

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

MEMORANDUM

TO: AFR/DR/SAP

FROM: CM/ROD/AFR, Stephen A. Dean

SUBJECT: Close-out of Contract Number AID/AFR-C-1492 with
University of Hawaii

REF: Project Number: 632-0058

Project Short Title: Rural Health Development

SER/CM records indicate that the subject contract was
physically completed as of 31 May 1984.

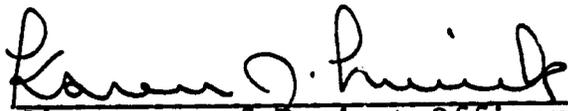
To facilitate the formal close-out of this contract please
complete the following and return to me by 15 May 1985.

1. Has Contractor performed all the requirements of the
contract scope of services?

To my knowledge, Yes X No _____

2. Has Contractor submitted all required deliverables
including the final report?

To my knowledge, Yes X No _____


Signature of Project Officer

Karen J. Nurick

Typed Name

4/26/85

Date

**Lesotho Rural Health Development Project
FINAL REPORT
January 1979 - May 1984**

The MEDEX Group
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University of Hawaii
Honolulu, Hawaii, U.S.A.

Ministry of Health
Government of Lesotho
Maseru, Lesotho

The Lesotho Rural Health Project was funded by USAID Contract AID/AFR-C-1491.

October 1984

ABBREVIATIONS

| | |
|--------|--|
| BASIC | Computer language |
| CE | Continuing education |
| EEC | European Economic Community |
| FTE | Full-time equivalent |
| GOL | Government of Lesotho |
| HEU | Health Education Unit |
| HPSU | Health Planning and Statistics Unit |
| HPU | Health Planning Unit |
| HSA | Health service area |
| IDA | International Development Agency |
| IDM | Institute of Development Management |
| LDA | Lesotho Drug Association |
| LTA | Long-term advisor |
| MCH | Maternal and child health |
| MOH | Ministry of Health |
| MPH | Masters in Public Health |
| NC | Nurse clinician |
| NCTC | Nurse Clinician Training Center |
| NGO | Non-government organization |
| NDSO | National Drug Stockpile Organization |
| PHAL | Private Health Association of Lesotho |
| PHC | Primary health care |
| PHCAC | Primary Health Care Action Committee |
| RHDP | Rural Health Development Project (also referred to as project) |
| UNCDF | United Nations Capital Development Fund |
| UNICEF | United Nations International Children's Emergency Fund |
| UNDP | United Nations Development Program |
| USAID | United States Agency for International Development |
| VHW | Village health worker |
| WHO | World Health Organization |

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SUMMARY

Since 1974, the Government of Lesotho has planned and implemented the first steps of a highly effective national primary health care (PHC) program. From 1979 to 1984, the Rural Health Development Project (RHDP) organized this effort, which included long and short-term advisors from The MEDEX Group of the University of Hawaii. The Ministry of Health (MOH) developed a total systems approach that had two major intertwining thrusts: strengthening management support services for primary health care activities and training two significant health care cadres, nurse clinicians (NCs) and village health workers (VHWs). Active collaboration by many non-government groups, multilateral agencies, and bilateral technical assistance organizations contributed to the high level of achievement.

The efforts to improve planning and management effectiveness in support of primary health care focused on policy formation, modification of the central ministry organization, and decentralization of administrative functions to the district level. Health information system, manpower planning, finance, personnel management, drugs and medical supplies, transportation, two-way radio communication, and general supply administration received particular attention.

Human resource development concentrated on training fifty-five nurse clinicians for rural health centers and systematizing the training and utilization of village health workers. The RHDP achieved the targeted number of NCs and far exceeded the goal of 300 VHWs; 900 VHWs were trained under government auspices and 1,100 under the aegis of private organizations. In addition to the Ministry of Health, the educational, agricultural, water, and community development ministries also participated in the training and utilization of the VHWs. An effective Basotho training staff has developed and assumed primary responsibility for the training and supervision of NCs during the final year of the project. The Nurse Clinician Training Center (NCTC) instituted a strong continuing education program for NCs and VHWs, with monthly supervision, a bimonthly newsletter, and an annual conference for NCs. A comprehensive set of training

materials was adapted to Lesotho needs and resources, with the assistance of the early drafts of the thirty-five volume prototype MEDEX Primary Health Care Series. The RHDP expanded and systematized the strong VHW movement already present. Several workshops and seminars were conducted that led to a broadly based VHW workbook text in the Sesotho and English languages. This text was produced with wide participation, tested, revised, printed, and distributed throughout the country. Two operations manuals were produced for health center and district health management.

The activities to strengthen the delivery of health services also proceeded with remarkable effectiveness. Financial, personnel, and health service information systems have been decentralized and functioning at the district and local levels since mid-1983. The drug supply system is working well, though the radio, transportation, and general supply systems need considerably more improvement. Only half of the health centers have necessary two-way radio communication. Many donated MOH vehicles are inoperative and in need of repair and maintenance. Despite project attempts to strengthen and decentralize general supplies and stores, problems remain very serious and this system requires urgent attention.

A number of difficult problems and issues are not yet resolved. The most crucial one is the implementation of a salary and career structure for graduate NCs and health service area administrators. Just prior to publishing of this report, the GOL increased the salaries of the NCs to their appropriate levels, thus avoiding a number of serious problems that had been emerging such as a decline in morale, resignation of veteran NCs at the end of their bonding period, and difficulties with recruitment of new NC trainees. However, the Health Service Area (HSA) administrators have not as yet received their salary increases and are susceptible to similar type problems.

The following recommendations are summaries of those made within the body of the report:

1. That the MOH adopt a career development plan for NCs that would include positions on the HSA supervisory teams and positions in HSA outpatient departments
2. That the Chief Nursing Officer work actively with the Senior Nursing Officer and the HSA supervisory teams to identify health centers that urgently need NCs and to select appropriate nurses to be recruited for NC training
3. That the GOL give urgent priority to implementation of increased salary levels and career advancement needs of HSA administrators
4. That the MOH find ways to ensure effective functioning of the Private Health Association of Lesotho (PHAL), with increased financial support for its central office
5. That the MOH find ways to compensate private non-government organizations (NGOs) for clinical and health management services rendered
6. That the MOH establish an annual primary health care conference to focus on reinforcing the functions of the HSA supervisory teams
7. That the MOH continue to strengthen the Health Planning and Statistics Unit (HPSU) and the Primary Health Care Office of the MOH with necessary personnel and other required support
8. That the Health Planning and Statistics Unit improve feedback processes of epidemiological and utilization information at the health center level in order to enhance the awareness, interest, and use of this valuable subsystem

9. That the MOH expand the two-way radio system to all health centers and systematize it to include continuing education and informal personal support as well as medical and administrative communication
10. That the difficult problems of transportation receive intensive effort with the possible decentralization of more repair and maintenance facilities to the district and HSA levels
11. That the Deputy Director of PHC conduct a careful review of the General Supply and Equipment Service with particular attention to the 1983 General Supply and Equipment Service Report
12. That the MOH strengthen the PHC Advisory Board and committee organizations at the village, HSA, district, and national levels in order to increase public support and maintain awareness of needs as lay persons perceive them
13. That the MOH/USAID maintain access for several years to short-term consultation by persons knowledgeable in the Lesotho programs
14. That after two years the MOH give consideration to inviting an evaluation team for six months to provide an in-depth review of developments in primary health care
15. That the MOH/Health Education Unit (HEU) use mass media such as radio regularly in Lesotho to inform the general public and special interest groups of developments in primary health care
16. That the USAID develop the Lesotho primary health care activities as a regional and international resource for organizations and programs seeking to accomplish similar objectives in comparable situations, e.g., multilateral and bilateral assistance agencies might provide technical and financial help in making a professional conference, a documentary film, or other informational events feasible

PART I

DESCRIPTION OF PROJECT AND RESULTS

INTRODUCTION

The primary purpose of this report is to document the development and accomplishments of the Lesotho Rural Health Development Project from its beginning in January 1979 to its conclusion in May 1984. The RHDP intends the report to describe the process and achievements of the Ministry of Health and the contractor, The MEDEX Group, University of Hawaii, and to analyze the dynamics that took place. It will note some of the present and potential problem areas and suggest possible actions for continued progress toward an effective national primary health care program.

A large number of organizations and numerous individuals contributed significantly to the unquestioned success of this endeavor. All those who participated seemed to have a remarkably clear awareness that the activities undertaken were interdependent and complementary to each other. The MEDEX Group played an effective and strategically important role in what took place. However, the contributions of other agencies were essential and appreciated. In any event, the energetic efforts and deep commitment of the MOH officials are primarily responsible for the high degree of successful achievement to this point. In addition, these officials are shouldering the heavy burdens of continued progress.

DEVELOPMENT HISTORY

Health and medical matters were a major concern to the leaders and people of Lesotho since the beginnings of nation-building more than 150 years ago. Christian mission activity was significant early in the process and increased in the late nineteenth and early twentieth centuries. Medical care was commonly an integral part of mission functions and has remained so until the present. When the British Protectorate was established in 1868, some elements of medical care were introduced that continued until independence was formally regained in 1966.

The awareness of primary health care needs for all populations was increasing in Lesotho and throughout the world in the late 1960s and early 1970s. National and international bodies began to explore ways to more

vigorously extend ambulatory medical care to underserved members of society. Responsible leaders began to emphasize the benefits of health promotion as well as disease prevention and the importance of the people's involvement and responsibility. Government and non-government leaders in Lesotho actively participated in this growing movement. Mission groups initiated several small scale pilot projects in the late 1960s. In 1970, the MOH established a Health Planning Unit (HPU).

In 1974, the Government of Lesotho requested that USAID arrange a survey visit organized by the University of California at Santa Cruz to study the current situation and make recommendations. During the same year, the non-government organizations doing medical work in Lesotho formed the Private Health Association of Lesotho. The Catholic Health Secretariat organization later joined these Christian church groups. With MOH approval, Scott Hospital organized a health care management project that included eight health centers that each served an average of five thousand to ten thousand people.

Two years later, in August 1976, the MOH requested that USAID organize a team to frame a project paper with the purpose of developing a formal program in PHC. During the same period, the PHAL Board of Trustees decided to organize a concerted drive of health education and promotion intended primarily for rural people.

The GOL-USAID project proposal was completed and approved in 1977. During that year, the MOH, in collaboration with the PHAL, organized a national workshop on VHWS and also established the Lesotho Dispensary Association to import, manufacture, and distribute necessary drugs and medical supplies.

1978 was a momentous year for primary health care in Lesotho and around the world. In January, the MOH sponsored a major seminar and workshop on primary health care, which involved many government sections, a large number of non-government groups, and several multilateral and bilateral organizations. The participants adopted a number of significant recommendations and formed a PHC Action Committee to implement development of a PHC delivery structure. On the international scene, the GOL sent a

delegation to the WHO/UNICEF-sponsored conference in Alma Ata, Russia, in November. Negotiations were proceeding with the GOL and USAID on the Rural Health Development Project.

In January 1979, The MEDEX Group at the University of Hawaii signed a contract to assist the GOL for a period of five years to implement the RHDP. The project would have three major thrusts: (1) to help strengthen the management support systems necessary for effective delivery of primary health care throughout the country, (2) to develop a training program for mid-level health workers to be designated as NCs, and (3) to assist in strengthening VHW programs. These goals were to be accomplished in the context of current activities and resources.

EXISTING SITUATION IN 1979

The health and disease situation in Lesotho in 1979 was similar to that of many less technologically developed countries. Infectious diseases of the respiratory and gastrointestinal tracts were prevalent, and various malnutrition disorders were found in many locales. Respiratory infections, including tuberculosis, were probably more frequent than in more tropical areas. The infant mortality rate was approximately 110 to 130 per 1,000 live births per year. Trauma and alcoholism were apparently increasing. Little was known about occupationally related illnesses associated with mining.

The population of 1,200,000 was increasing at the rate of 2.2 percent per year. Ninety-six percent of the population was considered rural. However, a very large number, about 200,000 people, mostly men, were employed in the Republic of South Africa. Cultivated land was only about one-third of the land surface of the mostly mountainous country, which is about the same size as Belgium. Rainfall is limited in the agricultural lowlands, and frequent periods of drought and food shortages occur. The road system in the western lowlands is relatively well developed, but it is limited and difficult to maintain in the mountainous areas. The school system has a long tradition and is very widely diffused so that the literacy level is quite high, particularly among the female population. All Basotho

(citizens of Lesotho) understand and speak the national language, Sesotho. They also use English widely.

When the British governmental presence ended in 1966, the GOL continued much of the bureaucratic organization of the Protectorate. Even though the demand for health services increased and the MOH/PHAL gradually extended health facilities in many parts of the country, the emphasis was almost entirely on curative medicine. In the MOH, as in all branches of the government, a few persons at the central level made almost all the financial, personnel, and other management decisions. Medical services were available in nine district government and eight non-government hospitals, with a central referral hospital in the capital city of Maseru and two specialty hospitals for mental disorders and leprosy. The MOH directly operated twenty-six health centers and clinics. PHAL institutions ran sixty-four health centers and clinics. In 1979, Lesotho had about twenty-five Basotho and thirty-five expatriate physicians. A large majority of these were located in and around Maseru. Furthermore, the turnover of the expatriates was rapid; most served in Lesotho for only two to four years before returning to their home societies. Lesotho had no medical school, though the GOL had discussed one for some years. Each year, a few Basotho went abroad to study medicine.

By contrast, the nursing profession was strong in numbers and organization, with three nursing schools for registered nurses and one for enrolled nurses producing a total of twenty-five to forty graduates per year. About 340 enrolled and registered nurses were working in Lesotho, mostly in government institutions. They were the ones primarily staffing health centers, even though the MOH offered no formal preparation for some of the functions.

PREMISES AND ASSUMPTIONS

During the five or more years in which the GOL/USAID officials discussed, planned, and negotiated the RHDP, a number of important premises and assumptions had been clarified and agreed upon. Thus, when the technical assistance contract with The MEDEX Group was signed in January 1979, the

responsible parties were able to move ahead without undue delay in most areas. The common ground of understanding included the following major points and principles:

1. That GOL planning and implementation give top priority to PHC for underserved rural populations
2. That the MOH integrate activities leading to promotion of health and prevention of disease with curative services
3. That improved PHC depends on analysis and improvement of the total health care system and that strengthening of support systems is essential to success
4. That the MOH actively involve all levels of the public and specific communities in the development, growth, and maintenance of PHC activities
5. That the MOH establish a tiered system of health services, including the village, the health center, the HSA hospital, and the district and central levels
6. That decentralization of MOH management to district levels is essential
7. That the MOH recognize, develop, and establish two new cadres of primary health workers: a mid-level health worker, to be termed a "nurse clinician"; and a community member with brief initial training and continuing supervision and education, to be called a "village health worker"
8. That training of these new categories of workers be highly functional and focused entirely on the tasks the MOH would expect the workers to accomplish

9. That the RHDP pursue an atmosphere of maximum collaboration, including all government and non-government agencies and the entire multilateral and bilateral assistance community

The parties also assumed that human and financial resources would be limited but could be made available with necessary planning and communication. Most responsible people recognized that the process of consolidation would be arduous and would take another ten to fifteen years. Thus, this five-year contract was only a part of a much larger overall development effort.

AVAILABLE RESOURCES

As the project began, several invaluable resources were available. Most crucial was the thorough commitment of MOH officials to making as much progress as possible, even though a great deal of effort would be necessary and difficult organizational changes required. They showed a sense of urgency that demonstrated the government's desire to provide services to the entire population.

The atmosphere of constructive cooperation by a wide variety of organizations was exceptionally strong. Multilateral agencies such as the WHO, UNICEF, UNDP, EEC, and African Development Bank joined in collaboration with bilateral technical assistance groups from the United States, the Netherlands, Canada, Great Britain, Ireland, and Denmark. Perhaps most striking was the positive working relationship between the government and the religious organizations which functioned together as the Private Health Association of Lesotho. Despite some distinctly different traditions and styles of operation, the MOH and these groups demonstrated their abilities to accomplish a variety of jointly shared objectives.

The MOH could not count on significant increases in financial resources from the central government treasury to support the project. In fact, the percentage of the national budget that the MOH received had been declining since independence. It dropped from 12 percent in 1959, to 9 percent in 1967-1968, to 7.5 percent in 1974-1975, to about 4 to 4.5 percent in 1979.

On the other hand, external sources provided considerable technical and financial assistance. The PHAL institutions depended on income from abroad to support much of their work. The bilateral and multilateral agencies supplied significant personnel, money, and materials. For example, the Dutch government sponsored a steady supply of well-trained medical staff; the British Overseas Development Fund agreed to build and upgrade several clinics; the Irish contributed assistance in laboratory training and equipment; and the WHO and UNICEF provided a variety of expert consultants, permanent staff, and certain material and financial assistance.

The U.S. government, through USAID, had maintained a strong supportive presence for many years. With the signing of the contract with The MEDEX Group of the University of Hawaii, valuable technical assistance in PHC was made available. The MEDEX Group had been working for the previous seven years in several other developing countries that were embarking on an expansion of their primary health care activities. The MEDEX Group was developing a generic comprehensive approach to training personnel in the context of improved management support systems. Simultaneously, they were developing a series of modules and manuals that could be adapted for planning, management, and training purposes to the needs and resources of Lesotho. Furthermore, The MEDEX Group had formed a network of advisors and consultants who had worked with these competency-based training methods in different countries for several years.

Finally, the two most important professional groups in Lesotho, medicine and nursing, both strongly supported the new thrust. Over the years of discussion, interaction, and negotiation, a genuine receptivity and enthusiasm for the program had grown. Several leading physicians had worked actively behind the scenes to make such a bold venture possible. The nursing profession viewed the new enterprise as an important means of strengthening its contribution to primary health care.

MAJOR GOALS AND OBJECTIVES

The RHDP further specified the two major goals of strengthening support systems and training new cadres of primary health care workers in a number

of subgoals and objectives. The planning and management activities focused on the following areas:

1. Designing and implementing a community-based health planning system
2. Improving the health information system
3. Strengthening financial management
4. Overhauling personnel administration
5. Completing a health sector manpower plan
6. Assisting in improving the drugs and medical supplies system
7. Remedying weaknesses in general supply procurement
8. Improving necessary transportation for PHC activities
9. Enhancing communication capabilities

In order to accomplish these objectives, other important changes were necessary. The MOH authorized government policy statements and legal statutes in support of new practices and personnel. Concrete measures to decentralize managerial functions to the district level were essential. In order to get the maximum long-term involvement, a network of advisory boards and committees was necessary to function at various levels of society (see Appendices A and B, Management and Planning reports).

The training and educational objectives were easier for the RHDP to define since precise numbers could be set and specific behaviors of those trained could be observed. The MOH stated a number of complex tasks as targets for the RHDP. These can be summarized as follows.

1. Fifty-five NCs would be prepared in three groups. These were part of an overall long-range goal of 125 NCs in service.
2. A nurse clinician tutor staff would be developed to carry on training when the project period was over.
3. A complete set of training materials, which would describe all aspects of NC function in primary health care, would be adapted, elaborated, and published.

4. The training of VHWS would be reviewed in cooperation with government and non-government leaders and a national standardized curriculum developed and published.
5. NCs would train 300 VHWS toward an overall goal of 750 VHWS working in government supervised areas. These numbers would not include those trained and supervised by non-government organizations.
6. Sixty-five nursing assistants would receive one-year of training for assignment in rural clinics and for temporary replacement for nurses in NC training.
7. The procedures and materials that the RHDP was developing in health center management would be introduced into the NC curriculum.
8. A supervision and continuing education program would be devised for graduate NCs working in rural areas.

The MOH/RHDP planned this training program to begin approximately eighteen months after the start of the project, in order to allow time for planning and management activities to be well underway.

IMPLEMENTATION PROCESS

The implementation process was as important as the outputs and results of the project. The process was facilitated by long and short-term advisors, written reports, workshops and seminars, printed manuals, and participant training. Two long-term planning and management advisors began project activities and were joined in residence some months later by two long-term training advisors. A wide range of expert short-term advisors worked on particular issues for periods of a few weeks. Some of these consultants made repeated visits. All consultants submitted detailed reports that they discussed with relevant MOH officials during preparation. The long-term advisors wrote quarterly, six-month, and annual reports, including work plans, to provide information on progress and problems for a wide range of involved people. USAID conducted external evaluations periodically to

monitor ongoing activities, indicate problem areas, and suggest possible solutions.

An important mode of project implementation was the convening of workshops and seminars by the MOH to which many concerned individuals and organizations were invited. The RHDP used these workshops and seminars for a variety of purposes: to clarify and resolve some unresolved issues, to inform people of plans and developments, to train service personnel in new procedures, to gain involvement and support, to receive feedback on implementation difficulties, and to learn about unforeseen issues and difficulties.

Another primary means of establishing and diffusing new procedures and methodologies was the preparation and printing of standard reference manuals. The RHDP drafted these manuals in collaboration with MOH personnel and discussed them in workshops, before large numbers were published. MOH officials wrote formal authorizations as part of the manuals.

Participant training was a crucial means of strengthening the new patterns of function. The RHDP employed training programs of three weeks to two years duration in various parts of the world. Some courses, such as radio technology and health care administration, were arranged in Lesotho. (See Appendix B, Participant Training Summary.)

RESULTS: STRENGTHENING MANAGEMENT AND PLANNING

During their first six months of work, the planning and management advisors developed a detailed organizational analysis with possible action plans. Several fundamental changes resulted that laid the groundwork for future development.

1. The RHDP recognized the need for reorganization within the central MOH and suggested specific changes. The MOH transferred the statistical unit to the Health Planning Unit so that the HPU could make more immediate and effective use of statistical information.

2. The GOL/MOH agreed on the advisability of dividing the nine districts into seventeen health service areas so that each of seventeen government and NGO hospitals would be the operational base for managing primary care activities for catchment areas and populations of 50,000 to 100,000 people. The RHDP held workshops throughout Lesotho specifically intended to delineate the HSA boundaries and activities.
3. The MOH accepted the necessity for decentralization to the district level. Since April 1983, the decentralized fiscal management system has been in operation. Other activities such as health information decentralization followed.
4. The MOH/RHDP strengthened the Health Planning Unit by appointing and training current and new staff members. The RHDP transferred the health information system to the Health Planning Unit, revamped it, and established new statistical forms. New electronic data processing equipment was obtained and staff was trained in its use. Soon, the statistical unit was processing data much more rapidly. Whereas receipt of statistical results previously took up to three years, computerization provided feedback to HSAs and health centers within two months.
5. A manpower plan for the health sector was completed. The plan reviewed current status, suggested alterations in staffing patterns, predicted needs for training, and established a list of positions and salaries.
6. The MOH developed essential legal statutes that authorized the practice of NCs in new roles and tasks. The Cabinet and the Parliament processed and acted upon these statutes.
7. The need for additional upgraded HSA administrators to work as part of the HSA management teams was very clear, and the MOH made efforts to recruit and train them. Approximately twenty-eight such persons received nine months of training at the Institute for Development

Management. Most are deployed but the HSA team does not understand the new roles and functions.

8. Development of career and salary structures for the new cadres of NCs and HSA administrators has been the focus of a great deal of effort and has not yet been resolved. Although the MOH recognized this task as essential at the outset of the project, progress has been discouragingly slow. At the time this report was being completed, the NCs received their salary payment according to the new scale. However, none of the HSA administrators have received salary increments, despite indications that they would.
9. The RHDP staff worked with MOH officials and the Lesotho Dispensary Association (LDA) in the establishment of the National Drug Stockpile Organization (NDSO), which began functioning in 1980, with the assistance of Dutch technicians. The LDA/NDSO imports, manufactures and distributes drugs and medical supplies according to a revised national formulary. All HSA facilities receive essential medical supplies from this source, although some supplement their stores from private entrepreneurs. The HSA hospitals supply health centers in their regions. The NDSO established a system of inventories and ordering so that a continuous two-month supply is on hand. The achievements in this area are outstanding.
10. The RHDP has accomplished much less in the area of general supplies and equipment. Despite repeated efforts of project personnel and specific consultant studies, the MOH has made very little progress. The central store in Maseru is poorly managed. The General Supply and Equipment System Report gave a detailed analysis with recommendations for improving services. The MOH implemented one or two of these recommendations, such as training of storemen, but provided insufficient support and appropriate follow-up so that store personnel remain demoralized and unmotivated.

11. Transportation services have also posed continuing problems and made little progress. The MOH must rely on the GOL transport maintenance facilities for repair and major maintenance. The Ministry of Works accepts only GOL-purchased vehicles for repairs, and that process may take several months. Somehow, however, the district hospitals have kept a minimum number of vehicles functioning. Health centers and clinics, on the other hand, must rely on other means such as hiring private vehicles or using public transportation such as buses. There was some thinking that NCs be provided with horses for their visits to villages, but the Ministry has taken no action.

12. The RHDP has made major efforts to improve two-way communication between the health centers and HSA headquarters. Telephone connections outside of Maseru are limited and unreliable. Several relatively limited two-way radio networks operate within the country particularly for primary health needs (e.g., the Lesotho Flying Doctor Service and Catholic Church network, Catholic Health Secretariat). However, no systematic method exists for many of the health centers to communicate with their supporting HSA headquarters. Many have no telephone or radio facilities at all. The MOH has made strenuous efforts to obtain one hundred two-way radio sets that would provide two-way communication between health centers and HSA supervisory staff. The Lesotho Flying Doctor Service has assisted in training three technicians. A United Nations Development Program (UNDP) project funded by the United Nations Capitol Development Fund (UNCDF) provided seventy units that the MOH is currently putting in operation under contract with the International Telecommunication Union. Some isolated health centers still do not have any communication. Often, they are forced to send a reliable staff member by foot or public transportation to deliver urgent messages.

13. The MOH has made significant progress in personnel management. Job descriptions have been written and approved for all staff at the health center, HSA, and district levels. The GOL has drafted performance evaluation procedures and forms.

14. The development of training and service manuals has been highly successful. The RHDP has produced a bound, printed Health Center Operations Manual that HSA staff and NCs in health centers use. This manual is also a basic text in the NC training program. The RHDP has also developed a District Operations Manual for the HSA supervisory team and district and central ministry officials. Likewise, manuals have been written for financial management and health information processing. The Health Information Data Book has been produced in a loose-leaf form that makes additions possible. These materials have been used in the HSA implementation workshops conducted in all districts.

RESULTS: TRAINING NURSE CLINICIANS AND VILLAGE HEALTH WORKERS

A NC trainer and a physician trainer arrived in Lesotho in the fall of 1979 and began working in collaboration with MOH officials on the basic training design. The MOH appointed a Masotho counterpart to the NC advisor. RHDP advisors held consultations with nursing and medical personnel, and in January 1980, held a two-week curriculum adaptation workshop with about 125 participants, including short-term consultants. Drafts of the MEDEX PHC prototype materials were adapted and used for reference in discussing the particular needs in Lesotho. The workshop devoted one week primarily to NC curriculum and another to VHW training.

The RHDP advisors and consultants spent the next eight months defining the curriculum, recruiting and selecting students, and making other preparations for actual training. A selection committee representing government and non-government agencies chose twenty trainees. Candidates were selected from the large pool of registered nurses who were doubly qualified with both formal education in nursing and midwifery. They also had to have at least two years of rural experience and to be willing to serve in rural centers. The MOH appointed an additional trainee to undergo the training and become a tutor. Thus, including the senior experienced Masotho nursing tutor that the MOH appointed earlier as the counterpart program leader and who participated fully in the training, twenty-two trainees began the studies.

RHDP advisors designed the total training sequence to last fifteen months. Students spent ten months in a combination of problem-oriented classroom work and practical clinical experience. While studying a particular topic for a week, the students would see patients in the Queen Elizabeth II Hospital across the street from the educational facilities. Then the trainees saw similar patients for a week in an HSA hospital before returning for the next unit.

After using the adapted modules with the first class of trainees, the training staff observed that the modules required revision. The need for reference information and continuing education encouraged the review and revision of the previously-adapted Lesotho modules. The training texts consisted almost entirely of the five volumes that the RHDP had adapted for Lesotho's needs from the early drafts of the thirty-five modules produced by The MEDEX Group as prototype materials. These were: (1) community series, (2) management series, (3) core skills series, (4) clinical problem series, and (5) maternal and child health series. These five volumes are accompanied by workbooks used during training. The other primary texts were the reference manuals the project staff developed for Lesotho in these areas: (1) clinical, (2) health center operations, (3) community, and (4) village health workers. The NCTC encouraged each NC to keep these five volumes along with the reference manuals in her health center after graduation.

Following this ten-month period, the NCTC assigned the trainees to work in the outpatient departments of the HSA hospitals throughout the country for two months. Then, during the last three months, they went to work in the health centers where they were to be permanently assigned. They spent the final week prior to graduation back in Maseru at the NCTC.

Methods of teaching included lectures, discussions, case studies, and role-play. The tutor staff led most instruction, though staff from the central office of the MOH and staff of the Queen Elizabeth II Hospital and other institutions conducted some sessions.

A second class of nineteen students began training in September 1981, and graduated in January 1983. The third group of fifteen began in January 1983, and finished in March 1984. The fourth class, numbering only seven, started instruction in February 1984.

Nurse Clinician Training Staff Development

As noted previously, two tutors that the MOH appointed were members of the first class. The MOH appointed these two plus two other outstanding graduates to become members of the training staff the next year. An additional three were selected. All have subsequently had further training in teaching methods and community health -- five at the Liverpool School of Tropical Medicine and Hygiene. One is obtaining a baccalaureate degree in Liberia. One left after a year of teaching because of financial necessity, as she was not on the Civil Service rolls.

RHDP advisors have given the NC tutor staff progressively more responsibility for teaching and management of the program. Basotho tutors managed the program for the third class entirely, under the leadership of the Principal Nursing Officer for NCs who was a member of the first class.

Supervision by Training Staff

Following graduation, the training staff supervises the NC graduates in their health center locations approximately three times during the first year. Gradually, the frequency of supervision by the training staff is reduced to once per year. As the number of graduates working in the field grows and the HSAs become more independent, the HSA supervisory team is likely to do more of the supervision. Perhaps these teams will eventually include a nurse clinician supervisor who is chosen after serving in a health center.

Continuing Education

Continuing education (CE) takes several other forms in addition to the NC tutor visits. Each month, a physician from the HSA hospital visits each NC

and usually sees patients the NC selects. Every six weeks, the NCTC sends out a newsletter accompanied by a self-instruction questionnaire. Some HSAs conduct monthly or quarterly one-day CE sessions at the HSA headquarters for NCs in their catchment area. The NCTC holds an annual five-day CE seminar in Maseru for graduate NCs.

Training of Village Health Workers

By the early 1970s, several VHW programs were underway in Lesotho. By 1977, the movement had gained such momentum that the MOH and the PHAL convened a national conference on VHWs. Participants at this meeting discussed varying approaches to entry requirements, functions, compensation, supervision, and continuing education for VHWs. They agreed that the VHW would be an agent of health promotion and disease prevention in the villages and be able to perform simple first aid and refer sick patients for treatment. Most VHWs were mature women who had children, but some programs included a significant number of men. All VHWs were part-time health agents and served mostly on a voluntary basis. Their program gave them and their families free medical treatment, and some received partial support from their home villages. In a few instances, some VHWs took short-term employment in the nearby hospital while receiving in-service training.

The strengthening of the VHW movement started as part of the RHDP when it began in 1979. However, when the RHDP held the first curriculum adaptation workshop in January 1980, the participants found that the initial VHW training materials provided for adaptation were inappropriate for Lesotho. In contrast to many other countries, the VHWs in Lesotho were almost all literate in Sesotho and capable of more effective problem solving and discussion than the initial prototype VHW materials anticipated. Thus, the groups that had already been working with VHWs in their home areas proceeded with training and expansion of activities.

RHDP advisors modified their approaches and continued to work with the groups that were actively pioneering these efforts. The RHDP introduced NC trainees to the concepts and practices of VHWs and observed them in action.

In August 1981, the MOH convened another VHW curriculum workshop, attended by a wide range of NGO and government people concerned with VHW activities. By this time, 400 VHWs had been trained and were functioning throughout the country. The workshop participants hammered out a consensus agreement on the functions, requirements for entry, compensation, and continuing education and supervision for VHWs. The agreement provided for considerable regional and local variation in the application of these guidelines, with the clear understanding that the government could not pay VHWs and that the clinical curative skills of VHWs should be limited. The workshop participants agreed that the MOH should prepare a national VHW manual, which would provide a guide and reference for training, supervision, and continuing education.

RHDP personnel took an active part in the writing, testing, and publication of the VHW manual, which was written first in English, then translated, tested, and printed in Sesotho. The RHDP made both versions available to instructors and supervisors, many of whom were NC graduates working in health centers in rural Lesotho. In January 1982, the MOH called a workshop to review and revise the English version. The RHDP made a revised draft available to NC graduates, who tested its usefulness. By June 1983, the RHDP/HEU had completely revised both Sesotho and English versions and sent them to the printer. In October 1983, the HEU conducted a VHW curriculum orientation workshop to introduce and demonstrate the use of the newly completed revisions. Not only were government and non-government health representatives present, but agriculture, education, water, and other government officials took part. Many joint intersectional activities will likely continue to develop. One such cooperative program took place in March 1984, when the Ministry of Rural Development collaborated in training sixty VHWs for communities that were developing improved water supplies.

The number of VHWs trained to date far surpasses the goals that the MOH set in the late 1970s. About 900 VHWs have been trained under direct government auspices and about 1,100 under PHAL sponsorship. The RHDP has participated in obtaining 750 locally made VHW metal box kits. UNICEF

equipped and supplied them. The HEU intends to distribute another 1,500 to active VHWS.

The training and supervision of VHWS is now an integral part of the NC curriculum and job requirements after graduation. The HEU continues to prepare and test a number of printed materials for use by VHWS in their ongoing training in their home areas.

In the past three years, 48 of the current 119 health centers have NCs staffing them and extending their influence into surrounding communities, in collaboration with VHWS.

RESULTS: COLLABORATING WITH NON-GOVERNMENT ORGANIZATIONS

The various non-government organizations involved in health care in Lesotho have developed remarkably effective working relationships with government representatives. They continue to provide quality services to many people in rural areas where no other services are available. They trained a significant number of the nursing and auxiliary staff members working throughout the country. They pioneered the establishment of the VHW activities. The NGOs cooperated in the building of the National Drug Stockpile Organization and worked effectively in the development of the HSA infrastructure. They have played an active part in the growth of the NC program.

The MOH has similarly recognized and appreciated the important roles played by the PHAL and the individual mission groups. It has shown an unusually strong attitude of trust and confidence in the constructive activities that non-government groups carry out.

Nevertheless, collaboration in some areas can be improved, though the actual ways of accomplishing these ends are not clear. The MOH has asked non-government groups to assume management, supervisory, supply, and transportation activities that they have not previously provided. However,

neither the MOH nor the PHAL institutions seem to have the financial or material resources available to make these important functions possible.

CONCLUSIONS AND RECOMMENDATIONS

The MOH and all the collaborating groups have been outstandingly successful in implementing the PHC program that the GOL conceived only a few years ago. To a remarkable extent, the RHDP has already achieved the objectives of extending high quality health care programs to underserved communities. The GOL has made significant progress in establishing the high priority of primary health care within the MOH and other related government sections, particularly the Ministry of Finance. The GOL has elaborated, approved, and promulgated policies. The MOH is implementing reorganizations and decentralization. The FY 84-85 GOL budget reportedly includes 7.5 percent for the MOH. Donors have also made supplementary funds for health services available to the MOH periodically. Nevertheless, the MOH needs to complete and consolidate these steps with some urgency. Particularly, gains already achieved are likely to be lost unless the GOL fills crucial positions in the central MOH and steps are taken for their establishment with appropriate salary increments. It is recommended that the GOL give urgent priority to the appointment and establishment of central MOH positions, particularly in the Health Planning and Statistics Unit and the Office of the Deputy Director for PHC; that the Director of PHC position be on the Establishment List, with a full-time permanent assistant; and that the GOL give the HPSU two or three more planner positions, including health manpower.

Decentralization

The decentralization of MOH management activities to the HSA level has proceeded extremely well. Budget building and financial management are now in effect at the district level. The HPSU is processing health information and feeding it back to the HSA level from the central MOH much more rapidly than before. Perhaps the statistics unit needs to elaborate and illustrate the practical uses of this information for the HSA supervisory teams and the health center staff.

HSA physicians continue to supervise health centers on a monthly basis, primarily to see the patients referred by NCs. The pressure of examining these sick people, as well as the heavy clinical responsibilities at the base hospitals, produces work loads that preclude the physicians' spending much time or energy on other community health activities, such as the management of VHWs. Added to these constraints is the rapid turnover of physicians at HSA hospitals. Though some doctors do have a genuine interest in community health and training, few have the professional preparation to carry out such functions. It is particularly encouraging that the MOH has posted several Basotho physicians to district hospitals and will probably send them for public health training after they gain practical experience.

The organization of HSA and District Advisory Boards has only begun in most areas. The MOH must give considerably more energy to the complex tasks of these groups in the future if they are going to achieve this important aspect of public involvement.

Although a significant number of HSA administrators have undergone training at the Institute for Development Management, a lack of administrative staff exists at the HSA level. Morale and productivity also seem to be problems in a number of places, in part because the GOL has not yet created appropriate positions for them to commensurate with their present responsibilities and they are not, therefore, receiving the increased salaries they anticipated at their upgraded level.

Recommendations:

1. The GOL needs to establish a career development and salary structure for the HSA administrators as rapidly as possible.
2. The HSA Medical Officers need additional training and adequate professional time within their schedules to perform their many leadership roles.

3. When sufficient numbers of NC graduates have been trained and have served in rural health centers, the MOH should appoint some to serve as NC supervisors on the HSA team.
4. When sufficient numbers of NCs are available, the MOH should post some to work in the outpatient departments of HSA hospitals. This approach might relieve some clinical pressure on the HSA physicians, who could then devote more time and energy to management and community activities.
5. The MOH should convene an annual conference for HSA teams to update staff members on administrative matters.

Drug Supply System

The development of the drug and medical supply system has achieved remarkable success over the past few years. Hospital and health centers are well stocked, for the most part, with essential drugs, vaccines, and medical supplies.

Transport System

The transport system has major problems. Major repair and maintenance services are weak at the central level. The MOH has no control of this important area because the Ministry of Works handles these functions. Thus, maintenance of MOH vehicles still encounters many problems. HSA teams have a minimum of vehicle support. Health centers have none; they depend on the HSA hospital for transport of drugs and other supplies. The RHDP has encouraged NCs to use horse transport whenever possible.

Recommendations:

1. The HSA headquarters should develop more maintenance and repair capacity at the local level.

2. The MOH should explore further the utilization of horse transport for PHC.

Radio Systems

Efforts to develop a unified PHC radio network have been strenuous but only partially successful. So far, the UNDP has obtained only seventy of the one hundred two-way radios needed, and they are not yet in full operation. Because of difficulties in land transport, getting necessary large antennas into some mountainous regions is almost impossible. When the UNDP achieves optimal operation, each health center should have frequent communication with the HSA base and HSA headquarters. The MOH should use this network for more than medical emergencies and urgent administrative problems. The NCTC can also use two-way radio effectively as a continuing education and personal support medium.

Recommendations:

1. The MOH should equip every health center, even those fairly close to the capital city, with two-way radios.
2. Each HSA headquarters should develop a regular schedule of transmission, preferably two or three times per day, with all the health centers in its responsibility. A weekly period for continuing education and professional problem-solving would be highly desirable.

Nurse Clinician Training

The NC training program has achieved a very high standard of excellence. The graduates are performing at an excellent level of competence. The NC tutorial staff is well prepared and deeply committed to their work. The curriculum materials that the RHDP has produced are practical, balanced, and clear. Periodically, the NCTC should review and revise them as necessary. Possibly the MOH could publish supplements to add new materials. An encouraging development occurred just before the project ended; a Masotho physician joined the NC tutorial staff on a part-time

basis. He is ideally suited because of his strong interest in PHC and his role as a primary health physician for the Maseru district. In addition to teaching and quality assurance monitoring, this physician trainer can maintain vital communication with other physicians.

Nurse Clinician Supervision

Having the Principal Nursing Officer for NCs as Director of the Training Center as well as the administrative official responsible for graduate NCs seems very sound. Pressures on NCs to see clinical patients in the health centers will likely increase and tend to crowd out the NCs' activities in the community, such as VHW supervision and meeting with village groups. Supervisors should be aware of this possibility. The eventual appointment of NCs as supervisors on the HSA management teams would be beneficial for several reasons. They understand the problems and frustrations of NCs, and they know how the NC training fits into the actual health center situation. Also, the HSA positions could provide a highly visible rung in an NC career ladder.

Recommendations:

The MOH should appoint effective NCs who have served in rural centers to be NC supervisors in the next one or two years.

Nurse Clinicians Salary Structure

The development of a career and salary structure for NCs was probably the most urgent and critical need for the entire PHC program. The fourth class of NC trainees numbers only seven. This reduced class size is due primarily to the delay in salary increases for those who had already graduated and are working in rural places at the same salary they earned before their extended training.

Salary increments are obviously not the only important element in the development of a satisfying professional life for NCs; another major addition should be the definition of a career promotion plan, or ladder,

whereby senior NCs can have opportunities for more and different responsibilities. A few outstanding NCs will be necessary to replace NC tutors who might receive other assignments. Other obvious possibilities are positions as NC supervisors with the HSA management team and assignments as NCs in HSA hospital outpatient departments. A number of practicing physicians have already expressed a strong desire to have NCs working within busy hospital outpatient departments.

The need for career and salary improvements is particularly urgent not only because the number of recruits for training has diminished each year, but also because the time is soon approaching (December 1984) when the three-year bonding period for the first year of graduate NCs will be completed. Reports are circulating that some NCs are planning to resign soon because of discouragement about lack of salary increments. Having the Chief Nursing Officer of the MOH and the Senior Nursing Officer for HSAs work with the HSA supervisory teams to identify health centers that urgently need NCs and also to specify nurses who could be recruited as NCs might help increase the number of NC trainees.

Recommendations:

1. The MOH should devise and officially establish a promotional career ladder.
2. The Principal Nursing Officer for Nurse Clinicians should work with the Chief Nursing Officer and the HSA supervisory team to determine recruitment needs for NC training and to assign nurses for replacement while new NCs are being trained.

Collaboration with the PHAL

Governmental partnership with the PHAL has been creative and constructive for a decade. The level of trust and confidence has remained high most of the time. This relationship needs to be nurtured and strengthened continuously. The question of the advisability of some form of financial subsidies from the government to PHAL organizations is currently at a

difficult impasse, and, while some assistance for the services given by NGO facilities is necessary, the methods and amounts are unclear. While these questions are sorted out and solutions reached, the ongoing strength of the PHAL itself is a major asset that should not be endangered.

Recommendations:

1. The GOL should find some means of subsidizing NGO facilities for PHC services.
2. The MOH, bilateral agencies, and other groups should find ways to maintain the PHAL as an effective organization.

Continuing Technical Assistance for Primary Health Care Activities

The end of the RHDP in May 1984 will mark the end of a cooperative enterprise that has been one of the more successful technical assistance efforts achieved in the recent past. However, many difficult problems have yet to be solved, and the complex process of developing a solid PHC system will take many more years. The MOH could benefit from occasional intensive periods of consultation. In two or three years, the MOH might derive significant utility from a detailed, multifaceted analysis of strengths and weaknesses that have developed. It would gain distinct advantages if it maintained some continuity with current advisors. The possible continuation in-country of the two ITAs involved in training activities under other organizational sponsorship is a distinctly positive asset. Periodic assistance will also be useful in some aspects of planning and management as well as in training.

Recommendations:

1. The MOH/USAID should make occasional short-term consultation available during the next several years, particularly in selected management and planning areas.

2. The MOH should give consideration to engaging an intermediate length evaluation team after two to three years have elapsed. Ideally, these consultants would have had some direct connection with the present project.

Increasing National Awareness and Support for PHC Activities

The people of Lesotho are becoming more conscious of the benefits already experienced by the PHC efforts as seen in the NC and VHW programs. However, concerted information and public relation efforts might increase the political and financial support that is so definitely needed. The advisory boards and committees as well as the mass media might be effective channels for such messages.

Recommendations:

The MOH should make concerted efforts to enhance the community and national consciousness of progress being achieved in PHC throughout the country. Short, regular items on the national radio broadcasting system could contribute significantly to this effort.

Regional and International Recognition

The achievements of the PHC programs in Lesotho are already gaining significant regional and international recognition. Wide knowledge of the Lesotho developments could inform and encourage officials and leaders in other countries where human and material resources are severely limited to renew and continue their efforts despite major constraints. While efforts in diffusing such information would require additional efforts on the part of Basotho personnel, it should be possible to engage skilled technical assistance from multilateral and bilateral agencies that would minimize the drain on the time and energy of key leaders in Lesotho. The effects of increased interaction and information exchange could also have very positive effects in Lesotho itself.

Recommendations:

1. The GOL and USAID should seriously consider ways to document and publicize the achievements of the PHC movement in Lesotho, such as through popular and professional articles, monographs, photo essays, film, and video. For example, the GOL and USAID/Lesotho produced a video for two projects, Land Conservation and Range Management, and Village Water Supply, and the government of Nigeria and the Ford Foundation produced an excellent film on PHC programs in Nigeria.
2. The GOL should organize a regional international conference in the next two years to focus on aspects of PHC in Lesotho and comparable settings.

PART II

DETAILED DESCRIPTIONS OF PROJECT COMPONENTS

MANAGEMENT SYSTEMS AND ORGANIZATION DEVELOPMENT

Reorganization of the Health Care Delivery Structure

Project Achievements:

With the early realization that the RHDP's objectives could not be easily met under existing organizational structures, the MOH planned--and essentially achieved--a major reorganization scheme. Fortunately, the government was willing to face such serious organizational problems as: (1) too many staff reporting directly to the MOH Permanent Secretary, (2) over-centralization of administrative control, (3) lack of structural focus on rural health services, and (4) uncoordinated vertical programs.

The plan that the MOH implemented provided for strengthening the health care delivery structure at all levels. (See Figures 1 and 2 showing the changes between the 1979 and 1983 organization charts.) At the central level, the plan designated a single Director of Health Services (DHS), who was responsible for all district health services development. In addition, all technical staff offices were to report to the DHS, thus allowing mobilization of professional resources in behalf of district and community health services. The plan designated a deputy director for primary health care development to oversee PHC activities.

The MOH formulated a new district structure, with the district health team responsible for planning, coordinating, and evaluating the health programs and operations of all services within each of the ten administrative districts. In order to utilize all existing resources, the eighteen area hospitals (half government and half mission-related) became the focal points for defined HSA covering the entire country. These parent hospitals then became responsible for providing all the supervisory support services for the health centers and community health activities in their respective service areas.

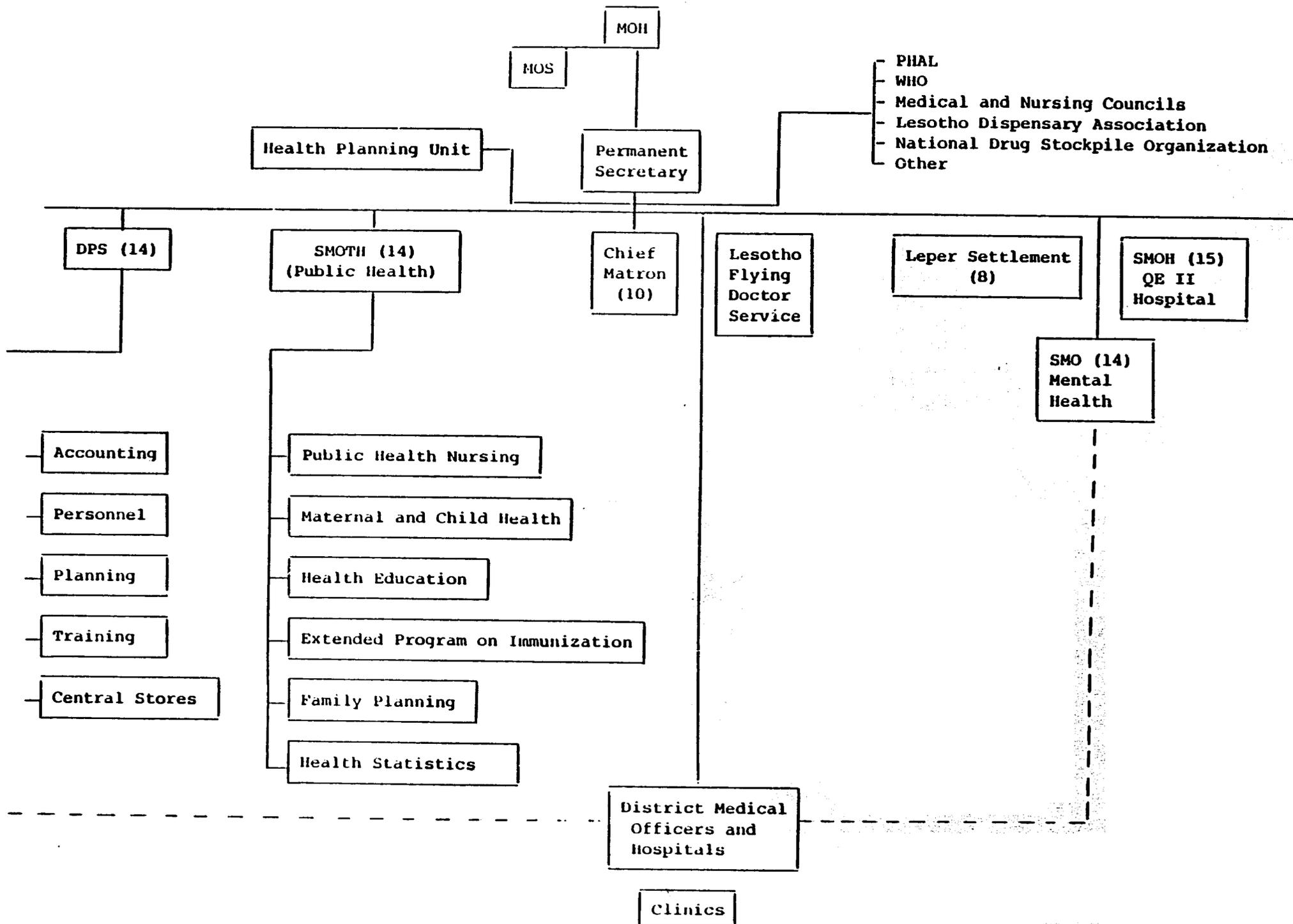
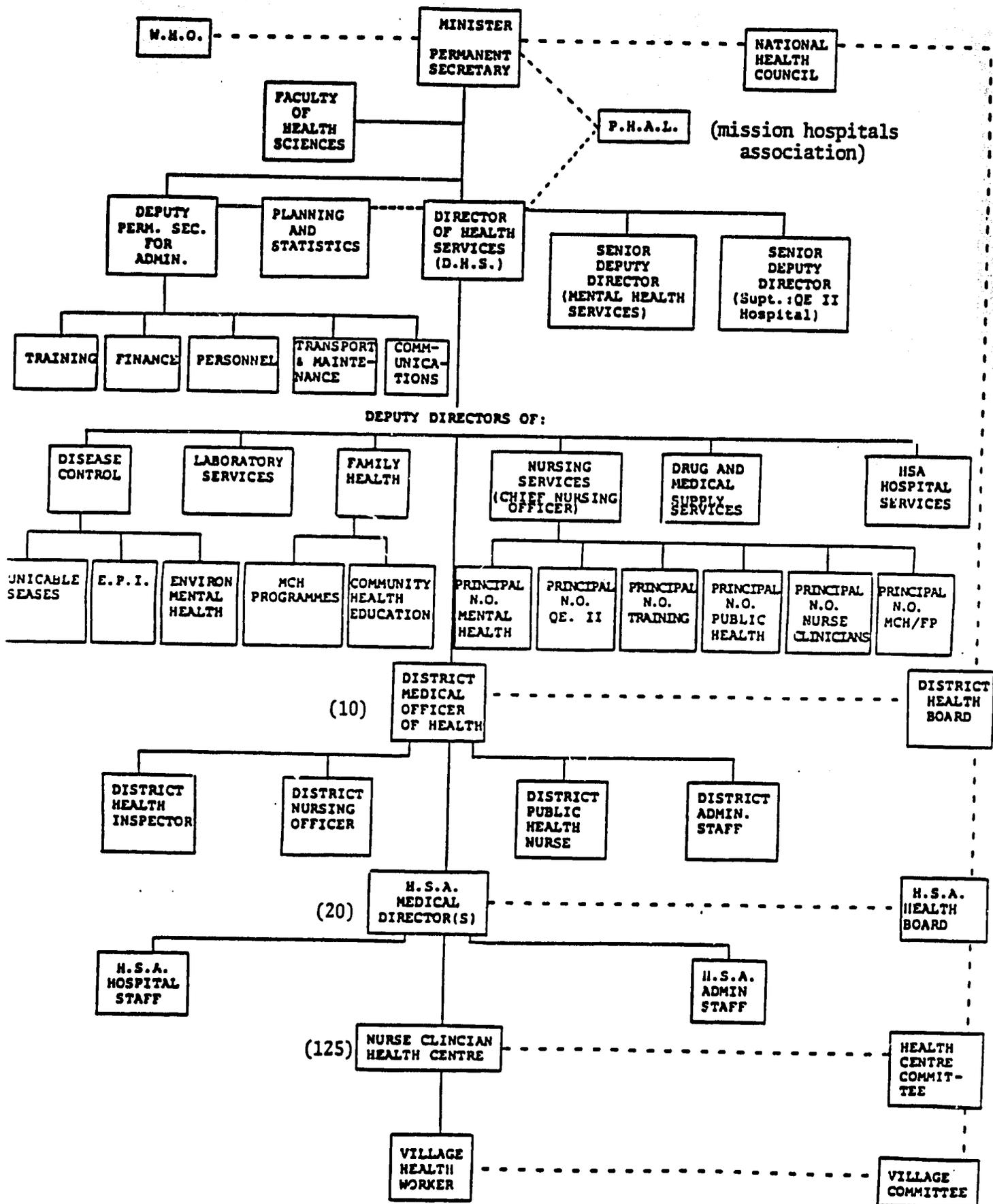


FIGURE 1



At HSA and health center levels, both government and non-government organizations are included in health care delivery system.

FIGURE 2

The MOH designed other components of the RHDP to prepare NCs to provide and coordinate all community, preventive, and promotive services at the health centers, including the training and supervision of VHWs from all nearby villages. Hence, the design called for the following three-tiered supervisory and support structure. (See Figure 3)

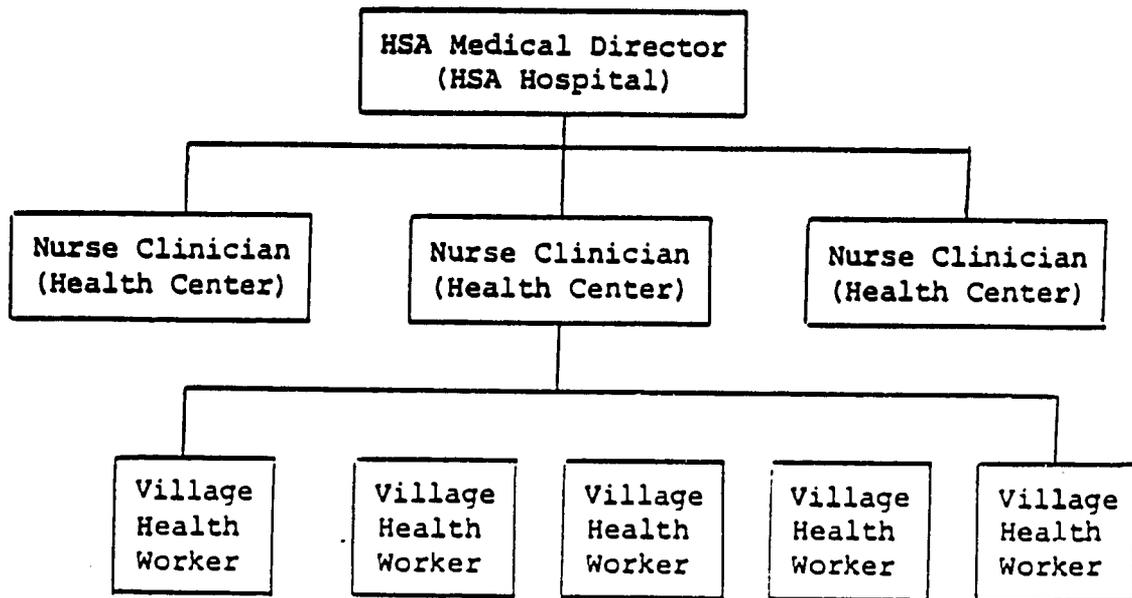


FIGURE 3

The reorganization plan as finally adopted by the GOL also called for an advisory board structure at every level of service. This structure included the National Health Council, district and HSA boards, health centers, and village committees. At project completion, many of these boards were in the process of development or were already meeting regularly to identify health needs, mobilize resources, and assist with evaluation of health services.

While the full development of such a reorganization plan is an ever-evolving process, the remarkable accomplishment seems to be the general commitment by both government and non-government officials to make the plan work, and the fact that "NC" and "VHW" have become part of the common vocabulary of the people in Lesotho.

Strategies Followed:

At the Maseru Primary Health Care Workshop of January 1978, the MOH committed itself to the development and implementation of an effective PHC delivery system. As a direct result of the 1978 workshop, the MOH established a Primary Health Care Action Committee with intersectoral membership. This committee became the focal point for guiding all subsequent development of the health care delivery structure. The PHCAC may eventually link with the National Health Council.

Near the end of the developmental phase of the project, project staff, with technical assistance from The MEDEX Group's Honolulu office and other special consultants, formulated the "Plan for Strengthening and Supporting a Primary Health Care System for the Kingdom of Lesotho." The project also used consultants to help define management systems problems and recommend strategies (e.g., for drugs and medical supplies, health information, transport, communications, and organizational development). Once the MOH accepted it, this "six month report" became the blueprint for all subsequent management actions under the project.

Several strategies contributed to the successful reorganization of Lesotho's health care delivery structure:

1. Careful development of a project design, adapted to the needs of Lesotho, and use of position papers and working drafts on decentralization of management systems and organizational changes--for consideration by key officials
2. Use of a broad-based Primary Health Care Action Committee, which reviewed and made recommendations on all subsequent decisions for the development of the delivery system
3. Insistence by project staff that they work as advisors, support persons, and teachers of counterpart workers for managing the development of the organizational structure and the other components of the RHDP

4. Provision of support to the PHAL, as the mission related health service agent when working with government in creating a partnership for the delivery of health services
5. Use of a consultant to assist with the decentralization strategy process, with regional work sessions in Maseru, Teballong, Tsakholo, and at the Lesotho Institute of Public Administration
6. Careful documentation of the decisions made for organizational development of the structure, incorporating identical explanatory material about the plan in all operations and training materials
7. Resisting the temptation to make major deviations in the action plan once it had been formally reviewed, adopted, and circulated to all levels of workers
8. Use of national and district management workshops to orient health workers and representatives of other sectors to the concepts of PHC and the structure for its provision, as well as to identify implementation problems and to obtain recommendations on resolving these problems

As an example of the strategies, beginning in July 1979, the PHCAC began a series of one to three-day work sessions to develop the details of the reorganization plans. Subcommittees for HSA and VHW development also were active parts of the process. The Permanent Secretary for Health presided over these meetings, and the Chief Health Planner acted as the secretary. Project personnel provided staff assistance on agenda, preparation of background materials, and documentation of recommendations.

The MOH held national workshops in 1978, 1979, and early 1981. The MOH held implementation workshops in each of the ten districts, beginning with Maseru District in October 1981.

Problems Encountered:

Perhaps because of the general commitment among the health officials involved, problems were not as great as anticipated. However, some problems are worthy of notice.

1. In March 1980, the Cabinet approved the basic MOH reorganization in principle, including the concept of health service areas. While a consensus seemed to exist among officials regarding the exact reorganization plan, concern continued that the central government had not officially endorsed the final plan, even as late as the third year of the project. This lack of official endorsement loomed as a major threat to institutionalization and required basing ongoing management training on an unofficial structure. In 1982, when the Cabinet finally approved the advisory board structure, they did indeed make some changes that were somewhat confusing to those districts that had already implemented plans, particularly for the membership on the District Health Board.
2. Because of a variety of circumstances, much of the overall planning under the project took place primarily during the final months. Hence, the management advisor had to write up the overall PHC descriptive materials and obtain MOH approvals, in order to have general direction for management implementation activities.
3. A general shortage of trained mid-level MOH management personnel greatly slowed the decision-making process, often delaying the carrying out of action plans. The MOH eventually designated the project management advisor's counterpart as the Deputy Director for PHC Development, but until the final months of the project, she was often occupied with routine administrative chores that other personnel could easily have performed. While the MOH has corrected the problem, it still has not officially added her role to the Establishment List. Thus, the potential exists for a future shift from an emphasis on PHC back to hospital-based curative care. Continuing recruitment of

expatriate doctors with no background in PHC reduces the advocacy for PHC.

4. Changes in MOH top officials can of course divert the Ministry's priority for PHC in favor of a more visible, hospital facility focus. A tendency to become isolated from district and community operations and problems can also be a potential problem.
5. While the reorganization plan carefully follows the WHO concepts for community and intersectoral input on PHC development, the potential exists for problems with the effective functioning of the advisory boards and committees involved. These committees naturally link with the health planning process, but staff limitations have largely precluded assistance from the MOH Health Planning Unit. These limitations have resulted in many lost opportunities for giving technical assistance and support to these groups.
6. The original project design called for the recruitment of a management advisor for two years, "with option for extension," with the other advisors being on hand for three years. This lack of recognition of the need for sustained follow-up for institutionalization of management systems may have contributed to some negative results. The 1982 project evaluation had to focus on whether the management advisor position should be extended. The advisor who was recruited for two years could stay only an additional six months.
7. The first planning and management advisors assigned to the project caused some confusion within the MOH staff when they occasionally switched their roles. The MEDEX Group corrected this problem when it hired their replacements.

Recommendations for Future Development:

1. Institutionalize the continuing PHC advocacy role by adding the Deputy Director for PHC Development to the Establishment List. Ensure ready access for this position to all top MOH and PHAL officials, lest they

become isolated from the needs of serving the rural (and majority) population.

2. Assign as a full-time health planner function the duty of supporting advisory board and committee activities, to fully implement the goal of "bottom-up" health planning and priority setting. Evaluate whether the need for a district health board is valid, if the District Development Board is functioning. Evaluate the possible need for additional training of local health officials on how to effectively work with community advisory groups.
3. View PHC organizational development as an ongoing process, requiring continuing follow-up, problem solving workshops, and visible support from top officials. With the many changes in officials at the central and district levels, the considerable progress that the MOH has made in building a strong delivery system could easily regress.

Decentralization of Health Services

Project Achievements:

Given the precedents set by the Colonial administration for centralized control, much progress has been made in decentralizing delivery of health services. Historically, local operations often became almost paralyzed, since only three or four top MOH officials could make a decision. This procedure extended to such mundane matters as purchase of cleaning materials or drugs for a district hospital or rural health center. The MOH officials' apparent reluctance to delegate any responsibility was a contributing factor, but the local units were not always organized or trained to appropriately manage public resources.

During the term of the project, the MOH has been reorganized to focus totally on the needs of district and community health services. The MOH has officially established well defined district, community, and village roles for getting local guidance on health affairs. All nine administrative districts have held or planned HSA management implementation

workshops, and non-project personnel now ably carry out these orientation and training activities for decentralized management of health care delivery. The MOH/RHDP has also prepared a district HSA Management Workshop Manual to help guide the MOH-PHAL Workshop Committee in the planning and operation of these workshops.

In addition, the MOH has developed a management team concept (e.g., doctor, nurse, administrator, pharmacy officer) for management of HSA services. This concept is designed to strengthen the decision-making process with major input from Basotho staff, where the medical officer is likely to be an expatriate.

The project has sponsored training for two groups of certificate level health administrators--a total of twenty-three persons from government and NGOs--as a means to strengthen management at the HSA level. This training is in addition to the training provided in nursing administration. The GOL has formalized the new classes of HSA administrators and nurse clinicians on the Establishment List.

The RHDP compiled the first ever descriptions of MOH administrative procedures and operations and, together with the guidelines developed from the PHCAC meetings and the management workshops, incorporated them into district and health center operations manuals.

Fifty-five nurse clinicians have thus far received training in the management of health center operations, and a well-established training program exists for continuing to prepare this new group of mid-level health care workers.

The NDSO has successfully decentralized the drug supply management system, and the MOH is implementing a plan for local fiscal management responsibility. The MOH has prepared and adopted updated job descriptions for all key health positions at the district, HSA, health center, and village levels. (See subsequent sections for further discussion of these management systems).

Strategies Followed:

1. Identification of decentralization problems and involvement of local health workers in problem-solving have been major components of all national and district management workshops. In each case, the RHDP has prepared a workshop report covering the proceedings and recommendations for action and used it for further discussions with key officials. Following each workshop, the HSA subcommittee of the PHCAC met to review workshop findings and recommend PHCAC action.
2. The workshops also focused on decentralized planning and management practices. The RHDP reviewed revised job descriptions with local officials and incorporated final drafts into all training materials. The RHDP introduced and discussed management team concepts. The Permanent Secretary for Health directed special work sessions for district officials on PHC delivery.
3. The MEDEX Group's Honolulu office provided technical assistance and manpower for managing the initial national workshops.
4. Project staff and key PHAL and MOH officials attempted to periodically visit every HSA hospital as well as selected health centers to evaluate the decentralization process and to solve problems. They made every effort to shift training and follow-up responsibility to the Basotho staff.
5. Preparation of district and health center operations manuals, together with the long process in clearing the content of these manuals, seemed to reduce the confusion on how the MOH and the health care delivery system was supposed to function. The manuals became the references for management workshops and for training of nurse clinicians. The District Operations Manual was designed to facilitate revisions and updating of individual units. The Senior Administrative Secretary distributed the revisions.

6. In the development of advisory boards and committees, the RHDP made an effort to introduce the philosophy that the hospital or health center belonged to the local community--not to the government or the church.
7. RHDP advisors and MOH counterparts implemented follow-up efforts (surveys, evaluations, field visits, continuing education) with the newly trained nurse clinicians to identify unresolved problems with the decentralization process.
8. The management advisor at the village health worker workshops provided assistance for development of VHW management guidelines.

Problems Encountered:

1. The fact that the highest HSA official, the medical officer, was likely to be an expatriate was and is a potential problem. No matter how well-intentioned the person might be, he is typically a short-term employee, new to the country and culture. In addition, he is likely to be inexperienced, trained in sophisticated hospital curative care, with little knowledge or background in PHC. This problem probably will not be resolved very soon, since Basotho doctors tend to be attracted to private practice where they can achieve quite high incomes, even by Western standards.
2. The RHDP hoped that the MOH could designate Basotho doctors as the ten district health officers. But sufficient government doctors do not currently exist to accomplish this goal.
3. Sufficient numbers of doctors and nurses are not available to fully implement the district health team, if these people are to deal full-time with district matters. However, the district health team concept could be partially implemented, by giving dual appointments to senior HSA doctors and senior nursing officers in each district. Why the MOH has not done this is not clear. Doing so would reduce some confusion in role definitions, and the MOH could easily accomplish the dual appointments in all but one district, which has no government

HSA. The district in question is a new one developed as a comprehensive project financed by the Canadian government. Its district health structure regarding two mission-related HSA hospitals is still unresolved.

4. One problem that the RHDP encountered was the unfortunate way in which the new health worker classification for Health Administrator was introduced. The new health administrators may have been inadequately trained, since they had no adequate settings for field experience. Some of the initial persons selected may have been inappropriate. The MOH assigned them to the hospitals with very limited knowledge about their roles; they did not receive appropriate salaries; the GOL delayed their classifications on the Establishment List; and they had no counterparts for advocacy from central headquarters. HSA teams immediately perceived them as invaders of the responsibilities of the senior nursing officers, and the SNOs often did not accept them as members of the hospital teams. Most of these problems were avoided with the second class that the Institute of Development Management trained. However, the Deputy Director of PHC took great care to properly introduce the new HSA administrator roles.
5. On occasion, headquarters has appeared to serve as a brain drain for the better workers in the districts, with concurrent assignments of poor workers to the periphery. This arrangement is a barrier to strengthening the rural health care system, which needs skilled workers who must work somewhat independently, without ready access to technical supervision.
6. Finally, until the issue of government subsidy to non-government health services is finally resolved, PHAL institutions will likely resist full integration of health services, and the MOH will not be able to offer them any inducement for full integration.

Recommendations for Further Development:

1. Without an organized program for providing continuing support, follow-up, and problem solving after the project ends, the decentralization process could fail to become institutionalized. Monitoring continuing PHC development is an important ongoing function. The MOH has to update operations manuals, orient and train new people, and identify and resolve new problems before they become major issues.
2. That experienced Basotho physicians do not stay in Government service seems a disservice to their country. Somehow, the GOL should address this matter, so that at least all the key MOH positions are filled with local nationals. The problem is less critical when new expatriate doctors fill the direct medical care roles. The new nurse clinician graduates can admirably cover the PHC roles.
3. The need continues for a formal orientation program for new expatriate workers, particularly doctors, on Lesotho government and culture, the health care delivery system, and PHC. The RHDP has provided recommendations for doing this, but thus far the MOH has not taken any action. Some of the European donor groups are doing something on this need, but the programs do not necessarily include materials on the MOH structure or PHC concepts. Continuing education for the HSA doctors and other members of the HSA management team may also be important in the future.
4. Several personnel-related matters require attention, including designation of district health officer and district nursing officer posts, using dual assignments of senior staff from HSA hospitals; proper budgeting for the forty nurse clinician and ten health administrator posts on the Establishment List; and inducements for workers assigned to rural posts. As the numbers of NCs and VHWS increase, the problem of adequate access to supervision may again arise.

5. Additional training of senior health administrators to fill key posts in the MOH headquarters and at the national referral hospital may become a need. This approach could represent a career ladder for the present certificate-level trained health administrators. Since this is a newly developed classification of health worker, the health administrator also needs the type of attention given to the NC and VHW for continuing education.
6. The MOH will need to give attention to updating and improving the operations manuals. If workers find that the manuals are obsolete or incorrect, they will stop using them, and headquarters will once again become burdened with calls involving routine procedural issues. Since the Health Center Operations Manual, with its wide distribution, does not provide for revising specific units, the MOH will have to print total new editions from time to time.
7. The RHDP identified a need for an operations manual specific to the many central functions of the national referral hospital (Queen Elizabeth II Hospital). While the project did not give this need a priority because it was not within the goals for a rural health development project, it is a matter that a future short-term consultant could address.
8. Officials at MOH headquarters expressed considerable dissatisfaction with the central records system. The former Deputy Permanent Secretary had indicated that technical assistance was available from the central government for carrying out a major records system design. However, the MOH never took any action on this design.

Management Support Services

Financial Management

Project Achievements:

The RHDP identified financial management, including budget development, as the management system most critical for effective strengthening of the primary health care delivery structure. At each management workshop, participants presented their own horror stories on the problems of the highly centralized fiscal management system. With only the Permanent Secretary, Deputy Permanent Secretary, and Principal Finance Officer authorized to approve expenditures of funds, requests for services and supplies from local areas could be delayed for months. Budget development was based on the prior year's budget, with no relationship to expenditures made. Single budget line item projections related to the entire Ministry, with no provision for delineating functional or geographic areas. Typically, each year the MOH spent until it exceeded the total budget, then asked the Cabinet to provide more.

The project was able to recruit a highly qualified financial systems consultant, who validated all of the complaints and presented a course of action that won the support of MOH officials. With the help of project funds and USAID, he subsequently began a two-year assignment to work with the Ministry on the design and implementation of a decentralized fiscal/budget/planning system. The magnitude of the problem was clearly so great that a two-year design and follow-up program was essential. Beginning in June 1983, the management systems advisor designed the basic system, prepared written guidelines and procedures, prepared training materials, and completed training for more than fifty persons. WHO and UNICEF assisted with the costs of this training.

The RHDP received cooperation from the Ministry of Finance, despite prior reports that the MOF would oppose such a plan. Apparently, the prospect of better budgeting practices and improvements in MOH fiscal accountability at all levels won MOF support. The change in role from processor of bills to

financial systems developer and auditor challenged the Principal Finance Officer, and he became an active participant in the decentralization process.

During the past year, financial personnel have visited each HSA staff member to help them prepare a decentralized budget proposal and to help them manage newly established local imprest accounts.

Fiscal management guidelines and procedures have been incorporated into the nurse clinician training program. Procedures for fee collection and accountability and for maintaining fiscal accounts are included in the district and health center operations manuals. A financial advisor has prepared a new manual on decentralized fiscal systems.

Strategies Followed:

Participants at each of the national and district workshops took part in work sessions on financial management problem identification and provided recommended solutions. These recommendations became the documentation for justifying future priorities for action on these problems. Use of a consultant who completed a systems analysis of the operations at all levels laid further groundwork for a complete reform of the system. These efforts demonstrated how the present system prevented district officials from providing efficient services and resulted in hoarding and waste of funds. They further pointed out that with no local accountability for expenditure of funds, no one felt any responsibility for how anyone used resources.

The fortunate identification of a highly qualified African national to assist the consultant and long-term financial advisor provided credibility to the recommended changes. Overcoming the conventional wisdom that decentralization of fiscal responsibility was something that the MOF could never approve was a particularly difficult matter. However, by keeping the problems before the key officials, by showing how they could be unburdened of routine fiscal paper-work, by concurrently planning to strengthen the district level fiscal capability, and by finding a precedent in another ministry, the RHDP achieved support for the changes.

Problems Encountered:

1. Overcoming the accepted attitude that the MOF would not approve any delegation of authority was a major barrier. However, the RHDP found that the MOF was open to suggestions for making the MOH budget and fiscal process more rational.
2. Since the MOH fiscal staff were temporarily assigned from the MOF, they could be and were shifted out of the MOH at any time. Hence, limited justification existed for training key fiscal officials, for the MOF might recall them. During the life of the project, the MOH had three different principal finance officers.
3. Inadequate work space in the MOH accounts office presented a significant barrier to fiscal operations. The government was several years behind on closing its books, so accounts staff spent much time researching old records. When the MOH fell many months behind in processing its bills, local vendors refused to accept warrants and government orders for supplies and services.

When changes in accounts office staff occurred during the budget process, responsibility for preparation of the recurrent budget fell to the Health Planning Unit. This diverted that group from its regular activities.

4. Most HSA hospitals lacked adequate fiscal and clerical support staff to manage a decentralized system. Training in basic fiscal, secretarial, and clerical skills in the districts was needed, for most such training was available only in the capital city.
5. In the integrated MOH-NGO health care delivery scheme, the blending of fiscal accountability presented problems requiring the continuing attention of finance personnel. The fact that PHAL patient fees varied and were much greater than those for the government caused confusion for the patients. However, the issue of uniform fee

schedules awaited resolution of the matter of government subsidy to PHAL agencies.

6. The lack of funds for even emergency needs at local hospitals and health centers led to the development of many somewhat extra-legal emergency fund schemes. Accountability for these funds tended to be vague.

Recommendations for Further Development:

1. With the availability of an able financial management consultant for a number of months beyond the official project termination date, the RHDP can expect that the decentralized fiscal management system will be in place. Headquarters officials are likely to feel uneasy when they first delegate some fiscal activities, but they should come to realize that their systems development, monitoring, and auditing functions in the field will make their roles much more important.
2. Some reinforcement may be necessary to ensure that the MOH breaks down future recurrent budgets by geographic and functional areas, that MOH-finance prepares appropriate financial management reports for key local and central officials, and that the financial advisor instructs these key officials in managing their budgets.
3. Once the issue of government fiscal subsidy for NGOs is resolved, delicate negotiations on appropriate NGO accountability for funds may be necessary. Also, the parties can examine the matter of uniform fee schedules at that time.
4. If PHC is to receive a high priority for fiscal funds in the future, a comparison of PHC costs with hospital-based curative care costs will be important. Persons in the hospitals, who are in positions of greatest influence, may have a tendency to revert to the more expensive hospital-based, curative care model.

Personnel Management

Project Achievements:

Many of the personnel management issues were beyond the perview of the project, since overall responsibility lay with Cabinet Personnel, a section within the Prime Minister's office. The MOH Principal Personnel Officer was temporarily assigned from the Cabinet Personnel, and three different persons filled that position during the term of the project. The personnel system used was inherited from the British administration; the many problems of such a centralized administration are outlined in the January 1979 "Report of the Task Force on Personnel Management in the Public Service of the Kingdom of Lesotho." Within this framework, the RHDP still made considerable progress on MOH personnel practices, even allowing for the many issues yet to be addressed.

Despite long delays in formalizing positions on the Establishment List, the project identified and institutionalized two new positions critical to strengthening the PHC delivery system: nurse clinician and health administrator. The NCTC has established a model training program for the nurse clinician, with the fourth class under way. The Institute of Development Management--serving Lesotho, Botswana, and Swaziland--has established a course for health administrators. When the first class experienced a number of problems, project staff had an opportunity to assist with improvements and with selection of trainees.

Job descriptions for the entire MOH were either non-existent, incomplete, or out-of-date. The project management advisor reviewed the process for selection and approval of all positions related to rural health development. This process included the following positions, which the RHDP incorporated into all reference, operations, and training materials:

| | |
|-------------------------------|------------------------------|
| Village health worker | District medical officer |
| Nurse clinician | District nursing officer |
| Health center staff nurse | District public health nurse |
| Health center nurse assistant | District health inspector |

| | |
|---------------------------------|--------------------------------|
| HSA medical director | Health center scrubber/cleaner |
| HSA senior nursing officer | HSA hospital administrator |
| Health center night watchman | HSA senior dispenser |
| District health management team | HSA health management team |

The management advisor also carried out a personnel management improvements study, which included fifty recommendations for future action. This study included the documentation of the recommendations coming out of all the national and district management workshops.

The management advisor also provided support for incorporating improved personnel and supervisory management practices in the nurse clinician curriculum. This task became the major focus for the role playing and work sessions during the NC class training. Guidelines and procedures for personnel practices were also incorporated into the district and health center operations manuals, including newly approved guidelines for decentralizing some personnel functions.

Project staff supported the Health Planning Unit in developing a project proposal for technical assistance from the World Bank to address the many remaining personnel management issues.

The planning advisor's efforts to prepare a Ministry of Health Manpower Plan will do much to rationalize the concurrent training and organizational development activities. The HPSU also has a plan under way to shift the MOH personnel file to disk storage in the microcomputer in the statistics unit.

Strategies Followed:

The management advisor made a special effort to document personnel management problems at work sessions scheduled during each of the management workshops and to carry out a management improvements study. Problem solving was carried out during field visits to health centers and HSA hospitals and at continuing education work sessions for the nurse clinicians. The NCs also reported that they learned much about personnel

and supervision by participating in role plays and case studies during their training.

Each MOH principal personnel officer was enlisted for participation in the NC training and for liaison with Cabinet personnel. The management advisor also established liaison with the Lesotho Institute of Public Administration (LIPA), in order that it could incorporate PHC concepts into its management training course. The LIPA's assistance was also used in the national management workshops.

Problems Encountered:

1. Many of the personnel problems were related to the highly centralized control Cabinet personnel exercised. The MOH principal personnel officers changed sufficiently often that they could not learn all of the problems of district health operations. For example, they had difficulty appreciating the negative effect of shifting key local workers or leaving a key local post vacant for six months.
2. The project had limited incentive for providing training to MOH personnel officials, since they might soon be lost to another ministry.
3. The RHDP trained some people in the concepts of developing a national performance evaluation system. Even though the permanent secretaries initiated the study and the Senior Permanent Secretary subsequently endorsed it, the GOL never approved it. The country is therefore left with a system that is a disincentive to good performance.
4. The MOH lost some training opportunities that the project and other donors offered when it did not identify appropriate training candidates. No doubt the MOH training plan will address the issue of whether the MOH has sufficient management depth to sustain PHC organizational development.

5. The MOH tended to reinforce the notion that working in rural areas was bad. HSA teams sent recalcitrant workers to district posts and often overlooked or ignored the concerns of rural workers, despite the fact that everyone had roots in rural villages and these areas were quite attractive. The MOH never properly addressed the need for developing incentives to work in rural areas. As a result, the typical posting for nurses and nurse assistants at health centers was three to six months, with more permanent assignments at the HSA hospitals as a reward.
6. Continuing delays in the official appointments of district health officials, nurse clinicians, and health administrators, and the matter of not being paid at their designated salary range were particularly troublesome morale problems for nurse clinicians and administrators.
7. Very often, the MOH assigned new expatriate doctors to key HSA hospital posts without any orientation to the country, culture, or health care delivery system. Many of these persons were excellent doctors but lacked any experience or training in PHC.

Recommendations for Further Development:

1. The fact that job descriptions are non-existent or outdated for MOH headquarters and many other hospital and special program workers is a problem that needs to be addressed although it is not necessarily a high priority for rural health development. The lack of definition of many current jobs causes many performance and work relationship problems. Whether the World Bank grant proposal includes assignment of technician time to develop all these job descriptions is not clear.
2. The RHDP suggests continued efforts to obtain approval for an improved performance evaluation system. Once the GOL adapts such a system, supervisory personnel will need training and reinforcement on their responsibilities for candid appraisal of their subordinates' activities.

3. The MOH should consider a concerted program to dramatize that PHC in rural areas is where the exciting developments are taking place for improving the health of the population. Linked to this program should be a special effort to develop incentives for working in rural areas. For example, health workers consider the so-called "mountain allowance" very inadequate. The RHDP believes that with some organized efforts, health workers' attitudes about the value of serving rural populations could change.

As numbers of NCs increase, the matter of access to professional supervision may become a problem, particularly in HSAs with large numbers of health centers. The MOH may once again need to examine the need for a few nurse clinician supervisory posts. Or, the MOH could consider alternative models, such as assignment of an experienced nurse clinician to oversee the HSA outpatient department and also support the NCs in health centers.

The RHDP also suggests that to train VHWs who will not have ready access to support and supervision will be a serious mistake. As numbers of trained VHWs increase, perhaps the nurse clinician will need to have a VHW coordinator as a member of her health center team.

Drugs and Medical Supplies Management

Project Achievements:

Lesotho has a well-organized, well-managed system for manufacturing, procuring, and distributing drugs and medical supplies. The Netherlands Government was the primary donor for setting up the Lesotho Dispensary Association for the production of drugs, and for the related National Drug Stockpile Organization for procurement and distribution of drugs and medical supplies.

The NDSO and the RHDP achieved a high level of cooperation and collaboration. The project provided a consultant from the Indian Health Service on two occasions. Working with the management advisor and NDSO

officials, the consultant provided technical assistance on the entire drug management system, including the design of an inventory control methodology for the HSA hospitals and health centers.

The NDSO established procedures for both government and non-government facilities for distribution of drugs from parent hospitals, which assumed responsibility for the distribution and billing for drugs going to health centers. The MOH established senior pharmacy technicians as members of the HSA hospital management teams, charged with providing technical assistance to health centers. The NDSO provided long-term volunteers and staff to help hospitals and health centers get their systems and inventories in order, giving priority to NCs when they were first assigned to the field. The NDSO staff also collaborated on the training of NCs and on the preparation of the procedural guidelines and inventory control instructions incorporated into the district and health center operations manuals.

Project staff also helped guide the LDA and NDSO on the preparation of a national drug formulary, and served on the Formulary Committee and the NDSO Board.

Strategies Followed:

1. The project followed the philosophy that assuming responsibility for a management system was not as important as ensuring appropriate development of that system. Thus, the project took care to give full credit to the Netherlands Government for its considerable accomplishments with the LDA/NDSO. The Netherlands Government accepted and appreciated the technical assistance that the project offered. For each consultant, the project provided all scheduling and logistical support services.
2. All management workshops included a unit on drug systems development and problem solving, with participation from NDSO staff. All members of the project staff and NDSO officials collaborated on all drug-related matters.

3. The MOH designated one government hospital--Mokhotlong--and one mission-related hospital--St. Joseph's--as pilot HSAs to develop and demonstrate a methodology for a decentralized drug and medical supplies management system.

Problems Encountered:

The RHDP encountered few insurmountable problems with this management system, probably because of the fine leadership and extensive follow-up that the NDSO provided.

The NDSO did experience some of the expected resistance to use of generic drugs. A few physicians appeared to over-prescribe drugs, but the NDSO's budget target guidelines corrected this problem. The older pharmacy technicians sometimes had difficulty adopting tight inventory control procedures and broadening their concept of PHC for serving other units within their health service area. Storage units were often inadequate.

Large stores of outdated drugs had to be sorted and discarded. The missions received shipments of donated, often out-dated drugs. Patients often felt they were not receiving good care if they did not receive drugs.

Recommendations for Further Development:

1. This management system is not a priority for further development, for it is going well. However, the LDA may experience occasional shortages when suppliers in the Republic of South African refuse to ship its orders. This issue is both a political issue and a matter of resistance by private drug manufacturers.
2. As long as the NDSO continues its present policies of good service and extensive field follow-up, it should experience few problems.

General Supplies and Equipment Management

Project Achievement:

During the entire term of the project, obtaining general supplies and equipment, not including drugs, on a timely and efficient basis was perhaps the single most frustrating issue that district and health center officials identified. This problem was linked to the fact that local officials did not have access to budgeted funds, even for the procurement of emergency supplies.

In response to the many complaints, the project obtained the services of a procurement and materials management consultant from Tanzania in June 1982. This consultant did a good job of identifying problems, but his recommendations were not particularly useful, since they were inconsistent with and not integrated with other management systems developments taking place (e.g., in Finance).

In February 1983, the project was able to obtain the services of a systems development specialist from The MEDEX Group's home office in Hawaii. This consultancy proved to be especially valuable, for it clearly defined the actions necessary to resolve the general supply management problems. The focus of this consultancy was on the Central Health Stores. Until its problems were resolved, little hope existed for improving distribution and local control systems.

Included in this second consultancy were recommendations for training of personnel in stores management. Subsequently, the RHDP sent two persons for a six-week stores course at the Eastern and Southern Africa Management Institute in Tanzania.

MOH officials responded positively to the consultancy, and it was projected that a follow-up consultancy would take place after staff were trained and appointed and the MOH took certain other action. The reasons that this follow-up consultancy did not take place are unclear.

Strategies Followed:

Each management workshop devoted time to problem-identification and to the development of recommendations for correction. Participants tended to be particularly critical of Central Health Stores, which lost orders, gave no feed-back, and made arbitrary decisions on what was needed. They reported many examples of making three and four trips to Maseru to find orders, doing without fuel during the winter, and similar problems.

The RHDP recruited consultants to validate these problems, to recommend action, and to serve as catalysts for change. The consultants uncovered additional problems, such as lack of inventory control and personnel who refused to process orders. The director of the government's central purchasing unit and the Lesotho Institute for Public Administration, a government training unit, were involved in these consultancies. The RHDP made a special attempt to involve the Permanent Secretary and Deputy Permanent Secretary in these deliberations, for they were the recipients of the many complaints.

Problems Encountered:

A combination of lack of leadership, lack of systems, lack of training, poor morale, and centralized fiscal control contributed to a dysfunctional supplies procurement and distribution service.

The MOH was late in recognizing the critical nature of a well-run supplies management system and had Central Health Stores as the unit to which it transferred poor performers. Most of them worked under temporary appointments, and, recognizing their status, they had little interest in providing good service. Leadership was lacking because the MOH removed the chief purchasing officer and did not replace him. The MOH suspended one officer, but he continued to receive his salary even though he was not working, which greatly undermined the morale of the remaining Central Health Stores staff.

During the time that some major changes were scheduled to take place in Central Health Stores, the government transferred both the Permanent Secretary and Deputy Permanent Secretary to other ministries. The loss of their informed support may have been the greatest factor in the loss of initiative in correcting problems in this management support system. The project's long-term advisor also completed his contract during this period, and his counterpart was temporarily diverted to other duties and therefore was unable to focus attention on supply system problems.

Recommendations for Further Development:

General supplies and equipment is likely the management area most needing future priority attention.

1. The MOH needs to develop a new strategy, perhaps beginning with a review of the "Six-month Action Plan for Improving the MOH General Supply and Equipment System," as outlined in the February 1983 consultancy report.
2. The RHDP suggests that key officials familiar with the history of the Central Health Stores should brief the Deputy Permanent Secretary on the long-time negative influence the Central Health Stores has had on the entire health care delivery structure at all levels. Perhaps he could give this a high priority for action, and, together with such persons as the Deputy Director for PHC Development, the Principal Finance Officer, and the Financial Management Systems Advisor, develop a new strategy for future action.
3. Such a strategy might include the appointment of a well-qualified Senior Storekeeper, with strong support to establish an efficient supplies procurement and distribution system. It might also include working with the Health Planning Unit to seek funding for a stores system consultant who could work with the Central Health Stores staff not only to set up an efficient central operation but to help design and implement an efficient distribution system for HSA hospitals and

health centers. Optimum time for such a consultant might be as long as eighteen person months.

Communications Management

Project Achievements:

The RHDP determined that a good radio communication system was the best solution for the extreme isolation of the health centers. Most have limited access to good roads, and very few have access to telephones. Nurses and nurse clinicians heading these centers need a personal support system, but better communication is also needed for supervising professional staff, procuring emergency supplies, and dealing with patient emergencies. The HSA concept calls for every health center to have two-way radio access to the parent HSA hospital.

The Mission Aviation Fellowship (MAF), which managed the Lesotho Flying Doctor Service (LFDS), operated its own radio network covering ten mountain health centers and the national referral hospital. With some project assistance, the MAF recruited a radio systems specialist, who made himself readily available for technical assistance, training of nurse clinicians, and training of radio technicians. The project contributed initial start-up funds for training two technicians and worked with the Health Planning Unit to obtain a UNDP radio training and systems development grant. This grant project subsequently assumed full responsibility for developing the radio systems network and for supplying radio equipment for about sixty percent of the hospitals and health centers. It also sent the two radio technician trainees to Australia for further specialized training.

The RHDP incorporated radio equipment operation and maintenance procedures into district and health center operations manuals. While the installation of radio systems has been a very slow process, chances are very good that steps now under way will bring results.

Strategies Followed:

Since donor assistance was clearly needed to obtain the necessary radio equipment, the RHDP made efforts to document the need for such resources. The RHDP periodically polled nurse clinicians about their management problems, and radio communication needs always topped their list of priorities. Each national and district management workshop included agenda items for identification of communication problems and for preparation of recommendations on how to resolve the problems. The RHDP asked the Health Planning Unit to give the matters of equipment needs and technician training a high priority.

Giving project support and cooperation to the efforts of the MAF resulted in a very helpful exchange of technical assistance on equipment and training. Incorporation of radio communications training into the nurse clinician curriculum helped develop a cadre of professionals knowledgeable in radio systems use and management.

Problems Encountered:

In January 1981, the Government Communications Ministry terminated all radio technician assistance to the MOH, thus leaving the MAF radio network as the only resource available to the MOH.

When the MOH, the MAF, and the project agreed that if the MAF could recruit a radio systems specialist, the project would pay his salary for training one group of technicians, the MOH could not supply trainees. As a result, the MAF had to absorb many months of costs for the trainer. When the MOH finally provided two technician trainees, they were available only part-time for several months, and the MOH was unable to provide space for training.

The UNDP radio equipment grant leaves a shortage of about fifty radios for covering all HSA hospitals and health centers. Some questions arose about compatibility with existing equipment and installation of complicated and cumbersome antennas.

Recommendations for Further Development:

1. Given the nature of the UNDP grant, continued surveillance on its compatibility with Lesotho's PHC development plans may be needed.
2. Immediate planning seems necessary to ensure assistance on the procurement and installation of the additional fifty radios needed to complete the HSA communications network. Also, the MOH needs to examine the question of whether sufficient radio technicians are being trained to allow for normal employee turnover.

Transport Management

Project Achievements:

Transport difficulties are a national problem in Lesotho, and overall responsibility does not fall within the MOH. The project had limited impact on the inherent problems of mountainous terrain and lack of roads and road maintenance, or on the vehicular repair performance of another ministry. Hence, primary project staff devoted their energy to areas where they could have an impact.

The project did make more efficient use of available transportation. For example, project staff scheduled NDSO drug supply orders and deliveries to HSA hospitals rather than to every health center; combined HSA supply deliveries with professional supervisory visits to health centers; used the Lesotho Flying Doctor Service to transport supplies to mountain hospitals; and scheduled professional visits to mountain facilities when the LFDS plane was to carry out its regular schedule. Deployment of staff and trainees was made via public transportation, and procedures were set up for reimbursing these costs. Use of the integrated PHC scheme reduced duplicate travel by government and NGO officials. Installation of a good radio communication network should further reduce the need for vehicular transport.

With the increase in the number of village health workers that nurse clinicians from the health centers had to visit and supervise, the need for horse transport became increasingly important. Some of the villages are two to six hours walking time from the health center. Documentation of this need resulted in such solutions as budgeting for purchase or rental of horses and for maintenance of the horses and offering riding lessons to the nurse clinicians.

Strategies Followed:

The achievements in transport management are primarily the results of innovative problem-solving, e.g., urging the health workers to seek their own solutions rather than waiting for the ministry or church to solve the problems for them and allowing services to deteriorate. Activities at each management workshop encouraged the participants to come up with solutions to their problems. Over time, the health workers seemed to have an improved positive attitude about the ability to get a job done. Also, in many cases, the communities came up with a solution for local horse transport and maintenance.

Transport issues are scheduled to become part of the follow-up program of the Deputy Director for PHC Development.

Problems Encountered:

A major study has been made of the national transport system, but why the government has not acted on it is not clear. The road conditions contribute to an extremely high repair rate. The government has budgeted for recurrent costs only for the vehicles it has purchased. No funds are available to repair the many donor-provided vehicles, leaving high percentages of the MOH fleet idle for months and years at a time.

Drivers are not well paid and have a poor reputation among the MOH officials. Peer pressure seems to contribute to a feeling of unconcern about the care and maintenance of vehicles.

Some of the supervisory tutorial staff have not had the opportunity to learn to drive, so the absence of a driver limits mobility.

Resolution of vehicle maintenance and repair problems could greatly reduce the problem of vehicle shortage. However, the MOH may still have a net shortage of vehicles for HSA supervision of health center patient care and for logistical support.

Legal allowances for horse purchase and maintenance are far too low to expect a worker to provide his own transport. A few persons have demanded exorbitant prices for horse rental.

Recommendations for Further Development

Perhaps a higher relative salary for drivers, linked to training and greater accountability for repair and maintenance, would help keep more of the MOH fleet on the road.

The MOH needs to address the problem of a recurrent budget for maintenance of donor-provided vehicles. Perhaps some donors could accept that the GOL cannot meet all of its recurrent costs, and could pay for comprehensive accident insurance or maintenance costs for the vehicles they provide.

The issue of standard allowances for horse rental fees and for employer purchase and maintenance of horses needs further study.

Continued improvements in the road maintenance system should incrementally reduce the transport problems. Eventually, when roads are open to all health centers, the MOH can consider discontinuing the more expensive LFDS. However, without resolution of many of the national transport problems, discontinuing the LFDS will be detrimental to the quality of health care services.

Management Training for Nurse Clinicians

Project Achievements:

The project's training component for mid-level health workers is preparing NCs to manage PHC at the community level, including training and supervision of the village health workers in their area. The nurse clinician trainees are all staff nurses with experience in rural areas. With an additional year of training, they become skilled clinicians in preventive, promotive, and curative services. However, their background does not prepare them for managing a health center, for supervising a health center team and village health workers, and for managing support systems to provide patient and community services. Therefore, the RHDP prepared a nurse clinician training curriculum that includes three sections designed to provide organization and management skills.

The "Primary Health Care" section prepares the NC to:

1. Define the concept of PHC
2. Describe the organization of health care in Lesotho
3. Define the role of the nurse clinician in the management of PHC

The "Working with the Health Team" section provides the NC with skills in:

1. Applying basic management principles
2. Leading the health team
3. Developing and planning work priorities
4. Evaluating team performance
5. Supporting team members in the performance of their jobs

The "Working with Support Systems" section:

1. Defines the support systems applicable to health center management
2. Outlines how the health team manages these support systems, including the daily operations of a health center and the completion of necessary forms and reports

The RHDP compiled this information into a Management Operations Series presented in three documents:

1. An instructors manual that includes task analysis tables, teaching plans for each unit, review question answers, and answer sheets for all class exercises
2. A student text with instructional material on each unit
3. A student workbook with class schedule sheets, student learning objectives, class work session exercise materials, and review questions

The RHDP prepared separate pre- and post-test questions and answers, but did not include them in the printed documents.

Just prior to their deployment to health centers, the NCs attend work sessions on practical applications of these management units. A Health Center Operations Manual is provided at that time. It includes descriptions of the health organizational network and the management support systems. It also has samples of forms and instructions for their use at the health center. An instructor's manual covers these pre-deployment work sessions, which last up to two weeks. This period is also used to brief HSA officials on their responsibilities to the NCs in the health centers and to establish working relationships and role responsibilities.

Strategies Followed:

Much of the training material is based on the MEDEX Primary Health Care Series, developed over a long period of time by The MEDEX Group at the University of Hawaii. Prior to their use in Lesotho, the MEDEX materials went through a curriculum adaptation process to make them applicable to the country and culture of Lesotho.

For the Management Operations Series, this adaptation took considerable effort, for almost no written policies, procedures, and guidelines existed. Hence, for the development of the materials on every management system,

workers had to be interviewed, drafts of procedures prepared, and approvals obtained from several levels of officials.

The RHDP determined that with so many of the management concepts new to the tutors, actual management practitioners should carry out the training. Originally, the Project Management Advisor conducted the training; later, his MOH counterpart assumed the responsibility. PHAL and MOH technical management specialists assisted in leading the practical work sessions. During this final phase, students practiced their management skills in such areas as supervising, scheduling work, operating radios, adjusting refrigerators, and carrying out drug inventory control systems.

A variety of teaching methods and learning experiences are incorporated into the training. The instructor discusses the student texts and lectures in class. Extensive use of role-plays, case studies, and other class exercises demonstrates management skills and involves students in management problem-solving.

When the tutors make field supervisory visits, they focus on management support issues in addition to health care and community health matters. They call problems that they identify to the attention of HSA officials and the Deputy Director for PHC Development.

Nurse clinicians are active contributors and participants in all HSA management workshops. During their periodic continuing education programs, efforts are made to include work sessions on management support issues. Information from these is used for both problem solving and further curriculum development.

Problems Encountered:

With few documented MOH policies and procedures, achieving a consensus on how operations were supposed to take place was sometimes difficult. However, staff members were remarkably open to accepting new management concepts if they appeared to improve services.

The mixture of government and NGOs in the PHC structure made specific instructions on operations impossible. This problem is a continuing frustration to the trainees, but they will have to be continually encouraged to apply and adapt their management skills to their work environment. Particularly frustrating to the nurse clinician can be the situation in which the owner of a PHAL health center is a mission official who has no special background in either health services or management. These people were encouraged to attend the HSA management workshops, but they did not always participate.

Lack of transport sometimes reduced the ability of the management advisers to visit HSAs and health centers to research management support problems. Delays in obtaining needed supplies and equipment for the newly deployed NCs sometimes handicapped their service activities.

Recommendations for Further Development:

While this report is an indication that the training materials may be quite adequate, not all of the management support problems were resolved at the time the materials were written. Hence, continuing efforts are needed to improve and update both the training materials and the operations manuals.

Special Issue: Integration of Government and Non-Government Health Organizations

Project Achievements:

The level of cooperation between government and non-government health-related organizations in Lesotho is remarkable. A general commitment to sharing existing resources, rather than competing for resources, has been relatively high. This has been achieved in the absence of a government subsidy for non-government health services, even in those health service areas where non-governmental organizations are expected to be accountable for most curative, preventive, and promotive services, as defined under the plan for reorganization of the health care delivery system.

Government HSA hospitals provide professional supervision and management support services for mission health centers (e.g., drug supply distribution). Mission-related HSA hospitals provide similar services for government health centers as well as for health centers owned by other religious denominations, for the Lesotho Red Cross (LRC), and for the Lesotho Planned Parenthood Association (LPPA).

The PHAL has included MOH and project officials in its working committees. The PHAL is shown on the MOH organization chart as an advisor to the Permanent Secretary and the Director of Health Services. PHAL representatives serve on all MOH primary health care development committees and are official members of the MOH advisory boards and committees at all levels.

The recent classes of nurse clinicians and health administrators have included proportionate shares of non-government and government workers. During the initial years, the project subsidized the salaries of the PHAL nurse clinician trainees. Where needed, it also augmented the salaries of PHAL health administrator trainees. In other words, strengthening the primary health care system meant strengthening both government and non-government sectors.

All of the management training workshops included full participation from NGO workers. The spirit of cooperation at these problem-solving workshops prevailed even during the discussions about delineation of HSAs among the different church-related health organizations.

This integration of government and non-government health organizations has all happened on an informal basis, for no formal contracts exist between the MOH and the NGOs.

Strategies Followed:

Project personnel were careful to treat MOH and NGO organizations as equal partners in the development of the rural health delivery program. This approach contributed greatly to the level of support and cooperation the

project received. Both government and private sectors had strengths and weaknesses and had much to learn from each other.

The PHAL, LRC, LPPA, and Catholic Relief Service had representation on all planning committees and on the task forces managing the training workshops. Their people were also well represented at each of the workshops.

PHAL hospitals first took the lead in developing nurse assistant training programs, initially funded by USAID as part of the RHDP. Both the PHAL and the MOH carried out early projects for demonstrating the use of village health workers.

Problems Encountered:

In a few instances, the RHDP did not effectively communicate the plan for a coordinated, integrated PHC delivery network to field workers. Evidence of this problem was the occasional competition for patients among neighboring MOH and NGO health centers and the resistance to referral of patients between the two sectors. However, mutual efforts were made to correct this problem. A strong emphasis on the use of a uniform personal health care record, kept by the patient for use when receiving care from any health provider, assisted in alleviating this problem.

One mission-related hospital covertly opposed cooperation in the plan for integrated health service areas. Most of the NGOs paid lower salaries than the MOH. They reported staffing shortages of nurses and nurse assistants because of this salary differential.

The problem that dominated most cooperative planning was the PHAL contention that they could not continue to operate without a government subsidy, particularly if they were to assume broader community health and health center supervision responsibilities under the HSA concept. Until this matter can be resolved, full implementation of the PHC plan will be extremely difficult. The MOH raised false hopes about the subsidy on several occasions. In 1982, rather bitter negotiations broke down over the

matter of whether PHAL nurses and nurse clinicians to be subsidized by the MOH should be on the government payroll.

The GOL made an early policy decision that in lieu of individual church-MOH agreements, the MOH and the PHAL should reach a master agreement. The GOL asked the project staff to develop a working document for such an agreement, but because of the subsidy issue no action was taken to review the document until 1982, when the PHAL executive director showed some interest in it. The PHCAC reviewed and edited the document, but the PHAL board refused to consider it until the subsidy issue was resolved. The PHCAC also asked that related LRC and LPPA documents be drafted. This has been done, but no action has been taken on them.

Because of the many diverse administrative practices among the NGOs, no one attempted to develop operations guidelines specific to every NGO. Perhaps, as time goes by, management practices will become more uniform; for the present, operations manuals include specific references to government procedures, together with guidelines on recommended management practices for both the MOH and the NGOs.

Recommendations for Further Development:

The outstanding issues are resolution of the government subsidy matter and of the official working agreements between the MOH and the PHAL.

The government appears to have a special obligation to provide a subsidy; other South African countries provide ample precedent for doing so. The government has responsibility for the general health and welfare of the entire population. However, it is in a difficult position to set standards for PHAL facilities, to request information on PHAL health activities, and to insist that PHAL organizations provide additional PHC services when no public funds are involved. In some instances, PHAL facilities provide a rather narrow range of services and have deficient staffing patterns and inadequate fiscal accountability. In other instances, however, they provide quite a superior quality of services. But a MOH-PHAL working agreement can provide for the mutual development of standards for the scope

and quality of services, as well as delineate clearly what the government and private sectors should expect of each other when cooperating on an integrated health care delivery system. It can also specify how the NGOs can routinely communicate and coordinate efforts with the Permanent Secretary, Deputy Permanent Secretary, Director of Health Services, and Chief Planning Officer.

Since the LRC and the LPPA are not members of the PHAL, related agreements are appropriate for them.

PLANNING

Health Information Systems Development

The development of an adequate health information system is a necessary precondition for the implementation of a planning system within the Ministry of Health. Decision-makers need access to recent information on disease patterns, mortality, morbidity, and service delivery.

Incorporation of the Statistics Section into the Health Planning Unit

Project Achievements:

In order to facilitate the linkage between the planning and information systems, the MOH has incorporated the Statistics Section into the Health Planning Unit. Previously the Statistics Section was autonomous; because of reliance on Bureau of Statistics staffing, it served primarily as a source of data for the Bureau. Officials within the MOH used only limited information for planning purposes. No feedback systems existed to return information to health workers in the field. Inclusion of the Statistics Section within the Health Planning Unit encourages the reporting of information in formats appropriate for planning purposes and encourages planning systems that build from a solid base of reliable data.

In a further attempt to integrate the planning and statistics functions within the Unit, the project has sponsored MPH-level training in the United

States for one HPSU staff member. This trainee has included in her studies both planning skills and data processing skills. Since her return in December 1983, she has helped with the integration process.

Strategies Followed:

The MOH incorporated the Statistics Section into the Health Planning Unit in 1979, early in the life of the project. The MOH undertook this change in response to suggestions concerning structural revisions in the organization of the project.

Problems Encountered:

The staff of the Statistics Section continue to be employees of the Bureau of Statistics, even though the office is now located within the Health Planning Unit and the Senior Health Planner is now their supervisor. This personnel arrangement encourages a continuing bias toward statistical analysis rather than planning feedback systems. It also encourages the repetitious reporting of broad data only rather than the reporting of information that is more specific to project and program evaluation and more relevant to planning and decision making.

The continuation of Statistics Section personnel as employees of the Bureau of Statistics also discourages training efforts. Donors interested in supporting the development of health services are hesitant to initiate training for Bureau staff who are at risk of being transferred out of the MOH.

Statisticians from the Bureau, with no training in health, often have less appreciation of the needs of staff on the planning side of the unit, who are routinely involved with service delivery issues.

Recommendations for Further Development:

The GOL should transfer the positions within the Statistics Section that are currently listed with the Bureau of Statistics to the Ministry of

Health and add them to those positions listed with the Health Planning Unit. Since the staff currently filling these positions have already received considerable training, the MOH should encourage them to remain in these positions.

In particular, the MOH should ensure a permanent position on the Establishment List for the planner who has recently returned from project-sponsored MPH training.

Eliminating the inappropriate separation of statistics from planning will facilitate the rationalization of the planning unit along topical lines (e.g., facilities, manpower, finance).

Improvement of Health Data Collection

Project Achievements:

The HPSU has rewritten and updated the Health Information Manual. Health workers in the field use this manual to guide them in the periodic completion of data collection forms. Instructions in the manual help to prevent such common problems as double counting, under counting, and incorrect categorization.

HPSU staff have visited most of the hospitals and many of the health centers, both government and privately owned, in order to identify data compilation problems and information feedback needs. They have used the notes gathered during these visits to design a workshop to review data collection and feedback processes.

Strategies Followed:

The HPSU has emphasized the collection and distribution of information most relevant to the improvement and expansion of health services. The Statistics Section needs data reporting requirements of international agencies and the

Government of Lesotho, but emphasis has now shifted to program managers and field staff making better use of information. HPSU staff conducted a series of workshops to gather input at this level.

Problems Encountered:

Donors and international agencies press for information in formats or on subjects that have little relevance to decision-makers within the MOH. Meeting these needs requires considerable manpower resources.

Exactly how to categorize a specific patient visit is often a problem for field staff. Inappropriate categorization diminishes the utility of the reported data. Continuing consultations between service providers and planning unit staff will diminish this problem.

Recommendations for Further Development:

The Health Planning Unit should initiate a system of regular communication between service providers and Statistics Section staff. Such a system might include:

1. The use of the postal service as a medium for consultation on specific types of categorization problems
2. Annual workshops to ensure periodic input from field staff and program managers
3. Continued periodic Statistics Section staff visits to hospitals and health centers in order to observe on-site data collection problems

Computerization of the Processing of Health Data

Project Achievements:

The Statistics Section acquired two desk-top personal computers to speed up the processing of disease frequency information. Previous hand-processing

methods, within the Statistics Section and at the Bureau of Statistics resulted in long delays in reporting. Printed information was often three years out of date. This outdated information prevented any appropriate epidemiological response and made planning efforts a matter of intuitive guesswork. After computerization of data processing, health workers in the field and decision makers at MOH headquarters receive reports within thirty days of the end of the reporting period.

Strategies Followed:

With funding assistance from UNICEF, the MOH purchased electronic data processing equipment. The project provided technical assistance. The hardware included two TRS-80 model III's, a printer, and an uninterruptable power supply. The cost of this equipment was less than US \$10,000. The RHDP purchased training and software development services through a contractual relationship with CARE/Lesotho, and arranged additional training through the WHO and USAID-supported courses at the University of Connecticut.

Training included a seminar for the Senior Health Planner in the use of computers in health, course work for the head statistician in systems management, and instruction for the four data clerks in data entry skills.

Problems Encountered:

The successful computerization of information processing has attracted interest both from other potential users and from other donors. Additional donor assistance will allow the hardware configuration to expand into new applications (management systems, program evaluation). Potential problems will arise if this expansion responds primarily to the availability of donor funds rather than to prioritized needs.

Staffing of the data processing installation continues to depend on the one-third time (33 percent FTE) presence of an expatriate advisor, primarily for software development.

As the MOH staff becomes increasingly aware of the potential the computer system offers, demands for management information services begin to compete for computer time with ongoing health information services.

Recommendations for further development:

The Health Planning and Statistics Unit, in consultation with the Permanent Secretary and other units within the MOH, should develop an outline of the planned development of the data processing system. The outline should identify the relative priority of applications, resources needed in order to accomplish these applications, and an approximate time frame for achieving these goals. The HPSU should distribute the outline to interested donors. The MOH should resist offers of support that are not consistent with the approved outline. In particular, it should delay support for expensive and innovative applications until more basic systems (feedback, finance, personnel, stores) are in full operation.

Training for local staff, particularly at the systems development level, should continue. Whenever possible, the training should use existing software packages. Familiarization of higher level MOH staff with the capacities of the system should continue. Increasing familiarity will ensure the use of the system in a manner consistent with broader MOH objectives.

Other units of the MOH that use or will use computers for their information processing should be encouraged to obtain their own computers after having designed and tested their system on hardware in the Statistics Section. A number of small disconnected but compatible units would be sufficient to meet the needs of the immediate future (e.g., the next five years).

Processing and Reporting of Health Services Information

Project Achievements:

Each hospital and health center now completes periodic reporting forms and sends them to the central MOH offices. These reports cover the following types of information:

1. Outpatient Reports for thirty-seven disease categories for hospitals, health centers, and outstations, both government and private
2. Inpatient Reports, including information on diagnosis, mortality, and length of stay, for each hospital discharge at both government and private hospitals,
3. Maternal and Child Health Reports, including information on family planning services, antenatal visits, and nutritional assessment, for all health centers and hospitals regardless of ownership,
4. Other reports, such as equipment inventory and personnel reports

The Statistics Section processes and reports this information in formats appropriate to one of the following three types of recipients:

Health workers in the field--The Statistics Section mails quarterly reports to all hospitals and health centers. These reports summarize the disease experience at that facility for each month of the last quarter and compare that facility's experience to district and national figures for the same quarter. Unusually high proportions of attendances recorded within any disease category result in a notation to the health worker. An accompanying cover letter includes summary comments on epidemiological and statistical issues.

2. Decision-makers at central MOH headquarters--The HPSU has distributed health data books to a dozen or so MOH officials at levels of unit head or higher. The data books include information on outpatient services, inpatient services, MCH, nutrition, immunization, manpower deployment, financial expenditures, and facilities. The data appear in a variety of formats (by facility, age, disease). The data book is a loose leaf notebook so the official using it can easily update and expand the information.
3. External agencies--The HPSU prepares reports periodically for WHO and the Bureau of Statistics (GOL).

Strategies Followed:

Revisions to the information system share the common priority of addressing the needs of service providers and addressing the needs of decision-makers. The Statistics Section attempted to simplify reports to field workers. Reports to central level decision makers include greater amounts of information in greater detail. In both cases, timelines of information is an important objective.

Problems Encountered:

The collection of inpatient and outpatient information occurs with relatively few omissions. Field workers are increasingly reliable at collecting and sending data forms as they begin to receive feedback in return. Collection of MCH information and, in particular, information on childhood nutrition has been less successful. Collection of this information has been the responsibility of the MCH Unit rather than the Statistics Section.

The current bottleneck occurs during the hand processing that is required after the reporting forms arrive at the Statistics Section and before they are entered into the computer. The recent development of inexpensive (\$600) notebook-sized portable computers has led to suggestions that all facilities use these computers to record service information on mini-cassette tapes that they can mail to the Statistics Section for direct entry into the computer without hand processing.

The MOH has invested considerable effort in attempts to coordinate government and private agency collection of information on childhood nutrition.

Recommendations for Further Development:

The format for returning information to the field staff, particularly the health center nurses, needs to be simplified. Graphics could emphasize the most important comparisons. Reports to health centers should include special situation messages concerning, for example, a noteworthy increase in a particular disease category.

The Statistics Section may be better qualified to collect MCH information than the MCH Unit. Developing easily used forms, providing training in the use of these forms, and collecting and reporting the information obtained, are all activities that are consistent with the work of the Statistics Section and that integrate poorly with the other responsibilities of the MCH Unit.

Efforts to coordinate governmental and private collection of nutrition information should continue and expand to include those agencies involved in the distribution of long-term food aid and short-term drought relief.

Any effort to supply hospitals and health centers with small computers for data collection should begin only on a limited trial basis at selected hospitals, and only when the Statistics Section has sufficient staff time to guarantee necessary on-site training and support.

Reorganization of the Health Data System According to HSA Delineations

Project Achievements:

By storing and reporting data according to HSA delineations, the health information system reflects and supports the decentralization of the delivery system into health service areas.

Strategies Followed:

The MOH accomplished this reorganization only after the completion of the delineation process. This process occurred at sessions at each of the district workshops. Attendees discussed and decided which health centers were to be associated with which hospitals.

Problems Encountered:

This process was slow and rather cumbersome. Reporting according to the new format was not possible until the series of workshops had been completed.

Recommendations for Further Development:

Reporting should continue to occur on the basis of HSAs in order to further institutionalize this new concept.

Training of MOH Staff in Data Processing Skills

Project Achievements:

Participant training specific to the health information system includes the following.

1. Six data clerks have been trained on site for data entry and computer operations. Four of these clerks are members of the statistical section; the remaining two are from the personnel and finance units, respectively.
2. The chief statistician has been trained in an eight-week course in Computer Management in Developing Countries, at the USAID-supported University of Connecticut Institute for Public Service.
3. A planner/biostatistician completed training for an MPH degree. Her studies emphasized biostatistics and electronic data processing.
4. The Senior Health Planner attended a WHO-sponsored course in the use of computers in ministries of health in the developing world.

Strategies Followed:

Discussions early in the process identified three types of skills required by a computerized health information system. These are: (1) data entry and computer operation, (2) systems development/programming, and (3) systems management.

The RHDP accomplished the first type of training, data entry and computer operation, on site. Entry clerks are able to continue repetitive entry and reporting functions for weeks without assistance from systems development and management staff.

The RHDP has partially met the need for systems development and programming skills through on-site instruction in BASIC for the Chief Statistician and the return of the project-sponsored MPH student.

The RHDP has achieved systems management training through the WHO-sponsored course and the University of Connecticut course.

Problems Encountered:

More training is required at the second level, systems development and programming. Expatriate assistance in this area should decrease at the same time that the variety of applications increases. This increase will require additional programming skills and systems development skills.

Recommendations for Further Development:

In order to meet the previously mentioned need, the GOL should transfer programmer(s) from other ministries (i.e. treasury) and create (an) Establishment List position(s) to accommodate this move. Alternatively, the MOH could provide the Chief Statistician with additional training in programming and software selection; however, his increasing management responsibilities make this alternative less attractive.

Technical Cooperation between Developing Countries: Coordination with Swaziland, Botswana, and Malawi

Project Achievements:

Swaziland has established a similar health information system, and one is under discussion for Botswana and Malawi. The system in Swaziland relies on much of the software developed in Lesotho. This reliance has resulted in

considerable time and cost savings for that USAID project. Electronic communications between the two systems is possible at minimal cost--a few hundred dollars--should a significant need arise.

Strategies Followed:

Discussions underway with Botswana and Malawi could result in extension of the system to those sites, again at a considerable savings. By sharing the software development/training advisor with Swaziland on alternate months, the Statistics Section in Lesotho not only is able to achieve compatibility with neighboring countries but also has the opportunity to operate without expatriate technical assistance during alternate months.

Problems Encountered:

Although cooperation between these countries provided short-term cost savings and long-term planning advantages, all parties should resist tendencies toward excessive standardization. Standardization is technically feasible but conflicts with the higher priority of designing systems to meet the specific needs of decision-makers and field-based health workers in each country.

Recommendations for Further Development:

The current level of cooperation should continue and should be nurtured through exchange visits between the staffs of the planning units in each of the countries. Such visits would be particularly valuable at this point, and USAID or another donor should support them.

Management Information Systems Development

The availability of basic management information is a pre-condition for the implementation of improved management and planning systems. Current information on the number and type of employees, on expenditures, and on existing levels of equipment is required in order to identify problems and monitor their solutions.

Personnel Lists

Project Achievements:

Storage of personnel (establishment) lists on computer disks allows for better management of personnel services, salary distributions, and budget projections.

The MOH has nearly 2,000 employees. The Personnel Unit within the MOH has responsibility for maintaining an up-to-date list of these employees, their current salary levels, and deployment. Manual processing has proved inadequate for identifying duplicate names, removing names at retirement or death, and reporting summary information for budgetary and other purposes.

Disk storage facilitates the updating of information and allows better methods of verifying the accuracy of the list. Including annual increment dates makes possible the projection of personnel costs for the following fiscal year. In the past, this task has consumed much time during the annual budget preparations.

Easily available personnel information enables the health planning staff to undertake more specific forms of manpower planning.

Strategies Followed:

Statistics Section staff met with the MOH personnel officer in order to identify objectives and design an appropriate system. The Statistics Section trained clerical staff from the personnel unit to enter the data in order to maximize the involvement of the personnel unit in the process.

Problems Encountered:

Because of the increased capacities of the computerized Statistics Section and the unusually high competency of the health planning staff, the MOH has a tendency to reassign responsibilities from other units to the Health Planning and Statistics Unit.

Recommendations for Further Development:

Management of the personnel information system should remain a responsibility of the Personnel Unit, with the Statistics Section staff providing only hardware and systems design assistance.

The HPSU should expand this newly implemented system to provide periodic reports to district level health officers.

Financial Information System

Project Achievements:

The Statistics Section enters each expenditure for the fiscal year into disk-based storage. This information has been reported by category and facility. Using this information, the MOH for the first time is able to budget funds for the coming fiscal year by both district and category. This revision supports the decentralization objectives of the MOH and the project. The Chief Accountant reviews expenditure reports as they arrive during the year in order to alert fiscal officers in advance of accelerated expenditure patterns.

The availability of better financial projections will allow the planning unit to better assess the impact of proposed program initiatives or alterations, such as the financial impact of additional health centers or the expansion of hospitals.

Strategies Followed:

The disk-based information storage represented the first time that the MOH had collected data by district as well as by budget category. Presentation of this information in comparative formats allowed the MOH to prepare budget projections by district, again for the first time.

Problems Encountered:

Budget projections are based on only one year's expenditures. Considerable readjustments will be required.

Recommendations for Further Development:

The MOH should use preliminary expenditure information as a base for projecting costs into the future. These projections should serve as the basis of a financial planning system that ensures the MOH is using resources in a manner consistent with PHC objectives.

Each proposed alteration to the delivery system should include some measure of financial impact before being approved. In particular, no one should undertake the construction of new facilities without assurance that the government will be able to provide the additional personnel and other recurrent costs.

Support for Evaluation and Research

Project Achievements:

The Health Planning and Statistics Unit has provided design and processing support to a number of independent evaluation and research projects that the MOH staff has conducted on topics such as nutrition, tuberculosis, and community health.

The HPSU is also using the word processing capability of the computer equipment for the preparation of donor proposals and project reports.

Strategies Followed:

These achievements are spin-offs of other efforts and are not the result of any identifiable strategy.

Problems Encountered:

These types of service are very popular, and, as the capacity becomes better known, demands increase.

Recommendations for Further Development:

The Senior Health Planner should coordinate requests for these types of service.

Manpower Planning

Prior to the accomplishments discussed in this section, manpower information within the MOH was unreliable and organized in formats that were incompatible with the needs of both short-and long-term planning. Manpower planning efforts commenced with a deployment study that summarized the current staffing patterns. Then the HPSU prepared a manpower plan that projected needs and discussed cost effective means of meeting these needs.

Manpower Deployment Study**Project Achievements:**

The HPSU completed a manpower deployment study in 1982. Staff gathered data through the use of both interviews and mailed questionnaires. The deployment study identified employment by facility for forty professional cadres and categories in both government and private sectors. The study also included MOH headquarter units and village health workers.

The report of this study focused on the deployment of doctors, nurses, nurse clinicians, nurse assistants, ward attendants, and village health workers. Analysis of these cadres by catchment population identified those areas that are underserved in comparison with the rest of the system. The report listed health centers by qualifications and extent of staffing. It also included comprehensive base data for nursing cadres.

Strategies Followed:

Very little data existed when the study began. The HPSU gathered initial data through the use of a questionnaire that a committee of MOH and private sector representatives had reviewed and approved. Considerable follow-up through both mail and site visits was necessary to complete the data base.

Whenever possible, the HPSU confirmed data against partial data bases that organizations in the private sector or other units of the MOH had collected. Summary information was reported according to appropriate formats and distributed to the MOH manpower committee for review and comment.

The report of the deployment study served as a resource document from which the HPSU generated the manpower plan and other planning efforts.

Problems Encountered:

Collecting manpower deployment data from scratch is an enormous effort. Repeating this process every few years probably requires a greater investment in resources than maintaining an up-to-date personnel listing.

Recommendations for Further Development:

The MOH should revise the personnel information system discussed previously, in order to provide the Planning Unit with necessary manpower information. This could be accomplished easily by adding data on specific sites--in order to differentiate between hospital and health center employees within a district/HSA--and by adding data that more specifically identify the profession.

The Health Planning Unit should begin discussions with the private sector in order to establish a comparable personnel listing of health workers in the private sector. This listing would be a valuable service to the PHAL and would facilitate manpower

Completion of a Manpower Plan for the Health Sector

Project Achievements:

The manpower plan examines health sector staffing, including both the private and public sectors. The plan assigns primary attention to the following four cadres: (1) doctors, including specializations; (2) nurses, including various levels of qualifications and specializations; (3) hospital administrators; and (4) laboratory technicians.

For each professional cadre, the plan reviews the current staffing constellation and predicts staffing needs five years hence--ten years for doctors--after considering projected attrition rates and population growth. It details training needs for each cadre and, in most cases, suggests training sites and schedules. Throughout the document, projections and recommendations are scaled to meet the resources and Establishment List positions that are expected to be available.

Some of the most important recommendations include the following.

1. For nursing in general: That the MOH establish a new cadre of assistant nurse midwives to supplement the work of doubly qualified nurses and nurse clinicians (current projections of a rapid expansion of facilities and limited funds for personnel will require a more cost-effective approach to nurse staffing)
2. For nurses: That the major referral hospital offer competency-based training in anesthesiology, surgical theatre skills, and psychiatric nursing for nurses from district hospitals
3. For doctors: That doctors returning from basic medical training receive both adequate district experience and supervised service at the central hospital before the MOH nominates them for specialized training abroad

Strategies Followed:

Using the deployment data as a base, the HPSU compiled the manpower plan primarily from interviews with key informants. Often, the interviewing processes served to bring informants into consensus on the resolution of some commonly defined manpower issue. In such cases, the document reflected such an agreement. In every case, recommendations are oriented to implementation and emphasize recurrent cost impact.

The plan includes an action summary that lists recommendations, suggests the basic steps involved in accomplishing each recommended change, and identifies an appropriate agent to assume responsibility for implementation of each recommendation.

Problems Encountered:

Manpower planning within the Ministry of Health has not received sufficient attention. Construction of new facilities, expansion of existing facilities, and commitment to the private sector continue without adequate consideration of the manpower implications. The MOH provides additional training as donor funds become available, without projecting the impact in terms of recurrent costs or the availability of Establishment List positions. Manpower has been the least planned component of the government health delivery system. This lack of planning is a particular problem in a ministry that uses such an unusually high percentage of its recurrent budget for salaries.

In the past, coordination between the MOH and the Cabinet Personnel Office has been inadequate. Cabinet personnel have had little understanding of the increased numbers of employees required to expand health service coverage and decentralize administration.

Recommendations for Further Development:

The highest levels within the MOH and Cabinet should review the manpower plan, revise it if necessary, and approve it. Then, the MOH and Cabinet personnel should use the approved document as a basis for regular revisions. Each

proposed construction and training should include a description of its effect upon the existing manpower. As the MOH and Cabinet personnel approve each proposed construction or training, they should revise the appropriate chapter of the manpower plan to reflect the new commitment. Such a process would require: (1) packaging the manpower plan in a looseleaf notebook format for easy alteration, and (2) designating a member of the Planning Unit staff as responsible for ongoing manpower analysis. The manpower specialist would review each new proposal using a prescribed format in order to describe the annual impact on recurrent costs and Establishment List positions. The designated manpower planner would also serve as liaison between the MOH Planning Unit and Cabinet personnel. Such a liaison would serve both offices well. The Permanent Secretary should assume responsibility for implementation of the recommendations approved in the plan and require periodic progress reports from the designated agents.

Planning Committees and Boards

Lesotho is a country with a strong history of consensual decision making at the community level. Participation is good in both decision-making and community health activities.

Framework for Health Planning

Project Achievements:

With RHDP assistance, the MOH has designed a pyramid of committees and boards to facilitate participation at every level in the national health planning process. This system, commonly referred to as the Framework for Health Planning, has cabinet-level approval. The framework consists of:

1. Village Health Committees that serve as subcommittees of the Village Development Committees
2. Health Center Committees that bring VHWs, Village Development Committee representatives, and other community members together with health center nurse clinicians

3. HSA Boards that represent the community included in each hospital's service area
4. District Health Boards that serve as subcommittees of the district development committees and coordinate the work of the HSA Boards with district level administration
5. The National Health Council, chaired by the Minister of Health, that has responsibility for adopting an overall health policy for the country

The HPSU is currently initiating HSA Boards according to an implementation schedule adopted by the Health Planning Unit. Health Center Committees are in operation at selected sites, usually at those health centers that NCs staff. At this point, Village Health Committees serve primarily as ad hoc committees of the Village Development Committees and meet only on demand. District Health Boards meet on demand and usually informally to respond to specific issues. The National Health Council remains in the planning stage and will not be functional until lower level committees are able to select representatives. In the meantime, the Primary Health Care Action Committee (PHCAC) is meeting many of the functions of the National Health Council. As its name implies, this committee is more implementation-oriented than the policy-oriented National Health Council. The PHCAC is also broadly multisectoral, including representatives from other ministries and the private sector. In fact, the PHCAC may be the most appropriate body for the current phase of primary health care implementation in Lesotho.

Strategies Followed:

The staff of the Health Planning Unit, which serves as secretariat to the Primary Health Care Action Committee, developed the "Framework for Health Planning." After the Permanent Secretary and the PHCAC reviewed it, the proposed framework went to the committee of permanent secretaries and then to the cabinet.

At each of the district workshops discussed in the following section on Decentralization and Reorganization, the Senior Health Planner presented the

Framework for Health Planning. Small group discussions followed the discussion and raised questions particular to that district.

The Health Planning Unit has developed proposed implementation strategies, particularly for the HSA Boards. These strategies describe the role of the planning unit staff in the initiation of these boards, appropriate training material, and a proposed time schedule. The Senior Health Planner is currently reviewing the implementation strategy.

Problems Encountered:

A lack of staff resources within the unit has delayed the actualization of these implementation strategies. The demands of donor relations, facility planning, and other activities have postponed the initiation of the full planning framework.

Recommendations for Further Development:

The Health Planning Unit should focus its initial implementation effort on the establishment and support of HSA Boards. The entire framework is too large for a unit that is already suffering from a severe staff shortage. Of all the levels included in the framework, the HSA level has the greatest potential for organized and relevant input into the national planning process. It is also the level most essential to the decentralization scheme of the MOH.

Support of the HSA Boards should involve the entire professional staff of the Health Planning Unit, including the Statistics Section staff. This support is necessary because of the amount of work and travel involved in establishing and supporting the HSA Boards. This support will ensure each of the staff members a better understanding of the service delivery problems that exist in the field. It will serve the HSA Board members by providing them with a continuing contact to assist them in their business with the central offices of the Ministry of Health.

Decentralization and Reorganization

Decentralization is an important policy of the government of Lesotho. Implementation of this policy has commenced in many ministries but is most advanced in Health and Agriculture. The project wrote support for the decentralization process in Health into the early project papers, enabling the MOH to take the lead in this area.

Dividing the Health Delivery System into Health Service Areas

Project Achievements:

Each HSA consists of one hospital and the health centers most logically assigned to its service area after consideration of geographical and demographical issues. Health centers and hospitals are matched without regard to ownership so that in some cases government hospitals supervise private health centers. In other cases, private hospitals provide supervision to government health centers.

Previously, ownership determined supervision patterns. Privately owned health centers received medical supervision and supplies from the closest hospital of the same religious denomination, even though that hospital might be located at the other end of the country. The reorganization is very much a rationalization of the delivery system according to geographical determinants.

Strategies Followed:

The reorganization took place during a series of workshops at the district level. Each workshop included representatives from each of the health centers and hospitals in or adjoining the district, as well as other local officials. The Senior Health Planner presented the basic rationale for the process; then the Statistics Section staff led the group in discussions that resulted in the delineation of HSAs falling within the district.

At each workshop, the Senior Health Planner and the Director of Health Services described how the new system would work. They presented planning,

administration, and medical supervision issues, and the participants discussed these issues in smaller working groups.

Problems Encountered:

The reorganization has gone well, except in those areas requiring funding. For example, medical officers at private hospitals are willing to provide medical supervision to health center staff within their HSA but insist on reimbursement for the cost of gasoline. Government health centers are willing to depend on private hospitals for drug and non-medical supplies, but, not surprisingly, the privately run hospitals expect government reimbursement for the costs accrued in supporting government-owned health centers.

Recommendations for Further Development:

The Ministry should identify a donor able to supply funding to meet administrative costs during the transition to the HSA system. These additional and temporary funds would allow the government to meet the financial needs of the private sector during the integration processes. Such funding should be accompanied by the development of a plan for restructuring of the fee and expenditure patterns in order to assure that a self-supporting system is in operation when transitional funds are exhausted. This approach is necessary to assure the integrated and decentralized delivery system envisaged in the RHDP project papers.

Technical Assistance in Donor Relations

The Health Planning Unit directs much of its work toward continuing consultations with donor agencies. Generally, the health planning staff monitors funding and assistance from these agencies.

Providing Various Levels of Assistance and Consultation to Donor Teams

Project Achievements:

Working together with the Senior Health Planner and other members of the Health Planning Unit, the planning advisor assisted with the initial consultations, proposal preparation, and proposal revisions on a number of donor projects, including: (1) a WHO document on PHC in Lesotho, (2) the UNCDF Rural Health Radio network, (3) a World Bank/IDA proposal, (4) a Control of Childhood Communicable Disease project, and (5) other voluntary agency and bilateral assistance projects.

Strategies Followed:

Donor relations are a major responsibility of the Health Planning Unit. Ensuring provision of donor assistance in a manner that is consistent with the overall plans of the MOH and with existing projects is important.

Problems Encountered:

Donor relations are a time-consuming, though necessary, activity and often compete with the other planning responsibilities of the unit.

Recommendations for Further Development:

The MOH should increase the staff of the Health Planning Unit to reflect its multiple roles in donor relations, planning, and information processing.

The HPSU should sensitize donor groups to the fact that staff members within the Health Planning Unit do indeed have multiple responsibilities and may not be able to devote weeks of time to each donor visit.

NURSE CLINICIAN PROGRAM DEVELOPMENT

Before 1980, district hospitals and health centers scattered throughout rural Lesotho provided health care services to rural populations. Double-qualified nurse midwives staffed the health centers. These nurses handled routine health problems and referred complicated or unresponsive cases to the district hospitals. The nurses were often asked to make diagnoses or to provide treatments for which their training had not prepared them. The doctors who supervised the nurses were too busy to give adequate guidance. Conflicts between what was required of nurses by the community and what was officially thought to be best for the community made their jobs even more difficult. The rural population was often not getting the health care it needed or thought it deserved.

In an effort to give better health care to remote populations, two hospitals pioneered the VHW program in 1975; a third was started in 1976. The philosophy common to these VHW programs was that health care requires the participation of the people themselves. In these programs, villagers were asked to nominate a VHW to be trained to provide preventive and simple curative care. The job of the VHW was to discuss health care and hygiene with the villagers and to encourage people to seek medical help before an illness became too entrenched, to obtain immunizations, and to attend special clinics at the health center. The programs' success and the interest expressed by other hospitals in starting similar programs led the MOH to plan a national workshop to develop guidelines for VHW programs. Inclusion of the VHW concept in the proposed Lesotho Rural Health Development Project for training nurse clinicians spurred added interest in the workshop.

The human resource development component of the RHDP, administered by The MEDEX Group of the University of Hawaii, concentrated on training NCs for rural health centers and systematizing the training and utilization of VHWs. The project was carried out in two phases. Phase I began in March 1979, and involved planning the training program for PHC workers and the development of the materials to be used for training. In January 1980, the RHDP sponsored a curriculum adaptation workshop attended by representatives

of local and international health organizations. Workshop participants completed a careful and detailed analysis of the job requirements for PHC workers at the rural health center level. The result was the adaptation of the early drafts of the MEDEX Series prototype materials to suit the needs and resources of NCs in Lesotho. Participants also recommended the preparation of additional materials to cover such topics as mental health and community gardening. A national committee was set up to develop guidelines for materials for training of VHWs.

Phase II focused on the training of PHC personnel and the implementation of the PHC support systems. The training of NCs began in September 1980. Nurses from twenty-two health centers attended the first fifteen-month class. Two more classes have now graduated, bringing the total of trained NCs to 55, all deployed to rural health centers. Class IV started in March 1984.

Training of Nurse Clinicians

The nurse clinician training program is divided into three areas: clinical, community, and management. The subjects are divided into modules, each covering a specific topic. For example, one clinical module covers the genitourinary tract.

The philosophy of the training program is competency-based training and community participation. The program carefully integrates theory and practice. In clinical study, instruction begins with a pretest to determine each student's level of knowledge. Instructors can then give special attention to unfamiliar topics or to individual students. Anatomy and physiology are taught on a "need-to-know" basis, followed by discussions of diseases common to Lesotho. Students participate in audiovisual presentations and in-class demonstrations with patients before visiting the hospital wards to see patients with the diseases being studied. After they complete a related block of modules, NCs visit the district hospitals where, under the close supervision of physicians and tutors, they take patient histories, perform physical examinations, make diagnoses, and begin functioning as part of the health team.

The community component of the training program is designed to prepare the NCs for work in the rural setting. Each student's time is divided between classroom and community experience. The NCs learn to recognize environmental factors and traditional practices that affect good health and to improve detrimental environmental factors with community help and resources. The NCs also learn how to determine the need for and to train and support new and existing VHWs.

The management component first teaches the NCs how the health care system is organized in Lesotho, including the composition and role of the health team and the major administrative and support systems of the MOH. Following this, the students learn the skills needed for the day-to-day management of a health center. Included are developing and planning work priorities, supervising team members, completing necessary forms, and solving problems related to support services such as transportation and drug supplies.

All of the above skills are put to use when the NCs go for an additional practical learning experience supervised by a training team in the rural health centers to which they will be assigned after graduation. During this part of the training the NCs perform all management duties, plant a garden, survey the health problems in the area, and analyze the need for VHWs. The NCs also perform patient care duties. They carry out all aspects of the practicum under the supervision of a doctor and the training team that consists of a graduate NC, members of the HSA health team, and RHDP staff members.

NCs are continually assessed during their training. Upon satisfactory completion of tests and demonstration of acceptable competency at specified skills, each candidate sits for a final examination of three parts: written, clinical, and health center. Evaluation continues after graduation in the form of visits from the support health team. The educational process continues through a strengthened continuing education program. Monthly visits from the health team, bimonthly newsletters, and annual seminars comprise this strategy. In addition, after graduation, NCs continue to use some of their training materials: a Clinical Reference

Manual to consult for diagnoses and treatment of disease, a Health Center Operations Manual to help with management of the center, and a Community Reference Manual and a Workbook for Village Health Workers to aid in community health education and VHW training.

Evolution of Training Materials

The MEDEX Series prototypes initially formed the basis for the training materials for NCs. The prototype materials contained program development manuals; community health, basic clinical, maternal and child health, and health center management modules; and reference manuals. Each prototype module had an Instructor's Manual and a Student Text. The Instructor's Manuals gave teaching plans and answers to the review questions and exercises from the Student Text. Suggested visual aids were described and sample narratives given. The Student Texts contained task analysis tables outlining the tasks related to the modules and the skills and knowledge needed to perform these tasks. Learning objectives and activities and a schedule were included so the student would know what was expected and when. Review questions and exercises completed each module.

To adapt these materials for Lesotho, participants in the January 1980 curriculum adaptation workshop prepared a detailed list of skills needed based on a nurse's functions at a health center, diseases common to Lesotho, and village health needs. They adapted all of the prototype materials with local needs in mind. The materials customized to meet Lesotho's needs were used for training the first class of NCs. Not surprisingly, problems were discovered almost immediately, ranging from mistakes in grammar and syntax to unclear treatment guidelines. After several revisions, the training staff finalized the NC training materials. The materials included reference manuals that the NCs can take to their health centers.

The problem of a VHW manual still remained. The initial MEDEX Series prototype VHW materials were considered inadequate for the needs of Lesotho. Lesotho was fortunate in having existing VHW programs that could provide good information on a VHW's responsibilities and qualifications.

However, a unified scheme of training and materials was required to ensure that the VHW program could achieve national acceptance by the populace and the health teams. In addition, the program needed dual-use materials for trainers of VHWS and for the VHWS themselves.

After discussion with managers and trainers of existing VHW programs, the RHDP staff and consultants from The MEDEX Group's home office prepared a new draft of VHW materials. Committees of local health personnel reorganized the draft and rewrote sections of it. The result was a Workbook for Village Health Workers to be used by trainers and VHWS. The workbook was extensively field tested and revised.

Unfortunately, it was not available for the first NC graduates. It has, however, been used during the training of the two succeeding classes to prepare them for work with VHWS. The first graduates have subsequently been trained to use the workbook in continuing education workshops and seminars.

To aid VHWS in performing their duties, a series of community health education booklets were also developed. The booklets contain photographs, illustrations, and simple instructions on topics such as child care and home and community hygiene. The aim is to give community health educators materials to use in the village as supplements to the VHW workbook.

MOH officials were impressed with the end result. The RHDP materials had made use of experiences of existing programs and local resource persons. Consequently, the materials are very relevant to PHC in Lesotho. The MOH endorsed the materials as national training resources to be used not only by NCs but by anyone involved in VHW programs. The evolution of these Lesotho VHW materials resulted in the revision of the MEDEX Series VHW prototype materials.

VHWS now had a workbook to use for training and for reference when they returned to their villages. However, health center staffs had reference materials only if the nurse-in-charge was a graduate of the NC program. The MOH therefore proposed that all health centers should have reference

materials to direct management and clinical procedures. The Diagnostic Protocols manual provided to NC graduates had many problems partly caused by the fact that it had not been used in training the NCs. They had difficulty following the "flow-chart" organization and were not making full use of the reference manual for diagnoses. The consensus was that the idea was sound but that the material needed to be presented differently. The result of much rewriting was a 100-page volume of Treatment Guidelines. Training modules were revised to ensure that the Guidelines became an integral part of the training. Frequent references to the Guidelines were incorporated throughout the text of each module, and review questions guided the student NC to seek answers in the Treatment Guidelines.

During the revision process, physicians in the district hospitals were asked for comment on the Guidelines. After reflection, the physicians suggested that the Guidelines would be appropriate for use in all health centers. The volume was once again revised and expanded. The result was a 380-page national Clinical Reference Manual produced by the MOH for distribution to all health centers staffed by nurses as well as NCs. Personnel in busy outpatient departments also use the Clinical Reference Manual for screening of patients.

It was decided that health center personnel would benefit from other reference materials provided to the NCs. Participants in a series of district workshops revised the Health Center Operations Manual, and the MOH distributed it to all health centers. A product of the work done on this manual was one for the districts entitled the Health Service Area Operations Manual. One more manual, the Community Reference Manual, will be distributed to all health centers in the near future.

Changes in the training materials were made through an on-going process of evaluation that involved:

1. Regular site visits to the NCs assigned to rural health centers
2. Responses to inquiries in NC newsletters

3. Regular consultations with the supervising physicians at the district hospitals

Table 1 below summarizes the revisions made in the training materials between 1980 and 1984.

Table 1.

SUMMARY OF NURSE CLINICIAN TRAINING MATERIALS DEVELOPMENT

| 1980 | 1984 |
|---|---|
| | Introduction to the Nurse Clinician Training Program |
| | <u>BOOK ONE - Community Series</u> Concepts of Primary Health Care Causation of Diseases Common Community Problems Planning for Effective Change Community-Based Intervention Teaching Village Health Workers Support and Continued Training for VHWs Community Gardening |
| Causation of Diseases Community Diagnosis and Treatment | |
| Training Village Health Workers | |
| Health Care Delivery System The Role of the Middle-Level Health Worker in PHC Working with the Health Team Working with the Support Systems | <u>BOOK TWO - Management Series</u> The Health Care Delivery System The Role of the Nurse Clinician in Primary Health Care Working with the Health Team Working with the Support Systems |
| Anatomy and Physiology History Taking Physical Examination | <u>BOOK THREE - Clinical Care Series</u> Anatomy and Physiology History Taking Physical Examination |
| Respiratory and Heart Problems Gastrointestinal Problems Genitourinary Problems Common Medical Problems Communicable Diseases Common Skin Problems Dental, Eye, Ear, Nose, and Throat | <u>BOOK FOUR - Clinical Problems Series</u> Respiratory and Heart Problems Gastrointestinal Problems Genitourinary Problems Common Medical Problems Communicable Diseases Common Skin Problems Dental, Eye, Ear, Nose, and Throat Problems Mental Illness Trauma and Emergency |
| Trauma and Emergency | |

1980

1984

Antenatal Care
 Labour and Delivery
 Problems in Labour and Delivery
 Postnatal Care
 Problems of Women
 Child Spacing
 Child Growth and Development
 Problems in Infants and Children

BOOK FIVE - Maternal and Child Health
 Antenatal Care
 Labour and Delivery
 Problems in Labour and Delivery
 Postnatal Care
 Problems of Women
 Child Spacing
 Child Growth and Development
 Problems in Infants and Children

STUDENT WORKBOOKS

Community
 Management
 Clinical Care
 Clinical Problems
 Maternal and Child Health

STUDENT LOGS

Clinical Logbooks 1 and 2
 Health Centre Logbook

HEALTH CENTRE REFERENCE

MANUALS

Clinical Reference Manual for HCs
 Health Centre Operations Manual
 Community Reference Manual

VILLAGE HEALTH WORKER

MATERIALS

Village Health Worker Workbook
 Caring for Your Child booklet
 Caring for Your Sick Child booklet
 Clean Home, Clean Village booklet

The National Reference Materials

The Clinical Reference Manual is divided into two parts. The first is the Symptoms Analysis section, which is designed along the lines of a dichotomous key. After determining the patient's symptoms, the nurse can go through a brief but thorough differential diagnosis and arrive at a probable disease. The nurse is referred to a page in part two, the Treatment Guidelines. This section lists each disease on a separate page; diseases affecting the same systems, such as skin disorders, or having similar properties, such as communicable diseases, are grouped in the same chapter. The Guidelines cover causes, effects, symptoms, signs, management, and follow-up. A "patient education" section offers ways to avoid or minimize the disease where appropriate.

Other chapters give detailed instructions for procedures such as suturing, giving an intravenous injection, inserting a catheter, and making splints. Illustrations supplement the step-by-step guides. An important part of the manual is space at the end of each section for nurses to make notes and to update their manuals. Doctors are asked to use these pages if they have treatment protocols different from those suggested in the manual. In this way, nurses "personalize" the manual and make it even more a part of their daily routine.

The Health Center Operations Manual defines how the PHC system works in Lesotho and guides the nurse in day-to-day management operations. It includes descriptions of the health organizational network and the management support systems. It also has samples of forms and instructions for their use by the staff at the health center. The manual has ten sections describing how to manage personnel, finances, supplies, equipment and facilities, transportation, and communications; how to properly keep health information, reports, and patient records; and how to perform health center evaluations. Each section describes how the system is organized, who directs it, who is responsible at the health center for its management, and which forms are necessary to obtain access to the system. Appendices contain job descriptions for all personnel at the health center and in the HSA.

The Workbook for Village Health Workers is designed to be used during training and on the job. Prevention of "bad health" is the theme throughout the book. Each section covers a topic related to promoting good health through personal action. The book is filled with illustrations showing good and bad practices. VHWs are asked during training to explain and discuss in class what each illustration means in terms of promoting or hindering good health. The illustrations were drawn by a local artist and depict scenes to which every villager can relate. In addition, local anecdotes show what villagers can do to help themselves. Nearly every section of the book begins with the word "help." The VHW guides the villagers through discussions designed to lead them to realize that they can help themselves--that good health is not something that is "done to you" or that can happen "all by itself." Practical suggestions include how to dispose of wastes, have a clean water supply, care for dehydration, and bring down a fever. The last section explains how to keep simple records on a village health program.

The Community Reference Manual, which will be distributed to all health center in the near future, was designed to help those who work with and train VHWs in their community work. The first of eight sections describes PHC and its importance. The next section describes the organisms that cause diseases, the ways diseases are transmitted, and the factors that can affect the severity of disease. The major message is that people can help themselves to avoid some diseases or to lessen the effects of disease by taking simple precautions. The third section explains how to identify common community problems and to solve them using local resources. The next section gives information on conducting a community survey and motivating the community to solve some of its own problems. The last four sections discuss how to identify and train VHWs. These sections follow the format of the Workbook for Village Health Workers and give teaching guidelines.

Supervision, Support, and Continuing Education for Nurse Clinicians

Supervision, support, and continuing education for the Nurse Clinician are very closely related. Supervision ensures that CE needs are identified and

the process of correction started and followed through. Support ensures that evaluation and correction, together with recognition of good work, is done in such a way that the NC is encouraged and motivated to do better. Continuing education means maintaining existing knowledge and skills, expanding on existing knowledge and skills, and adding additional knowledge and skills to meet new job requirements. The resources readily available to providing supervision, support, and CE to the NC are:

1. The HSA health team, including the physician, the matron, the public health nurse, the pharmacist, and the health inspector
2. The staff of the training center
3. The Nursing Association of Lesotho

Each has specific roles to play. For example, the physician at the HSA hospital provides technical supervision during his monthly visits to the health center to see referred patients. The physician can observe the NC as she screens, treats, and refers patients, note any deficiencies in the performance of the NC; and find out about problems in clinical management, health center management, and community motivation. Most physicians use this visit to pursue continuing education. They provide support by recognizing good performance. The matron provides support in the area of staffing difficulties and some areas of health care management. The pharmacist may be of help in the ordering and stocking of drug supplies. The public health nurse advises on the immunization program in the community, and the health inspector can provide technical information on building pit latrines or protecting springs.

The training staff also visits the NC in the field at least twice a year. During these visits they:

1. Assess the skills and knowledge of the NC in the areas of community health, clinical medicine and health center management
2. Assess the continuing education needs of the NC

3. Provide continuing education on the spot as necessary
4. Provide support

In addition to these biannual visits, the training staff visits the HSA health team to obtain feedback about the performance of the NCs. The training staff also provides CE and support to the NCs in the field through regular newsletters and a monthly questionnaire.

The Nurse Clinician Training Center has in the past conducted annual CE seminars to cover topics that are recognized as problems to the majority of NCs in the field. The Nursing Council of Lesotho also provides annual CE to all the nurses in the country. Although they do not cater specifically to the needs of NCs, many of the topics covered are of interest to NCs in the field.

A major concern of the training staff has been whether this multi-faceted approach to providing supervision, support, and CE is helpful in achieving the stated objectives. The results of polling and a pretest/posttest system indicate that the CE strategy has imparted additional knowledge and skills, succeeded in maintaining these knowledge and skills to a fairly high level, and expanded existing knowledge and skills.

As the RHDP approaches its end, the training staff is exploring several options for the continual provision of regular supervision, support, and CE. These include:

1. Linking rural health centers with the HSA hospitals and with the national referral hospital in Maseru via a two-way radio system
2. Using one of the two five-minute time slots on the National Public Broadcasting network that the MOH has available for health-related messages
3. Mailing health messages with statistical information to NCs

Training of Nurse Clinician Trainers

One of the main objectives of the RHDP was the institutionalization of the training program. That is, the project was to develop a Basotho training staff to carry on training after the project completion date in early 1984. The criteria for selection of NC trainers, or tutors, included the original selection criteria for nurse clinician students:

1. A minimum of two years experience in rural health care
2. Community health experience
3. A willingness to return to a rural health center for two years
4. A better than average performance as a student
5. A mature approach to life and work
6. A good working relationship with colleagues
7. An interest in teaching

Prior to the training of the first class of NCs, two doubly qualified nurse-midwives were selected as tutors. They both felt that it was necessary to complete the NC training program before they could confidently and competently handle the running of the training center. Two trained NCs were selected later as additional tutors. Of these four tutors selected from Class One, one was designated as the Principal Nursing Officer for the nurse clinicians and is currently the director of the training center. One tutor was sent to Liberia to obtain a BSC in Nursing Education. The other two attended the tutor training program at the Liverpool School of Tropical Medicine. This three-month course covers curriculum design and evaluation, teaching methods, assessment methods, and methods of innovation.

Once trained, the tutors were assigned training responsibilities. First, they observed the ways students learn and then discussed alternative learning methods. After this, they prepared lesson plans for review by their training advisor. Then an advisor observed the tutor conducting a class and monitored each tutor's progress. The training advisors and the other students offered feedback to each tutor. The teaching methods that were used most often by the tutors included discussions, role-plays, demonstrations, and other small group learning activities.

An additional responsibility of the training center is to provide support and continuing education to graduate NCs in the field. Therefore, the tutors' training duties also included visiting NCs in the field, writing monthly newsletters, assessing CE needs, and planning and conducting annual CE seminars -- all under the guidance and assistance of the training advisors. In the beginning, the training advisors accompanied the tutors on field visits. Now, when the tutors return from field visits, they brief the training advisors about problems encountered and steps taken in problem solving.

The training advisors insist that the tutors continue to review, revise, and be responsible for their own continued learning. The tutors take written tests with the current class of students in order to keep up with changing trends in health care. They are required to see patients and to review their cases regularly with the physician attached to the training center. This ensures that the tutors' clinical skills remain at a high level. The tutors receive constant feedback on their performance in the classroom and in the field by fellow NC graduates, students, fellow tutors, and HSA teams. Management skills are maintained through training center activities, assessment, and assistance during supervisory site visits. Tutors maintain their community health skills by organizing the monitoring of the community health learning activities at Hokatue, helping the students conduct community health surveys, and helping students and graduates select, train, and support village health workers.

The training center has recently selected three additional persons to be trained as tutors. One, a practicing NC, was selected from the field. The other two were selected from Class Two. One of these tutors insisted, upon return from the Liverpool course, to be permitted to practice nine months in a health center in order to obtain the necessary experience she felt she needed to teach. This was agreed upon and she should soon be joining the training staff.

VILLAGE HEALTH WORKER PROGRAM DEVELOPMENT

Village Health Worker Workshop, March 1977

Although the duties and training of village health workers vary from country to country, it is widely acknowledged that these workers can extend the availability of health services to areas where none existed before. In Lesotho, the collective efforts of government and private agencies have led to a pragmatic approach to using VHWS to provide promotive, preventive, and curative services to rural populations. By 1977, the concept of VHWS in Lesotho had gathered enough momentum to become of national concern. A workshop held in that year brought together representatives from government and private agencies who shared a belief in the potential of VHWS to improve health care at the village level. The aim of the workshop was to give the concept national credibility, direction, and impetus.

At the time of the workshop, three VHW programs, initiated by Quthing, Tebello, and Scott Hospitals, were already in existence. Each of the three programs, although started independently, had similar objectives:

1. To provide preventive services within their area
2. To increase contact between health services and the people
3. To involve people in their own health care

Workshop participants realized that these pioneering efforts, if expanded and coordinated, could have a major impact on health care services in Lesotho. What was needed, however, was a strategy for expanding VHW programs on a national level while at the same time ensuring a reasonable degree of uniformity among them.

The 1977 VHW workshop outlined:

1. The job description of a VHW
2. The role of the VHW in relation to health needs at the village level

3. An implementation strategy for VHW programs at the village level
4. An organizational framework to link VHW programs to the rest of the health care delivery system

The workshop participants also recognized that the VHW concept was to be one of the major aspects of the country's Rural Health Development Project, in response to a mandate to initiate a planning strategy for PHC and a support structure for health workers in the periphery of the system. While the birth of the RHDP did not mean the birth of the VHW concept in Lesotho, the RHDP did help to define the VHW in the overall context of the national health care delivery system. In some ways it offered solutions to problems that health professionals had been debating in Lesotho for some time. The RHDP was also involved in decentralizing the health care delivery system, strengthening the management support structure, and training nurse clinicians, all to support health services at the periphery. A clearer definition of the VHW concept was a logical extension of the RHDP's goal to extend health services beyond the walls of health centers and hospitals. Although the need for this had been acknowledged, the RHDP offered a mechanism for implementation. That is, nurse clinicians would be trained in improved clinical care, health center management, and, most important, community health and training of VHWs.

Before the implementation of the RHDP, a number of areas relating to VHWs had been debated and agreed upon among representatives of government, private, and donor agencies. These areas of general agreement, which became the focus of the RHDP, included the following.

Basic Qualifications and Characteristics of VHWs

1. The VHW should be a full-time resident of the village.
2. The VHW should be acceptable both to the villagers and to the village leaders.
3. The VHW can be of any age, as long as it is acceptable to the villagers.

4. The VHW can be married or unmarried, as long as it is acceptable to the villagers.
5. The VHW should not have a full-time job.
6. The VHW must be prepared to render health services to every villager without exception.
7. The VHW should be free from any illness or condition that could impede his work.

Major Functions of VHWs

1. The VHW should be primarily a motivator for better health.

2. The VHW should provide these curative services:

Apply simple dressings

Supply diagnosed tuberculosis patients with drugs

Supply drugs to and supervise discharged leprosy and mental health patients

Treat scabies

3. The VHW should provide these preventive services:

Administer first aid

Build latrines

Refer people for prenatal care and family planning services

Follow-up tuberculosis and leprosy contacts

Provide health education regarding typhoid fever, venereal diseases, diarrhea, tuberculosis, and immunizations and preventable childhood diseases

Representatives of government and private organizations who participated in the 1977-78 workshops and meetings also concurred that the delivery system for PHC should be organized to provide essential services at the village

level without curbing the initiative of the village in making its own decisions about health care. They also identified a need for coordination between health facilities and contributions made by the village and for political commitment of the government to equitable distribution of health resources and decision-making-power. It was decided that the role of the government is to ensure that essential services are available and accessible to the village; the role of the village is to organize its resources and participate in decisions that will influence the health of its members. Government and its workers should provide guidelines and support to village efforts and not dictate what should happen at the village level.

Primary Health Care Action Committee, 1979

A two-day working session of the Primary Health Care Action Committee, held in 1979, further refined and approved the decisions of the 1977 VHW workshop. Representatives of government and private organizations recommended and approved the basic qualifications, major functions, mechanism of selection, working conditions, and training concepts for village health workers.

Mechanism of Selection

1. Selection of VHWS should be preceded by at least two pitsos on the PHC concept.
2. Selection should be by majority election under the chairmanship of the chief or headman of the village.
3. At least three candidates should be selected for training. At the end of training, one of the candidates should be recommended to assume responsibility for coordinating the VHW program in that village.

Working Conditions

1. The position of VHW is voluntary and part-time.

2. Remuneration for VHWs, if any, should be based on the principles of self-help.
3. VHWs should be entitled to free medical care for themselves and their families.
4. VHWs should work under the direct supervision of the nearest clinic or health center.

Training

1. Training should last for three months, of which one month is theory, one month practical training in a supervised work setting, and the third month a combination of theory and practice.
2. Refresher courses for VHWs should be held every three months.

Functions

The functions of VHWs remained unchanged from the 1977 workshop.

Curriculum Adaptation Workshop, January 1980

In January 1980, a curriculum adaptation workshop was held at Mazenod under the auspices of the RHDP and the Ministry of Health. The participants finalized the selection, tasks, and responsibilities of VHWs and of the nurse clinicians responsible for their training and support. Then they adapted the training curriculum for VHWs, developed by The MEDEX Group of the University of Hawaii, to the needs of Lesotho.

Workshop participants discussed the role of the VHW and the proposed content of the training curriculum for VHWs. The participants adopted the selection criteria for VHWs developed during the 1977 VHW workshop. They added one additional criterion: that the VHW be able to read and write basic Sesotho.

The task list for VHWs developed during the workshop expanded on decisions made in 1977. The tasks were finalized based on the experiences of the seven VHW programs represented at the curriculum adaptation workshop. According to the revised task list, the VHW should do the following.

1. Assist the village in developing and maintaining a safe water supply and sanitation
2. Identify village health needs and facilitate the use of resources to meet these needs by assisting the health team in controlling communicable diseases, assisting the village chief with vital statistics, and cooperating with extension workers
3. Promote good nutrition and recognize, manage, and follow-up undernourished children
4. Promote maternal and child health care, including prenatal care, postnatal care, child care, and family planning
5. Identify and manage common clinical problems and assist in the follow-up of patients as required
6. Prevent and manage vomiting and diarrhea and dehydration
7. Promote personal hygiene and healthful living
8. Recognize, refer, and follow-up tuberculosis, leprosy, and mental health patients
9. Provide first aid

The list of diseases to be included in the training program for VHWs included:

1. Conjunctivitis
2. Diarrhea and dehydration

3. Infected skin lesions
4. Gonorrhoea
5. Headache
6. Leprosy
7. Malnutrition
8. Respiratory infections (bronchitis, pneumonia, URI)
9. Scabies
10. Syphilis
11. Tuberculosis

Instruction in first aid was also included.

The following chart from the curriculum adaptation workshop summarizes the responsibilities of the VHW.

RESPONSIBILITIES OF VILLAGE HEALTH WORKERS

| Disease/Problem | Identify and Manage/Refer If Necessary | Identify and Refer | Follow-up from Nurse-Clinician |
|---|--|--------------------|--------------------------------|
| Conjunctivitis | x | | |
| Diarrhea and dehydration | x | | x |
| Infected skin lesions | x | | |
| Gonorrhoea | | x | |
| Headache | | x | |
| Leprosy | | x | |
| Malnutrition | | x | x |
| Respiratory infections (bronchitis, pneumonia, URI) | | x | x |
| Scabies | x | | |
| Syphilis | | x | |
| Tuberculosis | | x | x |

Representatives at the workshop also related their experiences with VHW programs. They reported the need for:

1. Adequate supervision of VHWS
2. Community selection and support of volunteer VHWS with provisions for replacements as necessary
3. Coordination with and support from nearby health care institutions

Strengths identified included:

1. Few dropouts from the programs
2. The support of village chiefs for the programs
3. Effective links between villages and health care institutions
4. The practice of VHWS and TBAs accompanying their referral patients and participating together in MCH promotions and nutritional demonstrations

Participants reported that all programs provided promotive and preventive services and many supported food-producing gardens. Curative services performed by VHWS included treatment for dehydration, scabies, skin infections, and cough and pain. They also provided first aid and follow-up treatment, and performed emergency deliveries.

Problem areas noted included:

1. Difficulties maintaining adequate supervision resulting in loss of motivation
2. Delays in village response
3. Conflicts with traditional practitioners in the villages

4. Lack of support for VHWS by the health team
5. Lack of logistical support for VHWS
6. Lack of support for refresher courses for VHWS
7. Lack of national guidelines for training and support of VHWS

National Guidelines Meeting, June 1981

By June 1981, representatives of government and private organizations collectively acknowledged the need for a national curriculum that could be adapted to the needs of each VHW program. A meeting was held at the Nurse Clinician Training Center to discuss developing national curriculum guidelines for VHW programs.

At the time of the meeting, there were 400 trained VHWS in Lesotho. More were to be trained by existing programs and as nurse clinicians were deployed to health centers. The need for the development and distribution of national guidelines was stressed by all agencies involved in primary health care.

The participants discussed supervision and incentives of VHWS and financial support of VHW programs. The government had made it clear that it would not remunerate VHWS for their services. The group felt that remuneration should be done at the local level. Suggested schemes for remuneration included the following.

1. Each household served by a VHW should give 10 lisente per month.
2. Free medical care should be provided for VHWS and their families.
3. The VHW should receive free seeds and sell the vegetables that she grows.

4. The VHW should keep one out of every ten packets of seeds that she sells.

The group agreed that eventually all training and supervision of VHWs should be done at the health center level with support from the district and HSA hospital staff.

Following these recommendations, the RHDP began to develop plans to move ahead with the development of national guidelines for VHWs in preparation for a proposed August 1981 workshop. A consultant from The MEDEX Group initiated the preliminary design and testing of the educational materials.

VHW Curriculum Guidelines Meeting, August 1981

The VHW curriculum guidelines meeting was attended by participants from VHW programs, various sections and units of the MOH, nurse clinician students, public health nurses, health inspectors, and RHDP advisors. The participants worked in two groups. One group discussed, approved, and finalized the management guidelines for VHW programs. The second group's main task was to discuss and approve the curriculum guidelines and to develop training materials in each of the subject areas recommended.

The 1979 drafts of the VHW training materials developed by the University of Hawaii were presented as a prototype curriculum. Participants assessed the applicability of the modules to Lesotho, based on their own experiences in training VHWs. Their comments can be summarized as follows. . .

1. The methods of teaching were so concisely laid out that they made the process of training rigid.
2. The tone of the materials was pedantic and patronizing. It gave the impression of a trained health worker talking down to villagers.
3. Although VHWs in Lesotho have been and are recommended to be literate in Sesotho, the modules were geared more for non-literate VHWs.

4. The content and organization of the modules emphasized medical skills and neglected the preventive and promotive roles of VHWs.
5. The modules did not encourage meaningful dialogue between trainers and trainees.

Undoubtedly the experiences of the participants had been in using more participatory methods of training. Fortunately, advisors from The MEDEX Group and the RHDP had recognized the deficiencies of the existing materials and had already begun to test and develop more participatory materials. These materials were also presented at the VHW curriculum guidelines meeting. The favorable response to these materials led to a decision to use the experiences of the participants to develop a new generation of materials in the following areas:

| | |
|----------------------------|--|
| Diarrhea | Nutrition |
| Clean and Safe Delivery | Safe Water and Sanitation |
| Child Spacing | Tuberculosis, Leprosy, and Mental Health |
| Common Medical Conditions | Working with the Community |
| Use of Health Education | |
| Materials in the Community | |

Although by the end of the meeting no new materials had been developed, participants endorsed the educational methodology of the new materials. The MEDEX Group and RHDP were testing and developing.

Following the August 1981 meeting, the RHDP requested two consultants from The MEDEX Group, one of whom had previously visited Lesotho, to coordinate the development of VHW materials and to develop a national VHW workbook. Between October 1981 and June 1983, a national VHW workbook was developed and distributed for field trials to NCs at health centers and VHW programs. By June 1983, the workbook had been translated into Sesotho. In January 1982, a multidisciplinary workshop was held to ready the VHW materials for field trials.

Nurse Clinician Questionnaire, August 1982

In August 1982, the NCTC sent a questionnaire to the first graduated class of nurse clinicians to gather their opinions on the VHW materials. The response to the materials was overwhelmingly positive. The NCTC also began to collect information on supplies available at the health center level that could become part of a VHW kit to be replenished by the health center. The response from the field clearly showed that NCs were training new VHWs, providing continuing education to existing VHWs, and supervising and supporting them. Each nurse clinician was training or supporting twenty-five VHWs.

Based on the number of topics VHWs were to learn, a list of supplies was compiled. This list constituted the contents of the VHW kit. The VHW kits were donated by UNICEF. The containers were made locally. Some of the supplies came from the NDSO and the remainder came from UNIPAC. A complete kit consisted of the following:

Paper and measurement items

1. Bukanas
2. Log
3. Supply request form
4. Referral forms
5. Teaching booklets
6. Cards with illustrations
7. Workbooks
8. Pen or pencil
9. Arm band

Items needing no or infrequent replacement

1. Small round basin
2. Towel
3. Rubber or plastic mackintosh
4. Scissors

5. One metal container for all of the contents

Items needing frequent replacement

1. Eye ointment
2. Hand soap
3. Gentian violet
4. Razor blade
5. Rolls of bandages 2 and 3 inches wide
6. Cotton wool
7. Lindane (GBH)

Orientation Workshop, October 1983

By May 1983, it was realized that even though many people had been involved in training and managing VHW programs, an orientation to the new materials and methods was needed to provide some consistency in the programs.

One-day orientation workshops were planned for each HSA for trainers and/or supervisors of VHWS. The workshops were designed to offer each person working with VHWS the skills needed to use the national VHW workbook. By October 1983, the first 750 copies of the national VHW workbook and the VHW kits were ready for distribution for further field trials. It was planned that by mid-1984, another 1,500 sets of manuals and kits would be ready for further distribution.

The first orientation workshop was held at Tsakhalo Health Center on October 13-14, 1983. VHW trainers from the MOH, the PHAL, and other related ministries such as Rural Development, Agriculture, and Education in the Mafeteng HSA attended. Similar workshops in other HSAs will provide a means for promoting a unified and consistent approach to the training of VHWS and extension workers, such as village water minders, from other ministries.

Development of VHW Materials

Throughout the developing world, the role of the VHW has evolved in two directions. The first views VHWs as an extension of health services with the emphasis usually on medical theory and skills. The second views the role of the VHW as predominantly promotive and preventive. That is, VHWs do not have to wait for a person to become ill before they can help.

As mentioned before, the 1979 drafts of the training materials for VHWs followed the first course; they emphasized medical skills. The hope was to change the format and content of these training materials to be more in accord with the second course, i.e., to emphasize promotive and preventive activities, rather than signs, symptoms, and treatment. The goal was to design the materials in such a way that the VHW does not become an "extension of the doctor's stethoscope" in the village. The process of developing new VHW materials in Lesotho had the following main objectives:

1. To learn from the experiences of existing VHW training programs in Lesotho
2. To use health workers working with VHWs, or VHWs themselves, in the development and field trials of the materials
3. To address problems that are relevant to health conditions in Lesotho
4. To use an educational methodology that encourages dialogue between trainers and trainees
5. To organize the content in a way that emphasizes promotive and preventive care rather than curative care
6. To suggest solutions that are feasible at the village level by village people

With these objectives in mind, the RHDP began to develop materials that would involve all categories of workers at the health center or village

levels, the VHWs, and village groups. The first step in this process was to gather information about health needs and problems at the village level. This could be done in one of two ways. In a pedantic methodology, trained interviewers collect information about knowledge, attitudes, and practices of village members on specially designed forms, and analyze the information at a central place far removed from the village. Then researchers develop materials based on their interpretations and send the materials to health workers at the periphery. Such centralized methods of information gathering for educational purposes lead to centralized methods of education and training. They prescribe what should be relevant at the village level. Although these methods seem contrary to the PHC concept, they are promoted because they can be better justified by the research indices often required by donor agencies.

Despite the emphasis on research-oriented development, the RHDP chose another, more pragmatic alternative to information gathering, pretesting, development, and field trials of VHW materials. This approach -- termed the dialogic approach -- uses dialogue and discussion as the basis for learning. A communication consultant from The MEDEX Group initiated the process. VHWs and other personnel from VHW programs were asked to identify health problems in their villages that could benefit most by actions of villagers. Such an approach results in involvement of the people that is participatory rather than mandatory.

Using the information gathered in this way, the RHDP developed a booklet entitled "Health Problems in the Village -- Using Drawings to Start a Discussion." The health problems covered in the booklet included:

| | |
|----------------------|------------------|
| Undernutrition | Toothache |
| Breast-feeding | Burns |
| Diarrhea | Poisonings |
| Water and sanitation | Alcoholism |
| Tuberculosis | Venereal disease |
| Scabies | Prenatal care |
| Conjunctivitis | |

Each health problem was depicted in two illustrations. A blank page faced the illustrations. No text was provided. VHWs and VHW supervisors used the booklet to discuss health problems in the village. The information collected was useful for the workers in their own work. The information also became very useful for developing training materials for VHWs.

VHW supervisors, VHWs, and other program personnel pretested the booklet. These early pretests gave a good indication of the level of visual literacy in the villages and of problems that could be anticipated. The artist who drew the illustrations also participated in the pretesting so he could learn about the perspectives of people in the village toward his drawings.

Based on discussions with people in the village, a second educational material was developed, called the "Diarrhea Cycle of Health Cards." The cards were designed to encourage discussion about the causes of diarrhea without giving "answers." The people using the materials provided the answers. Each point of view was relevant to the process of learning. The Diarrhea Cycle of Health Cards are described in the Sesotho booklet called, "Mathata A-Tsa Bophelo Ka Hara Motse-Qala lipuisano ka ho sebelisa litsoantso." This material also became the main educational tool for training VHWs about diarrhea.

These early participatory materials tested a methodology for education that was based on dialogue and discussion instead of conventional didactic learning. The observations of health workers clearly showed that the exchange between health workers and people in the village were stimulating and valuable. At times they continued for hours, taking the process of inquiry and learning to levels not experienced before. The methodology showed that while health workers cannot hope to "change" health habits, they can create an environment of understanding and opportunity that may lead to changes in behavior through individual inquiry and discovery. According to the report on the pretests, the booklet, "Health Problems in the Village" was a useful tool for a variety of purposes for different cadres of trained personnel, including nutritionists, supervisors, and motivators, as well as for VHWs. The booklet enabled the VHWs to collect information on how villagers view their problems and which subjects were

important to discuss with different groups in more depth. The cycle of health cards brought groups together to identify the causes of diarrhea and to decide on actions to take to prevent and care for diarrhea in the village. Health workers observed that discussions were dynamic and energetic. People freely participated in dialogues about health problems and solutions, sparked by the visuals in the booklet and the cards.

Like the process of developing VHW training materials, the content of the materials reflects the kinds of services VHWs provide. While primary health care emphasizes promotion of good health and prevention of illness at the village level, most VHW materials in other parts of the world emphasize illness care, recognition of symptoms, and referral protocols. Proper maintenance of health will seldom occur, however, as long as symptoms of illness remain the central focus of VHW training. Therefore, the VHW training materials begin with discussions about maintaining good health, followed by discussions on causes that may lead to illness, and finally a discussion on illness. This approach overcomes the tendency of health workers to provide care only when illness is evident.

Personnel from VHW programs participating in the development and pretesting of the materials were enthusiastic and receptive. They felt that further development of materials using the same approach was worth pursuing. Participants at the August 1981 workshop also endorsed the materials. With this endorsement and the enthusiasm shown by the VHW programs, the RHDP continued to develop VHW training materials. The MEDEX Group consultants met with personnel from the Ministry of Health, PHC programs of the PHAL, and other related ministries. With support from various agencies involved in PHC in Lesotho, they were able to develop the initial drafts for a national VHW curriculum quickly.

The first workbook on nutrition was developed with the help of the staff and VHWs from a VHW program. The use of the workbook further refined many of the ideas incorporated in the early trials. The second workbook on Prevention and Care of Diarrhea was developed based on the experiences of those using the first workbook. The Diarrhea Cycle of Health Cards discussed earlier became the main learning materials for this workbook.

The workbook format for VHWs was developed for a number of reasons.

1. The VHWs in Lesotho were literate, and the workbook format helps VHWs use and enhance their basic literacy skills.
2. The workbook format allows VHWs to mold the information they learn to the particular needs of their villages. VHWs are able to identify what is most appropriate from their new learning and to put that information into practice when they work as VHWs.
3. The workbook format encourages trainers to understand what actions VHWs think practical, how they will work, and the consequences of their actions in their villages.

The workbooks pose four types of questions for discussion in the body of the text:

1. Those that allow the trainer and the trainees to better understand each others' perspectives
2. Those that allow the trainer to learn about what is practical and feasible in the village
3. Those that indicate what the trainee has been able to learn and can implement into actions in the village
4. Those that help the trainees set goals for their return to their villages

Each workbook begins by finding out what the VHW already knows.

Problem-solving is constant throughout the workbook. Questions encourage the VHW to look into the possible social, economic, or other causes of problems that exist in the village or in a particular family. Traditional knowledge and practices are discussed. The workbook builds on this information by addressing the easiest solutions first. Other more difficult tasks are gradually introduced. Tasks that require other

materials or resources are discussed last, with suggestions for obtaining assistance. The emphasis of the workbook, however, is on what people in the village can do on their own.

Another innovation that the workbooks incorporate is the integration of content with the educational process. Past experiences have shown that even though trainers are given instructional guides and manuals to accompany a text, they seldom follow the instructional suggestions. Instead, most trainers revert to the old method of lecturing. The workbooks, however, incorporate the instructional process into the content. For example, the content for leprosy is written as a story or role-play. The content for childbirth is written as a dialogue between a mother and a birth attendant. Visuals are used extensively for storytelling, problem solving, and decision-making. These are the basic skills that VHWs use to guide, support, and motivate people in the community. As VHWs also need to act on their own to respond to the needs and initiatives of people in their villages, the VHW materials encourage them to develop analytical and decision-making skills.

After the initial field trials of the first two workbooks, other workbooks were developed on the following subjects:

| | |
|--|---------------|
| Clean Water and Clean Community | First Aid |
| Healthy Pregnancy | Tuberculosis |
| Child Spacing | Leprosy |
| Venereal Disease | Mental Health |
| Records and Village Health Worker Kits | |

Community learning materials that VHWs or other workers can use in the village have also been developed. They help to provide consistency between the training of VHWs and the other health education efforts conducted by the Ministry of Health. Many of the community learning materials are incorporated into the training of VHWs, so they can learn how to use them. Some of the community learning materials developed are:

Health Problems in the
Community

A booklet with drawings to help start a
discussion about health problems

Caring for Your Child

A booklet with photographs that will
help parents know how to take care of
their young child

Caring for Your Sick Child

A booklet with photographs that
describes what parents can do to care
for a sick child at home

Caring for Your Village

A booklet with photographs that shows
how to keep the home and the village
clean

Diarrhea Cycle of Health
Cards

A set of drawings that encourages
discussion about the causes of diarrhea
and how to prevent and care for it

The Lady Who Built a Tower

A true story with drawings about how a
lady built a latrine and why she built
it

The Story of Grandmother
Mamosa

A story with drawings about how leprosy
spreads in a family, how to care for it,
and how to stop its spread

Helping Mateboho Have Her
Baby

A story with drawings about how a woman
has a clean and healthy delivery

Pregnancy Pocket Reference Card

APPENDIX A

PERSONNEL OF THE RURAL HEALTH DEVELOPMENT PROJECT

Ministry of Health

- | | | |
|------------------------|---|--|
| Mrs. Nthusi Borotho | - | Director, Health Planning and Statistics Unit Project Director Counterpart - Planning Advisor |
| Mrs. Anna Ntholi | - | Deputy-Director of Primary Health Care Counterpart - Management Advisor |
| Ms. Ntsieng Rankhethoa | - | Principal Nursing Officer - Nurse Clinicians Director, Nurse Clinician Training Center Counterpart - Nurse Clinician Trainer Advisor |
| Dr. A.M. Maruping | - | Director of Health Services Director of Primary Health Care |
| Dr. Makase Nyaphisi | - | Primary Health Care Physician Counterpart - Physician Trainer Advisor (1984) |
| Mr. Mokuba Petlane | - | Chief Health Educator Health Education Unit |

Long-Term Advisors, The MEDEX Group

- | | | |
|------------------------------|---|---|
| Dr. James La Rose | - | Physician Trainer |
| Mr. Clifford Olson | - | Health Planner |
| Mr. Kess Hottle | - | Management Specialist |
| Ms. Sandra Tebben-Buffington | - | Nurse Clinician Trainer and Chief of Party |

The MEDEX Group, Honolulu

- | | | |
|--------------------------|---|--|
| Ms. Rosemary DeSanna | - | Project Coordinator, RHDP |
| Dr. Terence A. Rogers | - | Principal Investigator, RHDP Dean, John A. Burns School of Medicine University of Hawaii |
| Dr. Richard A. Smith | - | Director |
| Dr. Rodney N. Powell | - | Deputy Director |
| Mr. Patrick Dougherty | - | Program Officer |
| Mr. Thomas G. Coles, Jr. | - | Program Officer |
| Mr. Gregory A. Miles | - | Program Officer |
| Mr. Sunil Mehra | - | Program Officer |
| Mr. Frank R. White, Jr. | - | Program Officer |

APPENDIX B

PARTICIPANT TRAINING SUMMARY

1. Maliso Liphoso: MPH, Health Planning and Economic Development, University of Michigan, June 1981-December 1982.
2. Nthabiseng Mabitle: NCTC; BSC, Nursing Education, Cuttington University, Liberia, August 1982-December 1984.
3. Liseho Mahlatsi: HPSU; MPH, Biostatistics, University of Hawaii School of Public Health, June 1982-December 1983.
4. Anna Ntholi: MOH; Certificate, Management of Training, University of Connecticut, September 1981-April 1982.
5. Nthari Matsau: HPSU; Certificate, Project Management, University of Connecticut, June-July 1983.
6. Daniel Thakhisi: HPSU; Certificate, Computer Management, University of Connecticut, June-July 1983.
7. Dr. Moji: MOH; Primary Health Care Workshop, University of North Carolina, July 1981.
8. Dr. Makoa: MOH; Primary Health Care Workshop, University of North Carolina, July 1982.
9. A. Thobei and A. Mpeteta: NCTC; PHC Tutor Training Program, Liverpool School of Tropical Medicine, April-June 1982.
10. D. Ramakhula, D. Ramaqabe, M. Makhasane: NCTC; PHC Tutor Training Program, Liverpool School of Tropical Medicine, April-June 1983.
11. Ntsieng Rankhethoa: NCTC; Communications in PHC, Institute of Child Health, London, 2 weeks, September 1982.
12. 17 trainees including three nurse administrators: HSA Administrator's Training in Health Administration, Institute of Development Management, Lesotho, February-September 1983.
13. Ms. Molbi, Ms. Ntsekhe, Ms. Palime: MOH; Nurse Administration Training, Institute of Development Management, Lesotho, August-September 1982.
14. E. Reakhanya: MOH; Management Information System, IDM, Lesotho, May 1982.
15. RHDP Staff: Secretarial training; MOH, IDM, Lesotho, 1980.
16. HPSU statistical clerks: Computer training, 1982-1984.
17. Two trainees from MOH: Radio technician training; Mission Aviation Fellowship, Lesotho, 1982-1983.

18. Nthari Matsau: HPSU; Project Management Workshop, African Development Bank, Harare, Zimbabwe, February 1983.
19. Makase Nyaphisi: MOH and NCTC; Strengthening PHC at Health Center and Country Level, The MEDEX Group, University of Hawaii, May 14-June 8, 1984.
20. Nurse-Clinician Trainees: Subsistence Support for PHAL trainees in NC Classes I and II, 1981-1982.
21. Statistics Workshop: Institute of Development Management, Lesotho
22. Dispenser's Workshop, Lesotho.
23. HSA Statistics Clerks: MOH; HPSU Health Information Statistics Workshop Lesotho, February 1984.
24. Nine HSA Implementation Workshops: Leribe, Maseru, Butha-Buthe, Qacha's Nek, Quthing, Berea, Mafeteng, Mohale's Hoek, Mokhotlong, 1981-1984.

APPENDIX C

SHORT-TERM CONSULTANTS

January 1979 - May 1984

| | | |
|-----------------------------|-----------------|---|
| June 1979 | Ernest Petrich | Management Training and Planning |
| June - July 1979 | Paul R. Torrens | Finance and Personnel |
| August 1979 | Eugene Boostrom | Planning and Management Systems Analyses |
| August 1979 | Ernest Petrich | Planning and Management Systems Analyses |
| August 1979 | Richard Blakney | Planning and Management Systems Analyses |
| November - December 1979 | Ernest Petrich | Assist with national management workshop |
| November 1979 | James Yatsco | MOH Drug and Medical Supplies System Study |
| January 1980 | Tom Coles | Curriculum Adaptation Workshop |
| January 1980 | Joyce Lyons | Curriculum Adaptation Workshop |
| January 1980 | Mona Bomgaars | Curriculum Adaptation Workshop |
| January 1980 | Sandra Tebben | Curriculum Adaptation Workshop |
| April - May 1980 | Sandra Tebben | Follow up on Curriculum Adaptation Workshop and assist with curriculum adaptation |
| May 1980 | Tom Coles | Follow up on Curriculum Adaptation Workshop |
| July - August 1980 | Tom Coles | Conduct tutor training workshop |
| July - August 1980 | Joyce Lyons | Conduct tutor training workshop |
| August - September 1980 | Sandra Tebben | Assist with curriculum adaptation |
| February - March 1981 | Albert Neill | Assist with management/planning workshop |

| | | |
|---------------------------------|-----------------|---|
| February - March 1981 | Tom Coles | Supervision Nurse-Clinician Training Program community experience |
| April - May 1981 | James Yatsco | Drug and Medical Supplies Management System |
| May - September 1981 | Sandra Tebben | Nurse-Clinician student supervision rotation phase; assist revision modules Class II Nurse-Clinicians |
| June - July 1981 | June Mehra | VHW community education materials development |
| August 1981 | Mickey Knutson | Assist with Nurse-Clinician Training Predeployment Phase including VHW Program and health care management |
| October - November 1981 | Albert Neill | Assist with Maseru District Health Service Area Workshop; provide assistance in manpower planning strategy, planning and budgeting |
| October 1981 | Bonnie Bata | Supervisory assistance preceptorship phase Class I nurse-clinicians |
| November 1981 | John Ketcher | Supervisory assistance preceptorship phase Class I nurse-clinicians |
| November 1981 - January 1982 | June Mehra | Curriculum development VHW training |
| November 1981 - January 1982 | Sunil Mehra | Curriculum development VHW training |
| April 1982 | Yaw Adu-Boahene | Financial Management System |
| May 1982 | F.S.A. Mulungu | General Supplies and Equipment Management System |
| July - August 1982 | Tom Coles | Development continuing education methodology for nurse-clinicians |
| January - February 1983 | Pat Dougherty | General Supply and Equipment System |

August -
September 1983

Greg Miles

Evaluation of nurse-clinician
curriculum and training

January 1984

Tom Coles

Baseline data collection and
compilation for nurse-clinicians

January -
February 1984

Sunil Mehra

VHW materials development and
printing

March 1984

Dennis Carlson

Review, analysis and report of
the Rural Health Development
Project

APPENDIX D

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