

12
E2C
P74

PD-ABK-37/ J.S.A.I.D.
Q2888 SWAZILAND
LIBRARY

**SWAZILAND PRIMARY HEALTH CARE PROJECT
FINAL REPORT**

1 January - 31 October 1991

Submitted by:

Management Sciences for Health
Charles R. Drew University of Medicine and Science

Under provisions of USAID Contract
No. 645-0220-C-00-6021-00

TABLE OF CONTENTS

LIST OF ABBREVIATIONS	I
I. INTRODUCTION	1
II. REGIONAL CLINIC BASED TRAINING	
2.1 Purpose and Background of CBT.	2
2.2 Content of CBT.	2
2.2 Target Group of CBT.	2
2.4 Selection of Trainers	2
2.5 Training Strategies	3
2.6 Weekly Schedule for CBT.	4
2.7 Selection of Training Sites	6
2.8 Details of Regional Implementation	7
2.9 Comments	10
III. HEALTH INFORMATION SYSTEMS	
3.1 Background Information	12
3.2 Description of the HIS	13
3.3 Training for HIS.	14
3.4 HIS Achievements	14
3.5 Future Priorities for HIS.	15
3.6 Comments	16
IV. HEALTH FINANCING	
4.1 User Fees	17
4.2 Financial Procedures Manual	17
4.3 Unit Costing System	17
V. PROGRAMME SUPPORT	
5.1 Acute Respiratory Infections	19
5.2 Expanded Programme on Immunization	19
ANNEX I	20
ANNEX II	21

LIST OF ABBREVIATIONS

ANC	Antenatal Care
ARI	Acute Respiratory Infections
BF	Breast Feeding
CBT	Clinic Based Training
CCCD	Combatting Childhood Communicable Diseases
CDD	Control of Diarrheal Disease
EPI	Expanded Programme on Immunization
GM/NP	Growth Monitoring/Nutritional Promotion
HC	Health Center
HIS	Health Information System
MH/FP	Maternal Health/Family Planning
MIS	Management Information System
MOH	Ministry of Health
MSH	Management Sciences for Health
OPD	Outpatient Department
ORT	Oral Rehydration Therapy
PHC	Primary Health Care
PID	Pelvic Inflammatory Disease
RFM	Raleigh Fitkin Memorial Hospital
RHMT	Regional Health Management Team
TOT	Training for Trainers
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

I. INTRODUCTION

This report describes the activities and achievements of the Primary Health Care Project during the last nine months of its existence. The nine months resulted from two no cost extensions: the first from January 1, 1991 through June 30, 1991; the second from July 1, 1991 through October 31, 1991.

During this time, Dr. Vincent Joret, the only expatriate advisor, fulfilled the role of MCH Physician and Chief of Party. Field support staff was reduced from four to two. Ms. Jane Makhanya was in charge of all secretarial and administrative work and Mr. Aloysius Nyoni was in charge of field operations.

The objective of the Project for the last nine months remained similar to what it had been previously and involved the following activity areas: Clinic Based Training (CBT), Health Information Systems (HIS), Health Financing and Programme Support to the national CDD, ARI, and EPI programmers. The emphasis of Project intervention was clearly concentrated on institutionalizing the strategies and approaches chosen by the Project and its counterparts to implement activities in the above-mentioned four areas.

We would like to thank everybody who contributed to this project and whose work has made the Project as successful as it has been. A list of all the people we have to thank would make a report in its own. However, we mention here particularly Ms. Jane Makhanya who has been with the Project since the start and who has helped us throughout all phases of the Project and until weeks after closing time. Her diligent work has been central to our success.

This present report is divided into five chapters. They are meant to give an overview of the activities of the last nine months of the Project and to comment on some of the problems we encountered during that time. Whenever we discuss an activity which has been described in detail in a consultancy report or manual, we will refer the reader to the reports listed in Annexes.

Vincent M. Joret, MCH-Physician/COP

II. REGIONAL CLINIC BASED TRAINING

2.1 Purpose and Background of CBT

The clinic based training programme was a response to suggestions put forward during the mid-term evaluation and audit of the Primary Health Care Project. It also responded to a request from the Swaziland Ministry of Health to drastically increase practical on-site training activities. On-site training was expected to create less of a disruption to the on-going curative and preventative activities in the clinics and to have a more direct impact on the attitudes and practices of the nurses and nursing assistants toward their patients.

The programme integrated training and supervision in a way that would benefit the efficiency of the clinics by mobilizing in one intervention all the key players involved in primary health care at the clinical level. A similar training programme had been organized during the previous years in the Shiselweni and Lubombo regions (see Annex II).

The regional training programmes were proposed, discussed and approved during the RHMT meetings of the two regions, Hhohho and Manzini, which were in charge of organizing these activities with the support of the PHC Project.

2.2 Content of CBT

The training content covered the priority areas of primary health care, clinical skills, clinic management and health information techniques.

The training in CDD/ARI, in ANC/BF and in EPI/GM/NP followed the hands on maxim and, as such, utilized the patients of the host health facility as a case study for history taking, clinical examination techniques and for diagnosis and treatment procedures. The intention was to upgrade the knowledge, attitudes and practices of the nurses and nursing assistants in these areas which, according to the Training Needs Assessments, showed need for improvement.

The training in health information techniques dealt with all aspects of using the new Regional Health Information System such as how to correctly fill out the Tally Sheets and Monthly Summary Sheets, reporting procedures and trouble shooting.

2.3 Target Group of CBT

The target group comprised the nurses and nursing assistants of all clinics, public health units and hospitals in the Hhohho and Manzini regions.

2.4 Selection of Trainers for the CBT

A pool of nine or more trainers was formed in each region. The pooling of trainers was intended to decrease their individual involvement in the training programme. This allowed the trainers to continue their other professional commitments with minimal interference from training activities.

During the training sessions, the regional trainers were constantly joined by the technical assistants of the PHC Project, Ms. Mary Kroeger and Dr. Vincent Joret until December 1990, Dr. Joret alone from January 1991 onwards.

2.5 Training Strategies

For the training schedules and procedures, some strategies were adapted from the previous CBTs in Shiselweni and Lubombo regions and others were specifically developed during preparatory RHMT meetings.

2.5.1 General Training Strategies

The following training strategies were adapted from previous CBT activities:

- The training sessions were preceded in both regions by a two week TOT organized by the programme managers.
- The training sessions took place for one week (Sunday afternoon through Friday lunch) in alternating weeks.
- Two types of training weeks were organized, one for nurses and one for nursing assistants. Although both training schedules covered equivalent topics, they were adapted to the different professional and educational levels of the participants.
- The regional trainers were in charge of teaching the theoretical parts of the training as well as leading the practical training sessions. They also headed the afternoon and evening group discussions. Transfer of skills from the PHC associate to the trainers and to the trainees was the priority.
- Nine nurses or, subsequently, nursing assistants were trained each week. The group of nine was divided into three groups, each headed by one trainer. This favorable trainer:trainee ratio intended to increase intensity of the practical training modules.
- The last day of the training week was reserved for the technician of the Central Vaccine Store who addressed the technical and logistical priorities of the cold chain as well as appropriate sterilization techniques.

2.5.2 Strategy decisions by the RHMTs

The RHMT of both regions proposed and approved the following measures to limit the regional disturbance created by training activities in the future.

Only one nurse or training assistant from each clinic will be trained at a time. At least two health personnel will be scheduled to be on duty during the absence thus ensuring continuation of services at the clinic.

The training session will be directed alternatively to nurses and to nursing assistants. Each clinic would first send the nursing assistant for training.

Sleeping out allowances will be given to the participants from governmental clinics.

Transport to and from the training facility will be organized by the region with the assistance of the PHC Project.

2.6 Weekly Schedule of the Clinic Based Training

The training week was divided into two parts. The first part, covering the theoretical background and specific aspects of the topics covered, was held on Sunday, Monday and Friday. The second part, devoted to hands on clinical experience in small groups, was held on Tuesday, Wednesday and Thursday.

2.6.1 Schedule and Content of Theory Lessons.

The schedule for the first two theory days was as follows:

Sunday afternoon:

12:00 - 1:00 Lunch
1:00 - 4:00 ORT
4:30 - 7:30 ARI

Monday:

8:00 - 11:00 EPI
11:30 - 1:00 GM/NP
2:00 - 3:30 GM/NP
4:00 - 7:00 ANC

These sessions adhered to the followed detailed schedule.

ARI:

1. Definition of the protocol	Handouts	15 minutes
2. Reason for the new protocol	Handouts	15 minutes
3. Pathophysiology of pneumonia		30 minutes
4. Assessment of a child with a cough	Wall chart	30 minutes
5. Classifying the child with a cough	Wall chart	45 minutes
	Breathing rates	
	Danger signs	
6. Treatment	Wall chart	30 minutes
	Supportive	
	Medication	
7. Advice to mothers		15 minutes

ORT:

1. Introduction	Manual (p. 11)	5 minutes
2. History taking	Assessment form	15 minutes
3. Physical examination	Assessment form	60 minutes
4. Treatment	Manual	30 minutes
5. Case studies		60 minutes
6. Questions and evaluation		10 minutes

EPI:

1. Introduction		20 minutes
Main goals of the programme		
Objectives		
Target		
2. Position statement	Manual	20 minutes
3. Steps in conducting immunization		30 minutes
4. Vaccination schedule	Flip chart	45 minutes
5. Side effects	Manual	20 minutes
6. Measles control		10 minutes
7. EPI register		30 minutes
8. Ordering vaccines		25 minutes

GM/NP:

1. Definition		10 minutes
2. Exercise	2 case studies plus cards	40 minutes
3. 4 steps of GM/NP		
Weighing		
Plotting		
Interpreting		
Counselling		
4. Types of weighing equipment	Manual	40 minutes
5. Nutrition		

ANC:

1. Objectives		5 minutes
2. Pink card page 1		20 minutes
3. Pink card page 2		40 minutes
4. Risk approach		30 minutes
5. Pink card page 3		30 minutes
6. Pink card page 4		10 minutes

On Fridays from 8:00 AM to 1:00 PM the technicians of the central vaccine store taught about cold chain maintenance, temperature recording, vaccine ordering and steam sterilization.

2.6.2 Schedule and content of practical lessons

During the clinical days, each group of three trainees was supervised by one of the regional trainers which allowed for three trainer/trainee groups to function simultaneously. The mornings of the practical days were spent from 8:00 AM to 1:00 PM taking the history of various patient groups, clinical examinations, the discussion of a diagnosis and description or application of appropriate treatment.

In the afternoons from 2:00 until 4:00, all trainees assembled in the classroom and each group presented one or two cases for discussion. During these case discussions the main theoretical concepts were reviewed and eventual problems addressed.

From 5:00 to 7:30 slide shows and videos relevant to the class were presented.

2.7 Selection of Training Sites

Different parameters were taken into account to select the regional training sites.

2.7.1 The sites had to be rural

Nearly 75% of the population of Swaziland lives in rural areas and most of the clinic nurses work and live in rural settings. National statistics and surveys show that both morbidity patterns and attitudes towards health care among the Swaziland rural population are distinctly different from morbidity patterns and attitudes in local urban populations. In order to train health personnel successfully for their daily work, i.e. to enable them to change knowledge and attitudes as well as practice, we chose training sites that were as similar as possible to the real life situation of the participants.

It appeared to be a unique experience for trainers and trainees to live for a full week together. For the first time, there existed an opportunity to address a lot of long standing problems that could be openly discussed during both formal and informal discussions.

An additional advantage of a rural setting has proven to be the fact that once the group of trainers and trainees is settled in for the training week, the rate of attrition of participants is low in comparison to more central training. The logistics make it more difficult for participants to leave.

2.7.2 The sites need to have adequate lodging facilities.

Lodging a group of fifteen participants (9 trainees, 3 trainers and 2 to 3 advisors) for a full week requires dependable and adequate facilities. The basic requirements include constant and reliable electricity, a kitchen adequate to prepare meals for the entire group, a room large enough for training and last, but not least, adequate sanitation.

2.7.3 Sufficient patient load

During the morning session, 3 groups of trainees were required to see the patients of the training facility which presented with the relevant illness included in the training programme. Thus, the training center needed to provide a minimum of at least 3 children with diarrhea, 3 with ARI, 6 ANC

clients, and 6 children attending for EPI/growth monitoring each morning.

For all the above mentioned criteria, this was the one which was most difficult to satisfy and appeared to be the main limitation to this training approach. In retrospect, we think that only health centers which usually provide the necessary patient load should qualify as regional training sites.

2.8 Details of the Regional Implementation

The following pages present and discuss some of the details of how the CBT was implemented in the two regions, Hhohho and Manzini.

2.8.1 Regional CBT in Hhohho

2.8.1.1 Training of trainers

The training programme for the Hhohho region began with a two week *Training of Trainers* course at the Highlands Inn Hotel in Pigg's Peak. During the first week, six trainers selected by the RHMT during previous meetings were trained by the programme managers for CDD, EPI, ARI, MH/FP and GM/NP in the theoretical aspects of the different programmes.

The second week was used to reorganize the Emkhuzweni Health Center which was chosen to be the regional training center. The Emkhuzweni Health Center does not provide integrated services. This is a rather unique situation in Swaziland as all the services of all the health facilities in the country are supposed to be integrated.

This major difference in the daily schedule for the patients requested some adaptations of our training methodology used in the previous two regions. Rather than have the three groups of trainees concentrate on different types of patients on the same day, they diagnosed and treated the same category of client (ANC or EPI/GM/NP or ARI/CDD) on the days allocated by the health center to these types of clients. The heavy patient load of Emkhuzweni Health Center guaranteed this approach to be feasible and successful.

2.8.1.2 Clinic Based Training Sessions

A total of eighteen training weeks have been organized in the Health Center of Emkhuzweni. The theory lessons followed the schedule as described under 2.6.1.

The above discussed lack of integrated services resulted in the following schedule for the practical lessons which is described in detail.

On Tuesdays the group focused on Growth Monitoring and Nutrition Promotion and EPI. Two groups of trainees worked at the demonstration nutrition kitchen dealing with malnourished children. One group was scheduled to work on the veranda to weigh and immunize children who came to the health center for routine GM/NP and EPI attendance.

Each group was provided with a fully equipped vaccination table. The daily EPI register of the health center was distributed to the group at the veranda. The two other groups were given EPI tally sheets and added vaccinations to the register in the evenings.

Wednesdays were spent with ARI/ORT patients. The ORT training sessions took place in the ORT corner of Emkhuzweni Health Center. One of the spare consultation rooms was equipped to be the ARI consulting room. The third group of trainees worked at the room near the veranda and was allocated a mixed population of ORT and ARI patients. Each group was responsible for immunizing and registering their patients.

Thursdays were used to practice ANC/BF. For these practicals there were three separate training posts emphasizing different aspects of ANC and BF counselling, and the trainees rotated through all of them.

The teaching plans for the theoretical lessons as well as for the practical lessons were mainly designed by the programme coordinators.

2.8.2 Regional CBT in Manzini region

2.8.2.1 Training of trainers

The training in the Manzini region was started with a two week training of trainers course, from Monday 15th through Friday 26th July, at the Georges Hotel in Manzini. Similar to procedures in the Hhohho region, the programme managers trained the future regional trainers for a full week in the theoretical aspects of the national programmes.

The second week was used to modify the logistics of Egebeni clinic which was chosen according to the above mentioned requirements, to be the regional training center.

The regional trainers for Manzini were:

1.	Dora Simelane	Clinic Supervisor	Mankayane
2.	Mary Magwaza	Clinic Supervisor	Manzini
3.	Anna Mdluni	Clinic Supervisor	Manzini
4.	Christina Makhanya	Staff Nurse	Mankayane
5.	Gugu Mahluza	Staff Nurse	Mankayane
6.	Philda Simelane	Staff Nurse	KSII
7.	Salatia Ndzimandze	Staff Nurse	KSII
8.	Greta Shongwe	Staff Nurse	Mankayane
9.	Not yet identified	Staff Nurse	RFM Hospital

In addition to the nine regional trainers, the following seven candidates were selected to attend only the first week of theory at the Georges Hotel. They were considered resource persons for future regional activities.

1. Nhlanhla Nhlabatsi, regional health trainer
2. Meddy Shongwe, KSII
3. Staff nurse, Mankayane
4. Staff nurse, Bethlehem clinic
5. Emma Dlamini, N/A RHM trainer relief
6. Ncane Mamba, N/A RHM trainer relief
7. Maria Lushaba, Staff Nurse, Egebeni Clinic

2.8.2.2 Clinic Based Training Sessions

A total of six training weeks were organized over a period of four months. The occurrence of Swazi national holidays in this period diminished the number of possible training sessions. The first training week started on the 4th August, 1991.

A minimum interval of one week was kept between each training session in order to allow the regional trainers to discuss and evaluate the previous training and prepare for the next one.

The Egebeni Clinic was selected by the Manzini RHMT as the only training site. The available facilities and necessary upgrading activities are described in the following:

- Accommodations. Accommodations for participants were available on the training site and comprised of one house in the compound plus two rooms in the clinic building. The clinic was provided with electricity, water and telephone. Cooking facilities were available.
- Training Facilities. Formal teaching was given in the maternity wing which was reorganized for the purpose.
- Patient Load. The clinic had a sufficient patient load to provide relevant pathology in all the clinical teaching topics as well as sufficient antenatal cases and children under five years of age.

Egebeni Clinic provides integrated services. According to the moderate patient load, it was decided to apply the same training model which was used in the Shiselweni and the Lubombo regional training as follows.

On Sunday and Monday, the trainers gave a theoretical introduction in each training topic. They explained the training content, procedures and objectives to the participants. From Tuesday until Thursday the trainees were divided into three groups, each supervised by one of the trainers.

During these days, from 8:00 to 1:00, each group dealt with patients attending the clinic for one of the following reasons: EPI/GM, ARI/CDD or ANC. Under guidance from the trainers the groups focused on a different topic each day and covered all of them during the three clinical sessions.

From 2:00 to 4:00, each group discussed the patients who were seen during the morning session. History taking, diagnosis, treatment and communication with the patient were analyzed and discussed in regard to training objectives. From 5:00 to 7:30 PM, specific topics related to primary health care were discussed, mostly at the request of the participants (e.g. diagnosis and treatment of PIDs, correct usage of available penicillin, etc.).

Shortly after the training of the staff nurse of the clinic, a clinic supervisor visited the clinic. She adapted, in collaboration with the clinic personnel, the clinic set-up to the new directives which were taught during the training sessions: an ORT corner was installed, a Salter scale was provided and fitted and a filing cabinet was put up and organized.

The arrival in the region of a vehicle for clinic supervision has solved some constraints for regular clinic supervision. The PHC Project car, stolen during the last month of the project, was meant to become the second car for regional clinic supervision. The loss of this car will surely handicap future supervision of the region.

Having participated in the training programme, the clinic supervisors could, if given the means, support and reinforce the implementation of the training messages in the clinics. Any obstacle to the implementation of it should be reported to the RHMT so that appropriate action can be taken.

2.9 Comments on CBT

Few activities of the Project have been exposed and submitted to so much formal and informal discussion, review and evaluation as the clinic based training.

The exercise of organizing such a major activity by the Ministry of Health, i.e., to continue the education as well as delegate major responsibility to the regional level, was bound to highlight some major weaknesses of the decentralized system.

We summarize here some of the key problems which make the institutionalization of the CBT questionable.

- **Lack of regional training facilities.** Only an externally funded project has the means and flexibility to renovate and maintain a training facility for the time necessary for training. Experience has shown that soon after training activities are interrupted, the training centers return to their original state. However, as long as the personnel of the center does not change, the improved quality of care tends to continue.

As the extent of modification of the training site is naturally limited by the time and possible financial input, the training sessions always face major logistical and personnel problems. Again, only an externally funded project has the flexibility to answer such day to day problems without too much interference of the training activities.

- **Lack of full time regional trainers.** Presently, these posts do not exist and no action has been taken to create equivalent posts. However, alternatives can be found. One of them could be a core of national trainers, with regional responsibilities, working in close collaboration with the national programme heads. The major obstacle to implementing this alternative is that, at present, there is no incentive marked for a centrally placed person to go work in the regions.

On the other hand, experience has convinced us that having experienced clinic supervisors functioning as regional trainers brings the region closer together. The trainers and supervisors get to know their clinic nurses and nursing assistants much better through interactive training activities than through the superficial and formal supervision which presently takes place. The same can be said about the health personnel getting to know their supervisors better. This in itself is a problem solving approach at regional level.

- **Poor managerial capacity in the regions.** An important contributing factor is the poor regional managerial tools. The efficiency of the RHMTs vary from region to region. Even where the RHMT functions well, as it does in the Manzini region, communication problems between the RHMT and the central level of the Ministry of Health are apparent.

There is a lack of regional managerial and supervisory skills and personnel. The regional public health matrons as well as the regional health administrators are often occupied by travels to Mbabane for participation as well as representation duties at national meetings.

In these situations, the clinic supervisors temporarily adopt the regional duties of the Matrons in addition to their other duties -- provided they are not required to accompany the matron to the capital, which happens every so often. The practical result for the regions is the total absence of regional management and clinic supervision capacity during these days, which amount to a substantial annual amount.

- **Lack of regional resources.** The Manzini region was the only region to obtain a regional training budget to allow continuation of training activities after the Project's departure. In addition to the vehicles used to transport the trainees to and from the training site, regional training sessions also necessitate at least one four wheel drive vehicle full time at the training site. During the past training activities, this vehicle, heavily used for the day to day logistics of the fifteen participants and the transport of programme managers between Mbabane and the training site, has always been provided by the PHC Project.

It will be worthwhile to strongly encourage the Ministry of Health to address these problems in a constructive way rather than to terminate the CBT approach as an unobtainable task without prior discussions of possible national and regional capabilities.

We know that the USAID project design team has integrated some of the elements of the CBT in their proposal. One of the positive results of the CBT is that both the Ministry of Health at the central and regional levels as well as the Health Office of USAID-Swaziland have gained a lot of collective experience through the implementation of the CBT approach. We hope that the lessons learned will be useful in taking the right option for future training strategies.

III. HEALTH INFORMATION SYSTEM

3.1 Background Information

The HIS in Swaziland has been successfully decentralized during the last three years of the PHC Project. The main reason which brought the Ministry of Health to believe that the HIS had to be decentralized was the observed bottleneck of information gathering which resulted in a two year information backlog. This backlog made the health information data obsolete even before it was entered into the central computer.

This situation became strikingly apparent when some members of the Regional Health Management Teams and some national programme managers started to request up to date regional and national data sets.

Regionalization of the system required separate hardware to be provided to the regions as well as specific hardware to allow regional data input and subsequent central data analysis and additional personnel to make the system work.

3.1.1 Hardware for the HIS

Four regional health information offices were set up; one in each of the four regions of Swaziland. According to varying regional facilities and preferences, the location of the HIS offices vary from region to region. In Hhohho, the office is located in the Mbabane Governmental Hospital. In Manzini, it is located in the administrative wing of the RFM. In Shiselweni, the office is found in the office of the regional public health medical officer and, in Lubombo, in the office of the regional accounts office.

The basic electronic equipment of the HIS offices consists of an IBM compatible desk top computer with hard disk and a printer; both connected to an Uninterrupted Power Supply (UPS) to minimize technical problems. The hardware was purchased by a joint expenditure of PHC Project, CCCD Project and WHO funds. A private computer dealer in Mbabane has been in charge of maintenance and repair of the equipment. The capacity of maintenance and repair of the equipment through the MOH itself was being investigated at the time of closure of this project.

3.1.2 HIS Software

A national consensus was reached in regards to the data to be collected and the forms to be used to collect these data (see 3.2.1), and the first version of the software package was designed by the MIS department of MSH.

The menu driven software is written in Clipper and mimics, on the screen, the appearance of a blank Monthly Summary Sheet. This facilitates data entry from the printed forms. The programme automatically produces reports in the form of tabulated data sets broken up by region and by health facility. Another feature of the programme is the production of a regional overview on the state of completeness of reporting broken up by entry form, facility and month.

3.1.3 Health Information Personnel

As a result of the decentralization process, there are presently two different levels of personnel involved in the Health Information System. The personnel at Central Level consists of two people working in the Central Statistics Department of the MOH. One holds a Bachelor's Degree in Computer Sciences. The other is an ex-local hire from the PHC Project with no formal computer training but a lot of experience and informal training.

At the regional level, the qualifications of the regional health information officers vary from the level of a sweeper to the level of a hospital nurse. As can be expected, this personnel has no in-depth training in computer sciences. Nevertheless, they all perform above expectations with the Shiselweni region taking the lead in performance.

3.2 Description of the Health Information System

3.2.1 Forms developed for the HIS

Each service delivery is tallied, at the moment of rendering, on a tally sheet by the person delivering the service. The MOH has produced five types of tally sheets.

- The out-patient tally sheet for curative activities at the PHC level
- The ANC tally sheet for pre-natal care
- The EPI tally sheet for all immunization services
- The growth monitoring tally sheet for the under five group
- The family planning tally sheet

At the end of each month, all the activities tallied in one health facility are summarized by the Nurse in charge of that facility on the Monthly Summary Sheets. These two sheets are then sent to the regional Health Information Office.

3.2.2 HIS activities at the regional level

The regional Health Information Officer enters the monthly summary data from all the regional health facilities as soon as they arrive in his or her office. If some facilities default, he or she is made aware of this fact by the special report of the HIS programme that summarizes the report status of all facilities of the region by month and facility.

Defaulters are subsequently sent a letter requesting the missing information. Should the facility not respond to the request, the RHMT is informed of the situation and is in charge of taking the appropriate steps.

3.2.3 HIS activities at the central level

The Central Statistics Department in the MOH copies the data sets from the regional computers to the national HIS computer every quarter. The data are then compiled and national or regional summary reports produced. These data are readily available to any health officials requesting service delivery

dates.

3.3 Training for HIS

Two types of HIS training activities were supported by the PHC Project.

3.3.1 Training of health personnel

The tally sheets, to be filled in by the local health unit personnel, underwent a series of modifications. The present sheet is the third version. The first version was subsequently introduced in all regions to all nurses and nursing assistants working at the PHC level, at clinics and at OPDs of hospitals or health centers. The use of the HIS forms was also an integral part of the regional CBTs which was used as a discussion panel to facilitate proper usage of this statistical tool. However, during these regional CBTs, it became apparent that there were still some misunderstandings among the health personnel in regard to the current use of the forms.

3.3.2 Training of health information officers

The PHC Project organized specific training sessions for the central and regional personnel in charge of the HIS. In addition to the newly developed Health Information Programme package, all the regional health information officers were taught the following computer packages: DOS, Multi-Mate, Lotus 1-2-3, D-Base III, Epi-Info and Harvard Graphics. In addition, some of the trainees were sent for advanced training to a local computer company.

3.4 Related Achievements During the Last Nine Months

The last nine months were used to consolidate the present HIS on regional and central levels as well as to introduce the computer scientist of the MOH to the system.

During meetings with all parties involved, it was decided that it was too early to modify the data collection forms even though the information collected via the present forms no longer fully corresponded to the changing needs of some national programmes like the ARI and the EPI programmes.

However, the HIS software was modified during two much appreciated consultancies from Mr. Thom Graziano from the MIS department of MSH/Boston (See Annex I). He made the following modifications:

- Some programming errors of the original HIS programme were corrected.
- The data entry screen was modified to be identical with the Monthly Summary Sheets.
- A system of double data entry was introduced to eliminate the danger of faulty data entry.
- A new interactive report system was added which makes it possible to produce sets of data from health facilities which satisfy the criteria specified by the user.

- A Health Finance Module was added which provides the health service delivery data with specific time periods as required by the computerized Unit Costing System.
- The data sets of the previous years were modified to match the present HIS package.

All these modifications were field tested, taught to all the regional health information officers and installed on the regional computers.

3.5 Future Priorities for the HIS

3.5.1 Improved quality and content of data

It is apparent that some national programmes are in need of service delivery data which would allow them to monitor their achievements and/or impact more accurately and efficiently.

Even though some of the national programme heads are aware of precisely which information they need, we decided not to introduce these modifications during the last nine months of the Project. The consequences for any change in data include that the forms and the software need to be modified, the forms reprinted and distributed and the personnel of all the health facilities retrained or at least updated. This was seen as too much input for too little gain in the last phase of the project. It was decided to wait for collection of a fair amount of changes prior to any intervention on the present system.

At the time of project close down, there was a general agreement to include the following modification and/or additions to the tally sheets in the future edition of the HIS software.

- **OPD:** Addition of recent lameness to monitor the eradication of the wild polio virus classification of STDs according to new WHO criteria.
- **GM/NP:** The Individual Weight for Age chart is a valuable tool to monitor the growth of an individual child. However, the classification into Normal and Underweight based on the positioning of the weight dot above or under the third percentile line is scientifically wrong. Using the present weight chart to produce a correct regional/national nutritional picture of the children attending the under five clinics will be very difficult, if not impossible. Some serious thinking needs to take place here. Should this section of the HIS be dropped?

3.5.2 Improved usage of data

When collecting data, one should always keep in mind the rationale for collecting these specific data. Even though the present HIS system is technically sound, the MOH still lacks a structure to analyze the HIS data sets, add and/or compare them with other data sets from different sources and to communicate resulting programming information to decision makers. Two consecutive consultancies of Dr. Clydette Powell, MSH, addressed this problem and proposed a set of health information units (see Annex I).