satisfaction, and other factors are likely to affect worker performance more than training. The process of management at NIHS is easier to track and is discussed first.

6.3.1 NIHS

The basic issues for NIHS are set out in Chapter 1. Whether these conditions exist can be verified by any visitor through interviews and curriculum and file review. Several informants and former students suggested that NIHS is at present hardly a model of management excellence for the many reasons described above. Particular attention should be paid in the future to faculty process and workload, administrative support for the implementation of educational

technology, implementing changes based on student evaluation (presently unsolicited), and keeping to a training calendar.

6.3.2 National

Some statistics reported annually by the Ministry reflect the functioning of public health personnel, immunization rates, family planning acceptance rates, school health statistics, and to a lesser extent rates of diarrheal disease, parasites, and infant and maternal mortality are useful. Immunizations in the 1981 Annual Health Bulletin (p. 46) show the following coverage for Diphtheria Pertussis-Tetanus (DPT) for infants under one year: first dose - 76.5%, second dose 63.1%, third 47.2%. The 1980 third dose figure was 47.6%. These figures represent the work of Public Health Inspectors and Public Health Nurses doing the injections in clinics, but are actually regarded as the Family Health Worker's responsibility, since she is to keep track of all children's immunizations in her area and to motivate those mothers whose records are incomplete. Coverage of pregnant women with tetanus toxoid slipped somewhat from the 1980 second dose coverage of 52.2% to 47.5% in 1981. First dose coverage was 57.7%. It is the FHW's role to be aware of all newly pregnant mothers in her area and to register them at home. Registrations in clinics are tracked separately. Although these are not published in the Annual Health Bulletin, they are tracked and noted to be increasing. This is thought to be a reflection of FHWs, who are to register mothers at home. Family planning acceptors declined from 1980 to 1981 for IUDs (20.1%), orals (20.0%), injectables (7.7%), and sterilization (35.7%). The last decrease was thought to be related to the decreased (from Rs 500/- to Rs 200/-) incentive payments. Family planning is a primary role for FHWs. Two independent surveys, "The Impact of Family Planning 1981-92" and an unpublished study from the Department of Community Medicine at Peradeniya, are disappointing regarding the FHW's home visiting role. School health is the responsibility of various workers and seemed a secondary priority in many of the offices visited. The Annual Health Bulletin reports that only 1,780 (1970) of the 9,177 government schools have been taken up for medical inspection. The percentage of children screened was 17.6%, of whom 45% were found to have one or more defects. Only 24% of those screened attended follow-up clinics; follow up was acknowledged to be unsatisfactory.

Diarrheal disease incidence may reflect water supply and sanitation problems beyond the Public Health Inspector's ability to solve since his role is only advisory. PHIs we met can rely only on health education, but they need legal support as well. Routine water supply testing is not done by the PHIs. The attempts at purification are done only amid epidemics. Infection and parasitic diseases discharged from government hospitals per 100,000 population were 1,882.3 in 1981 (a decrease from 2,065.4 in 1980 and 3,206.1 in 1970, but more than the 1,731.3 recorded in 1965). The maternal death rate is 0.8/1000 births (from 1.6 in 1945) and the infant mortality rate is 37.7 (from 140 in 1945), but comparisons with recent years are not readily available. The statistics on leprosy, tuberculosis, malaria (which has recently increased island-wide) and filariasis also reflect the efforts of special campaigns. All, however, are included in the FHW's role (and in that of other public health personnel). Malaria poses a special health education problem because citizens are reported to wash the spray off their homes as quickly as it is applied. Health educa-

to wash the spray off their homes as quickly as it is applied. Health education activities are reported in the Annual Health Bulletin, but not tied to outcome.

Special studies will continue to supplement Ministry reports. In addition to the family planning studies mentioned above, the team was concerned to learn that nutritional status in Sri Lanka may be worsening (Sahn USAID study).

Apart from statistics in the managerial process, FHWs in the field areas the team visited saw their supervisors only once or twice every two months, hence the recommendation for accentuated supervisory training. While impressed by the management courses and incorporation of educational technology, the team was concerned about the almost exclusive reliance on motivation and persuasion as supervisory tools. Like prevention and health education, this worthy concept can be oversold and is ineffective unless supported by other means. One of our guides reported that the British system in which tight supervision was the key had run surprisingly well with few personnel sent for training. At present, all agree management needs improvement. There are no statistics to track, and change may be brought about through the operation of many factors, such as the new management information system being tested in Kegalle, the management improvement projects in Kandy and Hambantota, courses offered by the Sri Lanka Institute for Development Assistance, the devolution of power to districts, etc.

6.4 Research Utilization

One of the expected activities of the NIHS was the utilization of research for providing objective advice to the Ministry of Health on aspects of manpower development. Further, it should be used to modify the NIHS training program to insure its relevancy to the field. As indicated in Chapter 5, only four research reports have been produced, and there is yet no evidence of formal utilization of any of these reports. As faculty members engage in further research efforts, there seems to be some evidence that members use some of their preliminary findings as part of their teaching materials. This informal process, however, has yet to be formalized. While this informal use is certainly worthwhile, it is not furthering the development of a viable, active research component at NIHS nor is it making use of research conducted at NIHS to advise the Ministry of Health regarding manpower policy.

Appendix 1

SRI LANKA NIHS EVALUATION OUTLINE

I. Inputs to the Programme

A. USAID

1. What has been the level and schedule of USAID financing to date? Interview with USAID officials
2. What contributions have been made in the form of technical assistance Review of USAID documents
3. What other contributions have been made such as administrative support, materials, books, commodities etc.?

B. Government of Sri Lanka

1. Financial contributions, land, utilities salaries, space, fringe benefits, what level? Interview with MOH officials
2. What contributions in personnel, specifically teaching personnel? Review of MOH documents
3. What inputs in the form of policy directives and administrative mechanisms?
4. What inputs in the form of vehicles, fuel, educational materials and supplies?

C. Other Donors

1. What financial contributions have been made by UNICEF, UNDP, WHO or any other donors? Interview with MOH officials
2. What other contributions have been made, i.e. construction materials, furniture and equipment, teaching materials, technical assistance, administrative and policy support? Review of donor documents
3. Have any personnel of those agencies been permanently posted in Sri Lanka for this Project? If so, who, what disciplines and how long?

SRI LANKA NIHS EVALUATION OUTLINE

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Evaluation Questions

Methodology

D. For each of the above:

How do these inputs compare with what were originally assumed?

To what degree, therefore, are the original assumptions valid?

II. Operations of the Programme

A. Construction

1. What has been progress on each of the several physical structures in the NIHS receiving USAID financing? Site visit to NIHS
2. What has been progress on the construction Review of AID and documents backed by the other donors, i.e. faculty documents housing financed by UNICEF?
3. What have been the obstacles and problems affecting progress on each of the construction projects?
4. How does progress in each of the above compare with original plans? Explain any differences.
5. What is the present revised construction schedule? Is it realistic? If not, what could be a realistic schedule?
6. Identify constraints on GOSL, AID other.
7. How are the buildings being used? Field visits to NIHS
8. How adequate are they?
9. How has the level of progress of construction affected the training program? Interviews with faculty students at NIHS

USAID documentation of site visits

Informal interviews, brochures, questionnaires, document reviews.

B. Project Administration

1. Describe the various components of the administration of the project and program. Include all agencies and ministries involved. Describe inter-relationships as they exist and as they are on paper. Interviews with AID, MOH, donor officials and with faculty
Review of AID, MOH, donor documents and NIHS administrative records
2. How does this administrative structure compare with what was planned? Explain any differences.
3. Discuss apparent strengths and weaknesses.

4. What have the committees done to facilitate the training? Interviews with USAID donors, MOH officials and NIHS faculty
5. What are the functions of the committees and their leadership? Review of documents at USAID, donors, MOH and NIHS
6. What obstacles have their existence presented?
7. Are the inputs of the donors and the GSL well coordinated?
8. How has this coordination affected (facilitated or inhibited) the training program? the health delivery system?
9. How have changing health policies affected the training program? the health delivery system?
10. How have specific components of the program design or implementation contributed or inhibited the emergence of NHIS as a PH training institution?
11. How can inhibiting factors be eliminated from program design or implementation strategies?

SRI LANKA NIHS EVALUATION OUTLINE

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Evaluation Questions

Methodology

C. Curriculum Revision

1. What revisions in curricula have been made up to this point. Describe each part of each curriculum and indicate revisions and innovations that have been achieved. Site visits to NIHS
Interviews with MOH, donor officials and faculty, students and graduates.
2. How does the progress made in revising the curricula compare with what was planned? Explain any differences. Review of donor, MOH and NIHS documents
3. Identify the impetus for each curriculum revision. Describe who was responsible, how it was done, and what the various inputs into the revisions have been.
4. Do the revisions address perceived health needs, i.e. prevention, health education, water supply and sanitation? Are facilities and programs matched to prevalent diseases? Is the nutrition component commensurate with the needs of the nutrition program? Review of documentation on prevalent health problems; USAID, donors and
5. Are curriculum revisions likely to better prepare health workers to deliver the kinds of health services needed? Interviews with faculty, students, graduates and villagers on health problems
6. What is the balance between classroom work, laboratory, clinical, and field PH practice in relation to the probability of preparing well trained health workers? Site visits to NIHS
7. Are trainees being trained in a manner that facilitates learning and application of skills in the field? Review of training materials
8. Does the curriculum meet the needs of the market MOH et al?
9. Is the training carried out in such a way as to encourage a team approach to primary health care activities?
10. Do curriculum revisions provide for continuing education of these same PHC teams?
11. How have revisions provided for training in the management of PHC?

SRI LANKA NIHS EVALUATION OUTLINE
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D. Faculty Development

- | | |
|--|--|
| 1. Describe what has been achieved to now in training staff of NIHS for teaching roles, for research roles, and for field work supervision roles. Has faculty been trained in the use of the new curriculum? | Site visits to NIHS

Interviews with MOH officials, and with faculty students, and graduates |
| 2. How does what has been achieved compare with what was planned? Explain any differences. Were changes/differences appropriate? | Review of donor and MOH documents and training materials |
| 3. What has been done to identify and train new staff? | |
| 4. Describe obstacles and problems encountered, such as insufficient numbers of trained staff. | |
| 5. Is it occurring? How many trained?
How many | Interviews with trainer of staff and with staff |
| 6. What is the range and appropriateness of the training? | Interviews with appropriate donors, USAID and MOH officials |
| 7. Are teaching techniques as well as content being taught? | |
| 8. Is the training adequate? Are faculty properly equipped? Are there noticeable gaps? | Review of relevant documentation |
| 9. To what degree is teaching interdisciplinary? | Visits to training sessions |

E. Development of Teaching Materials

- | | |
|---|---|
| 1. What is the range of teaching materials developed thus far? Describe the quantities and the types produced. | Interviews with MOH donor officials and faculty, students |
| 2. What have been the sources of these materials? How were they produced? Who participated in their production? | Review of materials |
| 3. How do the materials developed thus far compare with what were planned as to quantity and quality? Explain significant differences. Did the changes influence the project? | |
| 4. Are they being used? as intended? | Classroom visits |
| 5. Are they adequate? appropriate? | |
| 6. Are they geared to a level of complexity understood by trainees? | Interviews with faculty and trainees |
| 7. Do they adequately cover emphases in trainees work. e.g. prevention and rural services? teamwork? management of PHC? | Review of materials |

SRI LANKA NIHS EVALUATION OUTLINE
Page 7

Evaluation Question

Methodology

F. Applied Research Activities

- | | |
|--|--|
| 1. What is the range of research proposed in the program? | Interview with MOH and donor officials and with faculty, students and graduates |
| 2. How does this production of research proposals compare with what was planned for for? Describe and explain any differences. | Review of donor and MOH documents and NIHS administrative documents and research designs and reports |
| 3. What faculty have put forth research proposals? in what areas? | |
| 4. What have been the major obstacles and problems affecting the research program? | |
| 5. Is it happening? What field research is being carried out? | Interviews with researchers |
| 6. Is it appropriate to the needs of the training program? of the health delivery system, e.g. public health, manpower development and operational problem-solving or is it strictly clinical? | Review of research products
Interviews with trainers & researchers (Univ. of Kandy) |
| | Site visits to data collection efforts |
| | Interviews with staff of MOH, USAID, donors and NIH |
| | Review of planning and design documents |

SRI LANKA EVALUATION OUTLINE

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Evaluation Questions

Methodology

IV Outcomes

A. Behavioral

- | | |
|--|--|
| 1. Is there evidence of preventive and rural oriented practice? | Visits to graduates in field |
| 2. Are workers operating more effectively in terms of services delivered? | Interviews with faculty, trainees, graduates and villagers |
| 3. Are they operating more efficiently in terms of quantities of services delivered? | |
| 4. Are services appropriate to perceived health needs? | |
| 5. Are PHC teams functioning as such? | |

B. Knowledge (Cognitive)

- | | |
|---|--------------------------------------|
| 1. What is the performance of trainees on exams since curriculum revisions? | Academic records at X |
| 2. What are the dropout, attention rates? | Interviews with trainees and faculty |

C. Attitudinal

- | | |
|---|---|
| 1. Is there evidence of increased effort to reach villagers? | Visits/observations in health centers' villages |
| 2. How do villages perceive the attitudes of workers? | Interviews with villagers and graduates |
| 3. What is the turnover rate? | |
| 4. What is the absenteeism rate? | |
| 5. How do PHC workers in various categories feel about their role and status vis a vis the PHC teams? | Review of personnel records |

SRI LANKA NIMS EVALUATION OUTLINE

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Evaluation Questions

Methodology

D. Impacts on the Administration of Training and Health Delivery

- | | |
|---|---|
| 1. Are cadres sufficient to cover the population in need of services? | Review MOH, donor and health center documents |
| 2. Is allocation of workers to rural areas equitable? | |
| 3. Are logistic and fiscal support and technical supervision taking place? | Interview with officials of MOH |
| 4. Are salaries and per diem and transport reimbursements timely? | health centers a faculty of NIMS |
| 5. Are the recruitment and retention rates of students adequate? | |
| 6. What is the progress toward expanding the number of health workers to the numbers foreseen in the PP? | |
| 7. What will be the needs of NIMS once the pipeline of workers is filled and only replacements are needed? Suggest how faculty upgrading can change jobs from mostly teaching to teaching and research. | |
| 8. How does the NIMS function as a national PH training institution? | |
| 9. How does NIMS function in its coordinating role in health manpower development? | |

SRI LANKA NIHS EVALUATION OUTLINE

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Evaluation Questions

Methodology

E. Research Utilization

- | | |
|---|---|
| 1. Is research used to make changes in training program? | Interviews with researchers and faculty at NIHS |
| 2. Is it used for both formal and informal evaluation of NIHS? | |
| 3. How is it used to determine course content and format? | Reviews of research designs, reports in comparison with training records at NIHS or administrative documents in MOH |
| 4. What impact does it have on the health delivery system? | |
| 5. How does research form the basis for recommendations to the MOH on health manpower development issues? | |

F. Recommended Future Outcome Measures

1. Health outcomes
2. Social outcomes
3. Administrative/bureaucratic outcomes

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APPENDIX 2

Example of Questions asked of interviewees
(In this case Field Personnel)

A. For all workers (MOH, DHN, PHI, FHW, AMP)

1. Describe your activities in a typical day (include type of activity and number of persons affected).
2. Describe your activities in a typical week.
3. Estimate the proportion of your time spent in:
 - Service
 - Administration
 - Other (describe)
4. Describe your working relations with those in other categories (Name each: MOH, PHN, PHI, FHW, AMP)
5. Describe your working relations with any volunteers in your area (e.g. village volunteers, Sarvodaya volunteers, Mahaweli community development volunteers etc.)
6. Who supervises you? Describe this supervisor (frequency, content perceived value).
7. How do you set priorities among your many responsibilities? How does your supervisor set priorities?
8. Are you aware of the new curricula at NIHS? What are they? Did you play any part in formulating them?
9. Are you aware of the national primary health care plan? What is it? What do you think of it?
10. Have you participated in a short training course at NIHS? If so, which one(s)? How do you think your participation in this Course has affected your work?

11. Show me the records you keep.
12. What do you think are your greatest needs for doing your work?
13. What are your career hopes? What would you like to be doing 10 years from now?
14. If you had a lot of money, what would you do to improve yourself?

For NIHS Graduates since 1979

1. Did you go to school at Kalutara? If so, when did you complete your Course?
If before 1979, end interview.
If after 1979, continue by asking:
2. How long have you been at this post?
3. Describe your working relations with the staff, who were here when you first came.
4. Describe the training you had at NIHS (include both content and method).
5. What parts of your training have you found to be the most useful in your work? What parts have been the least useful.
6. What do you think are your greatest needs for training now? If you could choose a training course for yourself, what subject would you study? What teaching methods would you seek (e.g. lecture, small group work, supervised field work etc.)
7. How can NIHS become a better place to train people in your Group?

APPENDIX 3

List of persons interviewed.

<u>NAME</u>	<u>TITLE</u>
<u>USAID</u>	
Mr. Robert Chamberlain	General Development Officer
Mr. William Johnson	Health Development Officer
Dr. Gnani Thehabadu	Assoc. Health Development Officer
Ms. Sarah Jane Littlefield	Director
Mr. William P. Schoux	Deputy Director
Mr. Leroy Purifoy	General Engineering Officer
Mr. Eric Loken	Project Development Officer
<u>UNICEF</u>	
Dr. Hiranthi Wijemanne	Primary Health Care Officer
<u>WORLD HEALTH ORGANIZATION</u>	
Dr. K. Notaney	Coordinator
Dr. N. Fiske	Consultant on Research
Dr. Hernando Cardenas	Acting Representative and Coordinator
Mr. Syed Muktader	Administrative and Program Officer
<u>UNITED NATIONS DEVELOPMENT PROGRAMS</u>	
Mr. Nigel Bradshaw	Representative
Dr. Lakshman Fernando	Program Specialist
<u>SRI LANKA MINISTRY OF HEALTH</u>	
Dr. the Hon. Ranjith Acapattu	Minister
Mr. L. Panambalana	Secretary
Dr. Malinda Fernando	Director of Health Services
Dr. C.D. Herath	Deputy Director of Medical Services
Dr. Mohan Rodrigo	Deputy Director of Public Health
Mrs. Samarasingha	Chief Nursing Education Officer
Mrs. Wickremasinghe	Chief Nursing Officer (Hospitals)
Dr. P. Liyanage	Assistant Director of Planning
Dr. S.C.A. Fernando	Senior Medical Officer, Planning Division
Dr. N. Vidyasaqana	Assistant Director Maternal & Child Health
Dr. Tilak Munasinghe	Assistant Director, Health Education

NATIONAL INSTITUTE OF HEALTH SCIENCES

Dr. G.P.C. Fernando	Director
Dr. N.T. Cooray	Deputy Director, Training
Dr. S.A.P. Gnanissara	Deputy Director, Field Practice
Dr. R.A.D.W. Bernard	Deputy Director, Medical Care
Dr. K.C.S. Dalpathadu	Assistant Director, Health Planning and Management
Dr. (Mrs.) S.D. de Silva	Assistant Director, Family Health
Dr. A.M. Rodrigo	Assistant Director, Environmental Health
Dr. H.M. Fernando	Assistant Director, Epidemiology
Dr. (Mrs.) K. Jayalath	Assistant Director, Health Education
Mrs. M.A. Weerasuriya	Senior Tutor, Public Health Nursing
Mrs. H.S. Liyanage	Tutor, Public Health Nursing
Mr. D.S. Sandanayake	Tutor, Public Health
Mrs. G. Jayaratne	Tutor, Public Health Nursing
Mr. A.H.W. Peiris	Tutor, Public Health Inspection
Dr. I.V.D. Perera	Medical Officer of Health
Dr. (Mrs.) J. Gunawardene	Bacteriologist
Mr. V.A. Weerakody	Medical Laboratory Technologist
Mr. H. Seelananda	Social Worker
Mr. L.P. Amarakoon	Librarian
Dr. K.R.W. Dalpadadu	Assistant Medical Officer of Health
Dr. A. de Fonseka	Pathologist

SRI LANKA MEDICAL ASSOCIATION

Dr. C.G. Urugoda	President (Also Director, National Tuberculosis Institute)
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GOVERNMENT MEDICAL OFFICERS ASSOCIATION

Dr. L.G.H. Narunapola	Vice President
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MARGA INSTITUTE

Mr. Godfrey Gunatilleke	Director
-------------------------	----------

OTHERS

Dr. W.A. Karunaratne	Former WHO Country Programmer and past Director of Medical Services
Ms. Carolyn Nordstrom	Ph.D. Student at University of California (Berkeley) studying medical care (including ayurvedic) utilization in Sri Lanka

Nuwara Eliya District

Dr. A.B. Nyangoda
Dr. (Mrs.) Thirunathan

Superintendent of Health Services
Medical Officer of Health
Family Health Worker

Kandy District

Dr. R. Ranaraja
Dr. L.A. Jayatilaka

Superintendent of Health Services
Medical Officer of Health, Medamahanaweera
Registered Medical Practitioner
Public Health Nurse
Public Health Inspector
Supervising Family Health Worker
Family Health Workers (3)

Badulla District

Dr. N.S. Vasanthanathan
Dr. L. D. Dissanayake

Dr. K. Sundaralingam

Dr. L.A. Vittachchi

Mrs. S. Jayasinghe

Mrs. D.N. Wickramaratne

Mr. Mpil Marakkam

Mr. D. Aneyarayana

Mr. M.D.V. Jayawardane

Mrs. B. Nandawathie

Ms. K.R.M. Chandrawathie

Mrs. K. Ruby Perera

Ms. Malini Perera

Mr. Nelson Dicknermana

Ms. G.M. Kusumawathie

Superintendent of Health Services
District Medical Officer and detocto
Medical Officer of Health, Mahiyangana
Registered Medical Practitioner, Central
Dispensary and Maternity Home, Tea
Estate
Registered Medical Practitioner, Central
Dispensary and Maternity Home,
Ettampitiya
Public Health Nursing Sister, Badulla MOH
Office
Public Health Nursing Sister, MOH Office,
Mahiyangana
Supervising Public Health Inspector
(retired), Badulla Visit Coordinator
Public Health Inspector, Hali Ela
Public Health Inspector, MOH Office,
Mahiyangana
Supervising Family Health Worker, MOH
Office, Welimada
Family Health Worker, Kurziritenna (MOH
Welimada)
Family Health Worker, Bogada Kumbuna (MOH
Welimada)
Family Health Worker, Central Dispensary
and Maternity Home, Tea Estate
Administrative Officer, SHS Office
Clerk, MOH Office, Welimada

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EVALUATION P.H.I. LEARNERS H.E. FIELD PROGRAMME

The supervisors from H.E. Bureau, National Institute of Health Sciences and field supervisors will give marks for:-

- (1) individual performances on the items 1 - 10
- (2) group performances item 1 -10

The marks will be given separately by each supervisor.
A consolidated mark will then be assigned.

<u>Name of Student</u>	<u>Items for assessment</u>									
	1	2	3	4	5	6	7	8	9	10
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

Each item to be given 10 points.

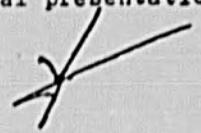
- Items:
1. Ability to conduct survey (problem identification)
 2. " to interpret and analyse data and identify
 3. " to diagnosis and report on educational solution to the problem.
 4. " to plan and develop educational steps (utilise educational opportunities)
 5. " to organise resources and existing situation for education (organise meetings etc.)
 6. " to prepare aids (enlist support of people)
 7. " to implement/execute educational programme (planned sequential activities)
 8. " to evaluate (relate efforts to achievement)
 9. " to present and teach others (exchange learnings)
 10. Interpersonal skills.

<u>group performances</u>	<u>marks</u>
1. Assessment of problem (survey etc.)	6
2. Determination of educational needs	5
3. Educational plan & presentation I	6
4. Educational -Aids (Use of):	5
5. Educational intervention & ^{DE} demonstration presentation II	5
6. Development of local & outside resources	6
7. Field Activities - Educational methods used	5
8. " " " " "	5
9. Achievements and evaluation of H.E.	7
10. Learnings (Illustrating concepts in H.E.O.-final seminar presentation III)	6

Each item to be given 10 points

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 100

please review individual diaries, group diaries, presentation reports, survey forms, survey analysis, notes on presentations, group participation at presentations and individual presentations.



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- (03) -

Date	Time	Subject	Lecturer	Venue
14.10.83	09.00 to 12.00	Festival Sanitation	Mr.A.H.W. Peiris	N.I.H.S.
	01.30 to 03.30	Group Assignments	Actg. STPH TPH & Unit Heads	N.I.H.S.
15.10.83	09.00 to 12.00	Group Assignments	Actg. STPH & TPH	Field
17.10.83	09.00 to 11.15	Basic Principles of Education	Dr.S.A.P. Gnanissara C.M.O.H.	N.I.H.S.
	01.30 to 03.30	Food Inspection	Mr.D.S.Sandanayake Actg. STPH	N.I.H.S.
18.10.83	09.00 to 12.00	Public relations	Mr.D.M.T.B. Dissanayake DD(Tr.) Police College	N.I.H.S.
	01.30 to 03.30	Bacteriology of water	Dr.(Mrs)B.J.I. Gunawardana	- do -
19.10.83	09.00 to 12.00	H & T Ordinance	Mr.K.A.C. Weerasooriya (Building Inspector)	N.I.H.S.
	01.30 to 03.30	Adult Education	Mr.P.H.F.V. Tissera (Adult Education Officer)	N.I.H.S.
20.10.83	09.00 to 12.00	Sources of Morbidity & Mortality	Dr.H.M. Fernando	N.I.H.S.
	01.30 to 03.30	Investigation procedure in disease prevention	Dr.H.M. Fernando	N.I.H.S.
22.10.83	09.00 to 12.00	Practical demonstration on the Nutrition of the Pre-school child	Mrs.M.A. Weerasooriya STPH (H)	N.I.H.S.

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Date	Time	Subject	Lecturer	Venue
24.10.83	09.00 to 10.30	Post Test	Actg. STPH TFH	N.I.H.S.
	10.45 to 12.15	Evaluation of Course	- do -	N.I.H.S.
	01.30 to 03.30	Finalising Group Reports	Unit Heads	N.I.H.S.
25.10.83	09.00 to 12.00	Presentation of Group Reports	D/NIHS, D.D (Tr.), D.D (Hosp), Unit Heads, Actg. STPH, TFH.	N.I.H.S.
	01.00 to 02.00	Feed back evaluation	D/NIHS, D.D (Tr.), Unit Heads, Actg. STPH, TFH.	N.I.H.S.
	02.30 to 03.30	Disbanding the class	DD(FHS), D/NIHS, SHS, DD(Tr.), Unit Heads, Actg. STPH, TFH.	N.I.H.S.

Approved

[Signature]
(Dr. K.C.S. Dalpathadu),
for D.D (Training),
National Institute of
Health Sciences,
Kalyana.

[Signature]
Actg. STPH (EH),
&
Course Co-ordinator,

AG/WLDP.

APPENDIX 8

RECOMMENDATION.STRUCTURED FIELD TRAINING PROGRAMME.

Field Activity	Period	
	Start	End
1. Survey	Wk 2	Wk 06
2. Care of Ante Natal Mother	Wk 1	Wk 22
3. Conduct ANC	Wk 1	Wk 25
4. Assess suitability for home delivery	Wk 1	Wk 20
5. Home delivery	Wk 1	Wk 22
6. Care of Post Partum mother	Wk 1	Wk 25
7. Care of new born	Wk 1	Wk 25
8. Manage Maternity Home	Wk 16	Wk 26
9. Motivate 4 couples to use 4 FP methods	Wk 1	Wk 25
10. 4 Health Education talks on FP in 4 different situations	Wk 1	Wk 25
11. Assist at 2 FP Clinics	Wk 1	Wk 25
12. Care of infant	Wk 1	Wk 25
13. Care of Pre school children	Wk 1	Wk 25
14. Field assignment on child care (adopt 2 families with infant, pre-school child) See curriculum	Wk 17	Wk 22
15. Conduct Child Welfare Clinic	Wk 1	Wk 25
16. Prepare school for School Medical Inspection (SMI)	Wk 8	Wk 15
17. Assist at SMI	Wk 12	Wk 17
18. Follow up visit to school	Wk 18	Wk 22
19. Participate at Parent Teachers Association meeting	Wk 12	Wk 22
20. 3 Health Education talks at school (Immunization, Personal Hygiene & Nutrition).	Wk 8	Wk 22
21. Immunize school children	Wk 16	Wk 22
22. H.E.talks on immunization at 3 different places-clinic, school and community	Wk 8	Wk 25
23. Perform immunizations	Wk 8	Wk 22
24. Follow up immunized children	Wk 9	Wk 22
25. Nutrition demonstrations at specified places (Home, clinic, school, pre-school, orphanage, Comm. centers)	Wk 2	Wk 25
26. Conduct at least one Triposha clinic	Wk 18	Wk 22
27. Follow-up Triposha beneficiaries at home (10)	Wk 18	Wk 25
28. Advice on remedial measures regarding poor sanitation in 5 homes	Wk 16	Wk 25

<u>Field Activity</u>	<u>Period</u>	
	<u>Start</u>	<u>End</u>
29. Identify 06 people needing domiciliary care	Wk 16	Wk 25
30. Provide domiciliary nursing care	Wk 16	Wk 25
31. Visit school dental clinic	Wk 16	Wk 20
32. Health Education Project	Wk 02	Wk 12
33. Identify children with mental problems at least 3 children	Wk 02	Wk 06
34. Follow-up patients on Psychiat drugs	Wk 07	Wk 15
35. Dress superficial abrasions (fresh wounds)	Wk 2	Wk 22
36. Treat scabies	Wk 07	Wk 15
37. Teach self examination of breast (S.E.B)	Wk 07	Wk 15
38. Test Urine for sugar (adults)	Wk 07	Wk 15
39. Measure blood pressure	Wk 07	Wk 15
40. Examine oral musosa	Wk 07	Wk 15

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APPENDIX 7
 Refresher Course of Public Health
 Inspectors
 Advance Programme
 for the month 26th Sept. - 25th Oct. 1983

Date	Time	Subject	Lecturer	Venue
26.09.83	09.00 to 10.00	Registration	Actg. STPH, TPH	N.I.H.S.
	10.15 to 12.15	Inauguration of Course	Director, NIHS DD (Tr.), Unit Heads, CMOH, Actg. STPH, TPH	N.I.H.S.
	01.30 to 03.30	Introduction to course	Actg. STPH, TPH	N.I.H.S.
27.09.83	09.00 to 10.30	Pre-test	Actg. STPH, TPH	N.I.H.S.
	10.45 to 12.00	Open	Actg. STPH, TPH	N.I.H.S.
28.09.83	01.30 to 03.30	New Trends in Family Health	Dr. (Mrs) S.D. de Silva (Head F.H. Unit) N.I.H.S.	N.I.H.S.
	09.00 to 12.00	Allocation of assignments	Unit Heads, CMOH, actg. STPH, TPH	N.I.H.S.
	01.30 to 03.30	Factors affecting nutritional status of the Individual	Dr. (Mrs) S.D. de Silva (Head F.H. Unit) N.I.H.S.	N.I.H.S.
29.09.83	09.00 to 10.00	Open	Actg. STPH, TPH	-do-
	10.15 to 12.15	Population Data	Dr. A.N. Rodrigo	-do-
	01.30 to 03.30	Use of Health Indicators in Planning PHII. Work.	Dr. S.A.P. Gnanessara C.M.O.H. Kalutara	-do-
30.09.83	09.00 to 12.00	Group assignments	Actg. S.T.P.H., T.P.H. Field and Unit Heads	N.I.H.S.
	01.30 to 03.30	Need for Research in Health Care	Mrs. Gnana Jayaratna	N.I.H.S.
01.10.83	09.00 to 12.00	Water Supplies & the role of the N.W.S. & D. Board	Mr. P. Abeygunawardena Executive Engineer, (Training)	N.I.H.S.
03.10.83	09.00 to 10.00	Open	Actg. S.T.P.H.	N.I.H.S.
	10.15 to 12.15	Population Problems	Dr. A.M. Rodrigo	-do-
	01.30 to 03.30	Group assignments	actg. S.T.P.H., T.P.H. and Unit Heads	Field

- (02) -

Date	Time	Subject	Lecturer	Venue
04.10.83	09.00 to 12.00	Primary Health Care	Dr.S.A.P.Gnanissara	N.I.H.S.
	01.30 to 03.30	Bacteriology of Comm. Diseases.	Dr.(Mrs.) B.J.I. Gunawardena (Bacteriologist)	NIHS.
05.10.83	09.00 to 10.00	Open	Actg. S.T.P.H., T.P.H.	NIHS
	10.15 to 12.15	National Population Programme.	Dr.A.M.Rodrigo	-do-
	01.30 to 03.30	Proposed Health Care Delivery system	Dr.K.C.S.Dalpathadu (Hd.Pl.& M.Unit)	-do-
06.10.83	09.00 to 12.00	Communication	Mr.A.H.W.Peiris	NIHS
	01.30 to 03.30	Intro:to Management	Dr.K.C.S.Dalpadadu	NIHS
07.10.83	09.00 to 12.00	A.V.Aids	Mr.A.H.W.Peiris	-do-
	01.30 to 03.30	Role of P.H.I. in MCH activities	Dr.(Mrs.) S.D.de Silva	-do-
08.10.83	09.00 to 12.00	Sewage & Sewerage	Mr.P.Abeygunawardena	- do -
10.10.83	09.00 to 12.00	Problems of the Adoloscents	Prof.N.Kodagoda	NIHS
	01.30 to 03.30	Food Act	Mr.P.Henaragoda (Chief F & D. Inspector)	NIHS
11.10.83	09.00 to 12.00	Meat Inspection	Mr.D.S.Sandanayake	-do-
	01.30 to 03.30	Social problems	Mr.H.Leelananda (Social Service Officer,NIHS)	-do-
12.10.83	08.00 to 11.00	Practical Meat Inspection	Supdt.Slaughter House Dematagala	
	01.30 to 03.30	Water purifi- cation	O.I.C.Headworks	Ambatale
13.10.83	09.00 to 12.00	Occupational Health	Dr.H.M.S.S.D. Herath	N.T.I. Audito- rium.
	02.00 to 04.00	Milk & Water analysis	Govt.Analyst	Colombc.

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APPENDIX 5

SEMINARS AND WORKING GROUP MEETING RELEVANT TO
HEALTH MANPOWER MANAGEMENT HELD AT NATIONAL INSTITUTE OF
HEALTH SCIENCES, KALUTARA.

		No. of Participants	No. of Days
1978	Training and Management of the PHC team for delivery of PHC at the periphery	29	9
1979	Revision of curricula of the PHC Workers (PHI, PHM & PHN).	24	10
1979	Development of Curriculum for a Course in Community Health Management	20	10
1980	Teacher Training Programme for PHC trainers	20	10
1980*	Development of Models for PHC Delivery	16	5
1981*	Orientation Seminars for PHC Workers		
1981*	2 Seminars for community leaders involved in PHC Work	50	2
1981	Re-orientation of the Assistant Medical Practitioner Curricula in Community Health	15	7
1981*	4 Seminars for volunteers involved in PHC Work	100	4
1981*	3 Workshops-Development of A.V.Aids		
1982	Teacher Training Programmes	22	10
1982*	Preparation of detail guidelines for Management of Minor Ailments		
1982	Preparation of curriculum for PHC New Functions (2 seminars)	48	3
1982	12 Orientation seminars for Trainers of PHC Workers on new functions in the 19 S.H.SS.areas	406	3
1982	3 Seminars-Core Teams at SFG level for PHC Management Training.	95	5
1982	Research Methodology Programme for NINS Faculty	18	5
1983	2 Seminars-Re-orientation of trainers of PHN	46	1 d
1983	Preparation of structured Field Training Programme for PHC workers	15	5
1983*	Preparation of Draft Curriculum for PHC Management for PHC Workers	7	10
1983	Preparation of Research Protocols by NINS Faculty	18	5

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