

# **PRITECH**

Technologies for Primary Health Care

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**ZAMBIA**

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## ZAMBIA REPORT

### I. SUMMARY DESCRIPTION OF THE SCOPE OF WORK

The team was asked to assess diarrheal case management, including cholera, the policy and other context within which the program is carried out, training strategies for case management, the likely future availability of ORS and other supporting supplies, and the role of non-government institutions in the national CDD program.

### II. PURPOSE OF THE PROJECT

PRITECH's activities in ZAMBIA, in close association with UNICEF, WHO, SIDA and other donors, are designed to promote improved case management practices through training, technical and material support, including the production of educational material, ORS supply, and operational research and evaluation to test and design interventions.

### III. METHODOLOGY

Two teams were formed to observe case management practices in various regions in a variety of public sector and Mission facilities. MOH/CDD, WHO, PRITECH staff participated in the field visits. Donor and MOH personnel were also interviewed.

### IV. SUMMARY OF OBSERVATIONS AND FINDINGS

The environment for implementing CDD programs is deteriorating, as allocations to the MOH budget decline in real terms, as trained staff leave Zambia, and as the economic situation worsens leading to a growing number of malnutrition deaths in children under 5, a problem compounded by an increasing number of HIV children appearing at clinics.

CDD/MOH is poorly staffed and led, barely able to manage the most essential tasks. CDD is an additional duty to otherwise capable but overworked staff.

The evaluation of case management practice in the field reveals many of the weaknesses identified in the past: in poor supervision, in knowledge and practices, in counseling and teaching the mother. Material and technical support is also often lacking. Training material provided years ago was still in use, although outdated.

ORS availability was much improved because of the availability of SIDA supplies. Yet outages and shortages are still a fact of life for many hospitals and clinics. The decision to increase in 1992 the number of ORS packets to 200 in the essential drug kit should help meet peak demand, but cholera and dysentery outbreaks are likely to keep pressure on supplies for CDD. As long as SIDA continues to fund essential drug supplies, the outlook for adequate ORS supplies is reasonably good.

The DTU at the University Training Hospital (UTH) is a considerable accomplishment and represents a national training asset. It will be pressed to hold its own as a result of losses of trained staff through transfers or moves abroad. It has a commitment to upgrade satellite health facilities in the Lusaka area, which will be another major challenge.

The selection of people to be trained at the DTU has been left to regional CDD managers. Those trained are often unable to make changes in practices for lack of support or interest of supervisors and colleagues. The outpatient department plays a critical role in establishing the course of treatment for the diarrhea patient and it is most likely to be run by an doctor untrained in case management. In any event, in any health facility there are a large number of people involved in case management, thus complicating the in-service training problem.

## V. MAIN CONCLUSIONS

In difficult economic times, it is especially important to exploit the strengths of health providers less dependent on MOH financial support such as the missions, mines and sugar estates. They provide health services to perhaps 38% of the population and more than 50% of rural health care. All have quality staff, organizational strengths and financial flexibility that could result when mobilized in more rapid spread of appropriate case management practices. PRITECH's agreement to fund a Primary Health Care position in CMAZ is an important first step to develop a strengthened training program for the missions. With access to DTU/UTH training, the mines should be able to improve case management practices through a strong existing in-service training program.

Traditional healers remain important health providers for many Zambians. CDD/MOH is willing to sponsor a small scale experiment to determine whether a viable training program is feasible. Such a program could represent an important opportunity to extend the reach of case management.

Private physicians are another group not yet involved in ORS/CDD training.

Two Zambian private sector pharmaceutical companies are prepared to produce ORS. More effective and extensive distribution of ORS could make a significant contribution to objectives of the program.

Decentralization of training for case management is essential in Zambia. Distances are large, transportation difficult and costly. A more systematic approach to selecting trainees for DTU/UTH training could speed the decentralization process if regional facilities which could become model diarrhea treatment centers (DTCs) were first identified. In time they would be expected to work with satellite clinics in the area. With 50% of Zambia's population in urban areas, this approach could reduce the cost of supervision, while reaching a significant fraction of the population. It might produce more effective supervision than can be provided by regional MOH supervisors who are without transport

or training.

Creating a critical mass of trained people within an institution could accelerate the adoption of appropriate case management practices. It is very hard for one trained person to change the way diarrhea treatment is mismanaged in a large or small institution.

## VI. PRIMARY RECOMMENDATIONS

1. Establishing Regional Diarrhea Treatment Centers (DTCs)
  - A. Working with MOH/CDD to identify potential DTCs.
  - B. Shape DTU/UTH training invitations to support strategy, including invitations to mines, missions, and sugar estates.
  - C. Develop training strategy to create critical mass for reform, experimenting with the number to be trained and departments covered.
  - D. Assist trainees on their return to develop in-service training programs and ORT corners.
  - E. Assist DTCs in extending case management practices to satellite facilities.
2. Following recruitment of CMAZ Primary Health Care doctor, undertake a base line survey of mission practices and design program intervention to improve case management.
3. Training material for traditional healers should be developed promptly and an experimental program started.
4. An approach should be developed for private physicians as well.
5. Camille Saade should schedule a visit to Zambia to explore the scope for marketing assistance to private sector ORS producers.

## ZAMBIA

### Mini-Program Evaluation - May 1991

#### OVERVIEW

The environment for implementing a CDD Program in Zambia is deteriorating. Budgets for health are declining in real terms. The cholera outbreak this past year absorbed scarce MOH personnel and financial resources and resulted in delays in planned CDD training. Trained medical staff (some in CDD) continue to leave Zambia for better opportunities elsewhere. Hard economic times are translating into a growing number of malnutrition deaths in children under 5, a problem compounded by an increasing number of HIV children appearing in clinics. PRITECH 1989 Evaluation Report identifies in considerable detail, problems that exist in case management of diarrhea, training, supervision, communications, etc. and contains some 40-50 recommendations. We found the assessment of country program problems valid and the identification of solutions relevant for the situation today.

In these difficult circumstances, it is especially important for PRITECH to try to exploit the strengths of health providers less dependent on Ministry of Health financial support. For example, mission health services, together with the mines, cover some 38% of the population, with the missions providing 50% of rural health care. The missions and mines will not be spared financial pressures. The missions depend on MOH financing, received in declining real amounts in recent years and are encountering trouble in maintaining external financial support. Yet they still have quality personnel, organizational strengths and financial flexibility that could result in more rapid spread of appropriate case management of diarrhea. The mines for the first time will have to stand in line for foreign exchange for drug purchases and are developing new service strategies to reduce operating costs.

In our visit to Nkana Hospital, the Mining Health facility in Kitwe, we found great interest in participating in CDD training programs at their own expense. Training traditional providers in case management represents another opportunity to escape the limits imposed by what we expect will be continuing financial problems for the Government. Finally, private marketing of ORS can be encouraged to meet the needs of what is now a limited market, which should grow as familiarity with ORS increases and as the Government is forced by circumstance to recover health care costs.

#### CMAZ

CMAZ is a loose association of member missions running 32 hospitals and 54 health centers. Its principal responsibility is to represent

its membership interest to the Government. It has no authority over its members. About 50% of mission funding comes from the Government, the balance from its supporters and other donors.

About 5% of requirements are covered from patient contributions, an amount which Dr. Cairns believes will have to increase in the future. Ninety-five percent of the staff are Zambians. Senior expatriate staff, who have served a long time in Zambia, are aging and are being replaced by a younger staff only prepared to serve for short periods. Low pay is a factor in making service unattractive. CMAZ now has Dr. Banda on its staff to work on AIDs activity. Dr. Cairns described his need for another staff doctor to coordinate Primary Health Care Programs dealing with malaria, malnutrition, ARI and diarrhea which are, in order, the principal killers of children under 5 in mission facilities. The coordinator would work under the supervision of the chairman of the Subcommittee on Primary Health Care, which operates under the authority of the CMAZ Executive Committee, which Dr. Cairns now chairs. A new election is scheduled for June. He agreed that there was a major task of training to be done in raising standards of case management of diarrhea. Some training was being done in conjunction with MOH Programs. It was agreed that a base line survey of mission practices would be a good start for developing specific training interventions. Dr. Cairns also identified the need for a third staff doctor to assist members in improving health service management.

One possible intervention would be to develop a better system for analysis and control of prescribing and dispensing patterns for CDD, malaria and ARI. SIDA has proposed such an initiative in its original project design for a new management system for drugs, but this component of the project was never developed. Any activity should be coordinated with SIDA's essential drug training for doctors, nurses and pharmacist/dispensing.

### Recommendation

PRITECH's agreement to fund the position is the first step in developing a CDD program in association with the CMAZ.

### THE MINES

In Kitwe, there are two hospitals, 12 clinics and 7 maternal/child facilities. In all, the mines run 11 hospitals. They serve perhaps 600,000-750,000 people. Because of financial pressure they intend to train community health workers in new local health units in the mining communities to sort out problems locally, before referral to high cost health facilities.

We found a well trained staff under the excellent supervision of

Dr. Phiri. ORS was available and used in the clinics, but we were advised that the nurses were not confident in its use. Some overuse of drugs was observed. Dr. Phiri would welcome an invitation for staff training at UTH/DTU. Given the quality of staff and the evident discipline in the system, we would anticipate rapid adoption of more appropriate case management practices. There are now regular in-service training programs which should facilitate internal communication.

### Recommendation

The MOH should invite the mines for DTU Training in the next round. A hospital and its satellite clinics should be targeted to serve as a demonstration for other mining facilities.

### TRADITIONAL HEALERS

Meetings have been held with the Association of Traditional Healers about a training program in ORS/ORT practices. A survey of their practices has been completed by Dr. Freund. A draft report on the PRITECH sponsored study of traditional healers in Africa is now available. The MOH reaffirmed its willingness to sponsor a small experiment to determine whether a viable training program is possible.

### Recommendation

The material developed in Zambia by Dr. Freund provides an adequate base for developing training material, taking account of any insights provided by the broader study. The Zambia study indicates that some traditional healers already promote fluids and feeding. It is perhaps with this group that training might start. The traditional healers should be expected to obtain their supplies of ORS in the market.

### PRIVATE MARKETING OF ORS

There is only one private producer of ORS. Gamma Pharmaceuticals produces an ORS with coloring. The MOH is advising Gamma that the packet would be eligible for use in the national CDD program as long as it meets WHO technical specifications, which should be no problem. Gamma appears to be interested in selling to MSL, the mines and to private markets. Interchem has not produced ORS since 1989, when production equipment failed and eventually proved impossible to repair. Interchem has apparently made a decision to fund a purchase of new equipment in next year's budget starting October, 1991. They wrote to WHO for help from its production expert, but have had no response. They are determined to go ahead

in any event.

ORS is not now readily available in the private market. Pharmacies in urban areas will carry it, but it is not always and everywhere available. It is not carried in the retail distribution net.

A DGIS/SIDA Mission completed a report in March 1990 which assessed the potential for and constraints to cost-efficient production of essential drugs (including ORS) in Zambia and recommended possible strategies and future activities to improve, where feasible, this local production.

### Recommendation

Given the heavy DGIS/SIDA commitment to providing essential drugs, those organizations should have the principal responsibility for follow-up on their recommendations for local production of essential drugs. PRITECH should be prepared to give marketing assistance to private producers of ORS so that ORS begins to move in larger quantities through pharmacies and the retail distribution system. A visit by PRITECH's Camille Saade should be scheduled for September to explore in more detail local opportunities.

### ORS SUPPLIES

ORS supplies were available in adequate quantities in most rural facilities visited by the team, largely as a result of the SIDA Essential Drugs Program. Outages and shortages were reported in visits to urban clinics and hospitals. ORS is part of the essential drug kit provided by SIDA and MSL to public health facilities. The SIDA allocation of 150 per kit is to be raised to 200 in 1992. We understand that the Mechanical Services Ltd. (MSL) allocation would be the same. MSL can either import ORS or buy it from General Pharmaceuticals Limited (GPL), a parastatal producer, the only source of domestically produced ORS for the CDD program. GPL is a high cost, low quality producer. Medical Services Limited (MSL), the organization responsible for purchasing and distributing drugs for the MOH has been reluctant to buy its product, preferring at times to import lower cost packets instead. GPL is unable to pay to UNICEF the Kwacha equivalent of \$70,000 in raw materials offered for the production of 500,000 packets. GPL now has only a two week supply of raw materials and is producing 7,000 packets a day. There are only 50,000 packets in stock.

As long as MSL is prepared to use the drug budget provided by MOH to buy ORS, it would not matter to the program whether the purchases were made from GPL or from some foreign source. Imports are cheaper and drug funds would thus go further. It is questionable whether at this point UNICEF's effort to keep GPL's production line going is worthwhile, given the company's

inefficiencies and quality problems.

Unfortunately, MSL has been reluctant to share its procurement plans with the Essential Drug Task Force and the CDD/Secretariat responsible for monitoring the availability of ORS. Thus there is no assurance that supplies will be adequate, particularly in light of the expected recurrence of cholera in the fall. It could be useful to draw MSL into the work of the Cholera Planning Committee to assure ample availability of ORS; otherwise ORS stocks available for CDD could be drawn down rapidly.

### Recommendation

The Essential Drug Task Force should continue to press MSL for its purchasing plans for ORS. The Cholera Task Force should invite MSL to participate in its planning for the next outbreak.

### ESTABLISHING DIARRHEA TREATMENT CENTERS (DTCs)

Establishing an effective DTU at UTH is an important accomplishment and provides a teaching center for the nation. UTH/DTU will be pressed to hold its own, as a result of losses of trained staff through transfers or as some seek better opportunities elsewhere. It has a commitment to upgrade satellite health facilities in the Lusaka area, which will be another major challenge.

It is important that regional capabilities in case management be improved as well. Dr. Mubita at Arthur Davidson Hospital (ADH) in Ndola is prepared to establish that facility as a DTU, but significant improvement in case management will be required before it could play an effective role. On the other hand, Livingstone General Hospital, where case management practice looks good, is planning a clinical course for participants drawn from urban health centers in its district. With over 50% of Zambian population in urban areas, decentralizing training through model diarrhea treatment centers could be an effective strategy to reach a large fraction of the population, with effective supervision, now mostly absent in the health system.

### Recommendation

MOH/CDD should identify hospitals with an interest and capacity to upgrade case management internally with the potential of assisting satellite facilities. These institutions should receive priority for training at UTH. A large number of DTCs should be developed to accelerate the spread of better practice. Outside support should be available to these institutions to assure that ORT corners are established with necessary supporting supplies and rationalized patient flow.

### THE NEED FOR A TRAINING STRATEGY

In our field visits, we encountered a number of people who had received training, but had given up trying to change the way things were done because they received no support or interest from their supervisors and colleagues. Creating a critical mass of trained people in an institution is especially important given the large number of people involved in treating diarrhea. We found that untrained medical staff in the Outpatient Department often set the course of treatment of diarrhea patients, which then had to be modified by the trained staff in the DTU Unit. Rotation of trained staff out of diarrhea wards limited training effectiveness. In other cases, the Pharmacist or Drug Dispenser was expected to tell the mother how to use ORS, and sometimes added inappropriate drugs not prescribed by the Medical Officer. (There are only 27 trained pharmacists in the country). These examples illustrate the scope of the major internal in-service training effort required in most health facilities if case management is to improve.

### IMPROVING DIARRHEAL CASE MANAGEMENT

Drs. Casazza and Endsley, together with Dr. Hans Troedsson, WHO/APO in Zambia, Dr. Paul Freund, PRITECH resident representative/Zambia and members of national CDD Secretariat, conducted field trips to Southern, Western and Copperbelt Provinces as well as to the Lusaka urban area in order to review diarrheal case management including cholera. Using a methodology worked out at WHO/Geneva, the teams were able to observe actual case management and interview health workers and their supervisors for obstacles to carrying out the standard of case management as taught by the current program.

In brief, the methodology proved to be an effective tool for data collection and analysis and resulted in a comprehensive report with recommendations which was presented to the CDD Secretariat, and members of the DTU faculty. This report is shown in Annex 1.

The recommendations of the team were seen as compatible with the program's current objectives for diarrheal case management training including the strategy for improving cholera case management. Dr. Bhat commended the team for its prompt feedback and practical suggestions and proposed the following immediate steps:

At the DTU level:

- 1) the DTU will upgrade its register to reflect data collected in the patient assessment form;
- 2) improve the ORT corner in the filter clinic (A01) where Plan A cases can be treated;

- 3) all Plan B and C cases will be referred to the DTU for treatment;
- 4) persistent diarrhea cases will remain in the DTU to be treated until ready for discharge; they will no longer be referred to the Malnutrition Ward;
- 5) DTU training will continue to address the whole child and will include training in communication skills.

At the CDD Secretariat level:

- 1) the DTU faculty will be involved in planning the annual CDD program;
- 2) the DTU faculty will be involved in future trainee selection;
- 3) all trainees will be given necessary equipment upon completion of their course;
- 4) trainees will be provided teaching and educational materials before returning to their posts;
- 5) funding for follow-up visits to trainees by DTU faculty will be added to the training budget of each course;
- 6) the DTU will begin to develop plans and curricula to establish district level training teams who will function with central DTU support;
- 7) in addition to the DTU, Lusaka urban clinics will be used to provide clinical cases for the practical portion of staff training;
- 8) facilitators involved in training should be compensated for their time as they are currently receiving for their contribution to the AIDS project.

#### WELLSTART TRAINEE SELECTION

Discussions were held with Dr. Bhat, DTU Director and acting head of the Department of Pediatrics, Prof. Mukelabai, Dean of the Medical School, Dr. Sikazwe, Chairman, Department of Obstetrics, and Dr. Limbambala, Executive Director, UTH, regarding the selection and training of UTH staff at Wellstart, San Diego in order to upgrade the breastfeeding promotion activities at the UTH and the eight associated Lusaka urban hospitals. Combined, these facilities provide obstetrical care to over thirty-seven thousand

women each year.

The need for this intervention was identified in a review of findings from interviews of health workers at UTH and the urban clinics. It was found that the introduction of sugar water was almost universal in all obstetrical facilities and the knowledge of treatment of the commonest problems encountered by breastfeeding women was almost non-existent. If any breastfeeding information was available to health workers, literature from pharmaceutical companies was the usual source.

It was decided that a team composed of personnel representing obstetrics, pediatrics, nursing, the neonatal ICU, and the CDD program would attend the training program scheduled for August 26-September 20, 1991. This composition fits the selection criteria recommended by Wellstart; the addition of a representative from the hospital administration was not necessary in view of the Executive Director's support. The data required by Wellstart on the hospital facilities and the individual candidates was prepared by Dr. Bhat and a letter of support shown in Annex 3 submitted by the Director of UTH, Dr. Limbambala.

#### PERSISTENT DIARRHEA ACTIVITIES

- A. Persistent Diarrhea Module for Community Survey. A persistent diarrhea (PD) module had been developed by the national CDD secretariat which had been field tested in Mbala and Samfya districts in Northern Province. This module focused on health seeking behaviors and dietary management during the current episode of diarrhea. The experience from Northern Province was that it extended the household interview considerably.

Based on consultation with Dr. Olivier Fontaine of WHO/HQ, the PD module was simplified to focus only on the known important risk factors including age, breastfeeding status, recent introduction of animal milks, and malnutrition. This simplified set of questions was integrated into the household survey so that all children with diarrhea of any duration would be surveyed for these risk factors. It was agreed that mid-upper arm circumference measurements as an indicator of nutritional status would be added to the survey protocol.

- B. Research Studies. Two potential research studies emerged from contacts with pediatricians in Lusaka and Monze in Southern Province. In Lusaka, I (Dr. Scott Endsley) met with Dr. Kavindele, a pediatrician at the University Teaching Hospital who holds a Masters degree in nutrition from the London School of Hygiene and Tropical Medicine (LSHTM). We discussed a protocol she had written whose

objective was to assess the risk factors for persistent diarrhea in children admitted to the DTU at UTH. After lengthy discussion, we agreed that she would reorient the protocol to focus on dietary management of persistent cases. In consultation with Dr. Andrew Tomkins at LSHTM, Dr. Kavindele proposes to develop a therapeutic diet for inpatient management of persistent diarrhea which would be based on yoghurt and maize cereal. She further would test all PD patients for HIV seropositivity to determine the differences in response to the therapeutic diet between HIV positive and HIV negative patients. She is continuing to work on the protocol design and will submit it when complete to PRITECH for review and possible financial support.

I (Dr. Scott Endsley) met with Drs. Kelly and Mukonka at the Monze District Hospital in Monze, Southern Province. The Monze hospital is a Catholic Mission/GOZ hospital which has a very active pediatric unit with wards for malnutrition and chronic diarrhea. Currently they are undertaking a study of HIV infection and malnutrition. Dr. Bhat and I held discussions with Drs. Mukonka and Kelly regarding the possibility of developing a dietary intervention study for children with persistent diarrhea. Similar to the UTH study, this study would examine the differential response to a yoghurt and maize cereal diet by HIV seropositive and HIV seronegative children. We agreed that Dr. Mukonka would develop a proposal which he would submit to PRITECH for review and possible funding. Dr. Bhat agreed to provide the technical assistance.

## CHOLERA

- A. The 1990 Epidemic. 11,137 cases of cholera were identified between November, 1990 and May, 1991, with 863 deaths (a case fatality rate of 7.8%). This was the fourth and largest epidemic since 1978. Many problems have been identified which potentially contributed to the high case fatality rate: malnutrition in the affected populations, wide dispersion of the rural populations, lateness of the national mobilization response, and inadequate case management including overuse of IVs and inappropriate transfer and isolation of patients. One key problem was the lack of trained health personnel in diarrhea case management. To address this issue, the national program, with support from WHO and UNICEF, is planning to conduct a training of trainers (TOT) in Lusaka for identified provincial groups in September. These trainers would return to their home provinces and organize, again with WHO and UNICEF support, and conduct case management training courses for provincial and

district medical officers.

PRITECH is asked to provide both financial and technical support for the provincial training which will begin in September, 1991.

#### PRITECH COUNTRY PROFILE

I (Dr. Scott Endsley) spent time with Paul Freund in completing the draft country profile. Paul reported that he encountered no problems in understanding and finding the necessary data, and felt all the indicators were appropriate.

This profile instrument will be finalized and computerized to be accompanied by a brief users manual for distribution to field staff. It would be useful to field test this instrument in a second country to refine the length and appropriateness of indicators.

## CASE MANAGEMENT EVALUATION

### I. Background

The Zambian National Control of Diarrheal Diseases Program (NCDDP) emphasizes "improved case management in the home and in health facilities as the primary strategy for decreasing diarrheal disease mortality in children under five years of age".<sup>1</sup> The four key components in this strategy include fluids, feeding, appropriate drug use and referral. The key providers of ORT include health facilities, community health workers, private practitioners, and pharmacists.

WHO formula (90mm sodium) oral rehydration salts (ORS) is the treatment of choice for dehydration in facilities. The only acceptable standard for ORS (local production and importation) is the one liter packet size meeting the WHO recommended composition. The national guidelines emphasize that ORS packets should be given to mothers present at a health facility with a child affected by diarrhea even if the child shows no signs of dehydration. Moreover, the guidelines stress that clear instructions be given to mothers on proper mixing and administration of fluid as well as advice on feeding. Health facility workers should also diagnose and treat other complicating illnesses as well as weigh the child and record the weight on the clinic card. This card should be used as a risk assessment and educational tool. Antibiotics should be limited to the treatment of dysentery and suspected cholera. No antidiarrheal drugs should be used.

The home treatment policy emphasizes locally specific home available fluids (HAF) which might be thin porridges, maize water, rice water, fruit juices and water. When available, other home therapies might include ORS and SSS. It is however emphasized that further operations research is needed to identify safe, effective and acceptable home available fluids.

A evaluation of case management practices and the potential constraints to effective case management was conducted by a joint NCDDP/PRITECH/WHO team from May 13 to May 21. The goal of this evaluation was to assess the current status of health facility case management, to identify constraints to effective case management, and to follow-up on performance of DTU-trained health workers.

A PRITECH team composed of Drs. Casazza and Endsley, and Mr. Al White, were joined by Dr. Hans Troeddson (WHO/CDR/APO), Dr. Paul Freund (PRITECH/Zambia), and Ms. Kaoma and Mr. Mphande of the Zambian CDD Secretariat. Dr. Bhat and Sister Monze who are faculty of the UTH/DTU also joined the evaluation team. Using an evaluation methodology under development jointly by WHO and

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<sup>1</sup> Zambia Control of Diarrheal Diseases (CDD) Strategy Guidelines for Implementing Policy, 1990

PRITECH which examines health facility case management and constraints to case management, this joint team visited Copperbelt, Western and Southern Provinces. Eight district level hospitals and seven rural/urban health centers were visited. The results of this evaluation are presented in Attachment 5. The sample questionnaires are shown in Attachments 2-4.

The field review was supplemented by a review of the national case management guidelines, discussion with DTU training staff, and a review of previous evaluations, including the 1990 health facility survey and the 1988 program evaluation.

## II. Conceptual Model

Performance of diarrheal case management can be conceived as being impacted by a number of factors. These factors include degree of health worker knowledge, health worker skills, demands by mothers which include patient load and maternal expectation of therapy, support mechanisms - most principally supervision, the access to supplies - including ORS and ORT corner equipment, and reward and penalties for good and poor performance, respectively. This conceptual model is presented in Attachment 1. These factors may be viewed as either antecedent, which means factors which are brought to the therapeutic encounter by the provider and patient, or consequent, which means the results of the case management encounter.

The following problem identification and recommendations will follow this conceptual model. It will focus on factors related to knowledge, skills, demands, support, supplies, and rewards/penalties.

## III. KNOWLEDGE

1. Problems Identified. The rationales and scientific bases for CRT are transmitted through DTU and supervisory skills training courses and through seminars. The key areas of knowledge are: assessment, treatment (including selection and administration of therapy), advice to mothers which includes both essential messages relating to preparation and administration of ORS or home fluids, and messages relating to prevention of diarrhea. The key problems identified were:

- a. health workers don't know to ask about other illnesses;
- b. health workers don't know to examine the general condition of the child;
- c. health workers don't know that suspected cholera is an indication for antibiotic therapy;

- d. health workers don't know to advise mothers on preventive measures in general, and on breastfeeding, hand-washing, and measles immunization, more specifically.

## 2. Recommendations.

- a. Increase emphasis on assessing the "whole child" in DTU and supervisory skills training. This should include focusing on asking about other illnesses including fever and cough, on examining the general appearance of the child, weighing the child on every clinic visit, measuring the temperature and looking for rapid or deep breathing.
- b. Plan and implement provincial level training of peripheral level staff in case management with an added day devoted to cholera case management, including appropriate antibiotic therapy. This case management training is to be conducted through identified provincial teams before the next cholera season.
- c. Expand the emphasis in case management training and in supervisory skills training on the importance of the eight key preventative strategies.
- d. Ensure that adequate numbers of English and local language mothers pamphlets are produced and distributed through district level supervisors and/or directly to health providers which focus on the two aspects of CDD communication - proper home case management (increased fluids, continued feeding and recognition of signs of referral) and prevention.
- e. The NCDDP, with support of PRITECH, UNICEF and WHO, should consider establishing a CDD newsletter which would focus on developments in the management of childhood diarrhea, including cholera and dysentery, and would encourage feedback letters from health facilities.

## V. SKILLS

1. Problems Identified. The key skills in effective case management are the assessment of the child, appropriate selection and administration of treatment, and thorough communication with the mother to impart case management and preventive knowledge and skills. Each of these categories of skills encompasses a minimal list of necessary tasks to be performed. For instance, effective assessment includes adequate history taking and complete and accurate physical examination. Using this framework, the following skill

deficits were identified after the observation of six health workers who managed diarrheal cases.

- a. Health workers do not ask mothers about blood in stools or about other illness.
- b. Health workers do not weigh children.
- c. Health workers do not make use of diarrhea treatment charts' in classifying the degree of dehydration of the child and in the selection of appropriate fluid and fluid volumes to administer.
- d. Health workers do not routinely monitor the progress of children's rehydration.
- e. Health workers do not advise mothers on ORS preparation and administration.
- f. Health workers do not advise mothers on ways of preventing future episodes of diarrhea.
- g. Rapport is not routinely established with mothers; that is, mothers are not greeted in a friendly manner and little discussion is held during the course of diagnosis and treatment. This is particularly evident when health workers prepare ORS to administer.

## 2. Recommendations.

- a. Increase emphasis in training on growth monitoring which includes: weighing, recording and interpreting anthropometric findings.
- b. Emphasize the "whole child" as recommended in III 2a.
- c. Emphasize in training exercises the use of the treatment chart to calculate volumes. This should be tested for in the post-test, perhaps included in Recommendation d.
- d. Consideration should be given to implementing a performance-based post-test which is under development by the Quality Assurance Project and WHO.
- e. Consideration should be given to producing and distributing pocket size treatment cards or incorporating the treatment charts into diarrhea assessment forms which will enable greater access and perhaps use of the treatment charts.

- f. A trial run should be given of the DTU assessment form in 1-2 districts. This form would be a register, similar to the Pakistan register form, which would have columns for name, age, sex, signs, symptoms, weight and volume to administer, volumes actually administered, other signs and symptoms, and drug therapy prescribed. This form would not only be intended to improve the management of the child with diarrhea by systematizing the recording of necessary data, but would also facilitate the completion of the CDD monthly return form. This could be distributed in 1-2 districts (ex. Lusaka or Mazabuka) and should be monitored through supervision and evaluated after 6-12 months to assess the impact on appropriateness of case management.
- g. Add Talking with Mothers module to DTU training.
- h. Ensure that adequate time is allotted for role playing emphasizing effective communication is included in training.
- i. Expand the management of the ORT corner/center sessions in training to include establishment and maintenance of health education mechanisms. This should be included in trainees' plans of action. Specified should be where, within the facility/community, health education will be performed, by whom, on what schedule, using what educational materials and covering what topics.
- j. Consideration should be given, if feasible, of distributing in the DTU kits, education materials including mothers hand-outs and flipcharts.
- k. A trial run should be given in 1-2 districts or with 1-2 cohorts of trainees of recommendations i and j with follow-up evaluation 6-12 months post DTU training.

## V. DEMANDS

1. Problems Identified. Demands on health workers include numbers of patients per unit time that they must see, severity of cases, maternal expectations, and expectations of internal supervisors. The evaluation addressed only the patient load demand. Patient loads may be excessive due to either staff shortages or inefficient distributions of staff and task allocation, or both.

- a. 40% of health workers state that they have more diarrhea cases than they can handle. (annual incidence of diarrhoea is 5.1 episodes).

- b. 44% of clinic heads reported staff shortages.
- c. 36% of health workers stated that they were dissatisfied with the amount of time that they had to spend with each diarrhea case.

2. Recommendations.

- a. The NCDDP, with support from UNICEF, PRITECH and WHO, should consider conducting with the Division of Reproductive Health at the Centers for Disease Control, a patient flow analysis of selected district hospitals and health centers.
- b. Lessons learned from the patient flow analysis should be incorporated into a strengthened ORT corner management module for DTU training on a trial basis.

VI. SUPPORT/SUPERVISION

1. Problems Identified. Supervision of both urban and rural health centers includes both periodic external visits by the district or provincial CDD coordinator, and regular internal supervision by higher level staff within the facility. Our evaluation found that both areas of supervision were deficient, particularly external supervision. Specific problems identified were:

- a. District level CDD supervisors did not have transport or did not coordinate with other program supervisors to have combined supervisory visits. This was true for both urban and rural health centers.
- b. Supervisory checklists were not used.
- c. When external supervisory visits were done, there was little reported observation of performance and little feedback provided to health workers.
- d. Internal supervision, though more frequent, often was not systematic with infrequent observation of performance. Internal supervision tended to be "crisis-oriented"; that is, was performed only when there was a complicated case. Thus the internal supervisor was looked upon as an "consultant".
- e. There was confusion by staff over the identity and role of internal supervisors. This was particularly true for district hospitals.

2. Recommendations.

- a. PRITECH should consider discussing with WHO and UNICEF in support of provincial-level workshops,

with district health management teams and program supervisors, to develop district-specific supervisory plans of actions including resource identification. The focus should be on district-level problem-solving using district resources. These workshops should also clarify the relationship between central, provincial and district supervisors.

- b. PRITECH, with WHO and UNICEF, should consider support of implementation of district-specific plans of action in 1-2 selected districts with evaluation 6-12 months after implementation.
- c. PRITECH should work with UNICEF and WHO on the development of an integrated primary health care (PHC) supervisory checklist which could be used by both external and internal supervisors.
- d. Where feasible, training facilitators (DTU, district courses) should be included in supervisory visits.

## VII. SUPPLIES

1. Problems Identified. Health workers and facility supervisors are entrusted with the responsibility of establishing functional ORT corners or centers. To accomplish this, there is a need for material support which includes tables, cups and spoons, containers, water within easy access, educational materials, ORS and selected antibiotics, treatment charts, and registers/assessment forms. Some of these materials can be obtained locally whereas others come from district, provincial or central levels. Within these material needs, we identified as problems:

- a. lack of cups and spoons which frequently was cited as the principal reason for not establishing ORT corners;
- b. lack of mothers' hand-outs;
- c. lack of registers and/or assessment forms;
- d. ORS shortages in urban health centers in Lusaka.

2. Recommendations. The evaluation team found few centers except in Lusaka that were currently experiencing or had experienced shortages of ORS. Further, most health centers visited had access to water, and most had tables and cups.

- a. DTU kits to include treatment charts, educational materials, cups and spoons, register/assessment forms be furnished to trainees on completion of DTU course.

- d. ORS packets, assessment forms and monthly returns, and mothers hand-outs should accompany all supervisory visits, especially central level supervision.
- c. The NCDDP should coordinate with the UCI program coordination on combined delivery of ORS packets and vaccines to Lusaka urban health centers.

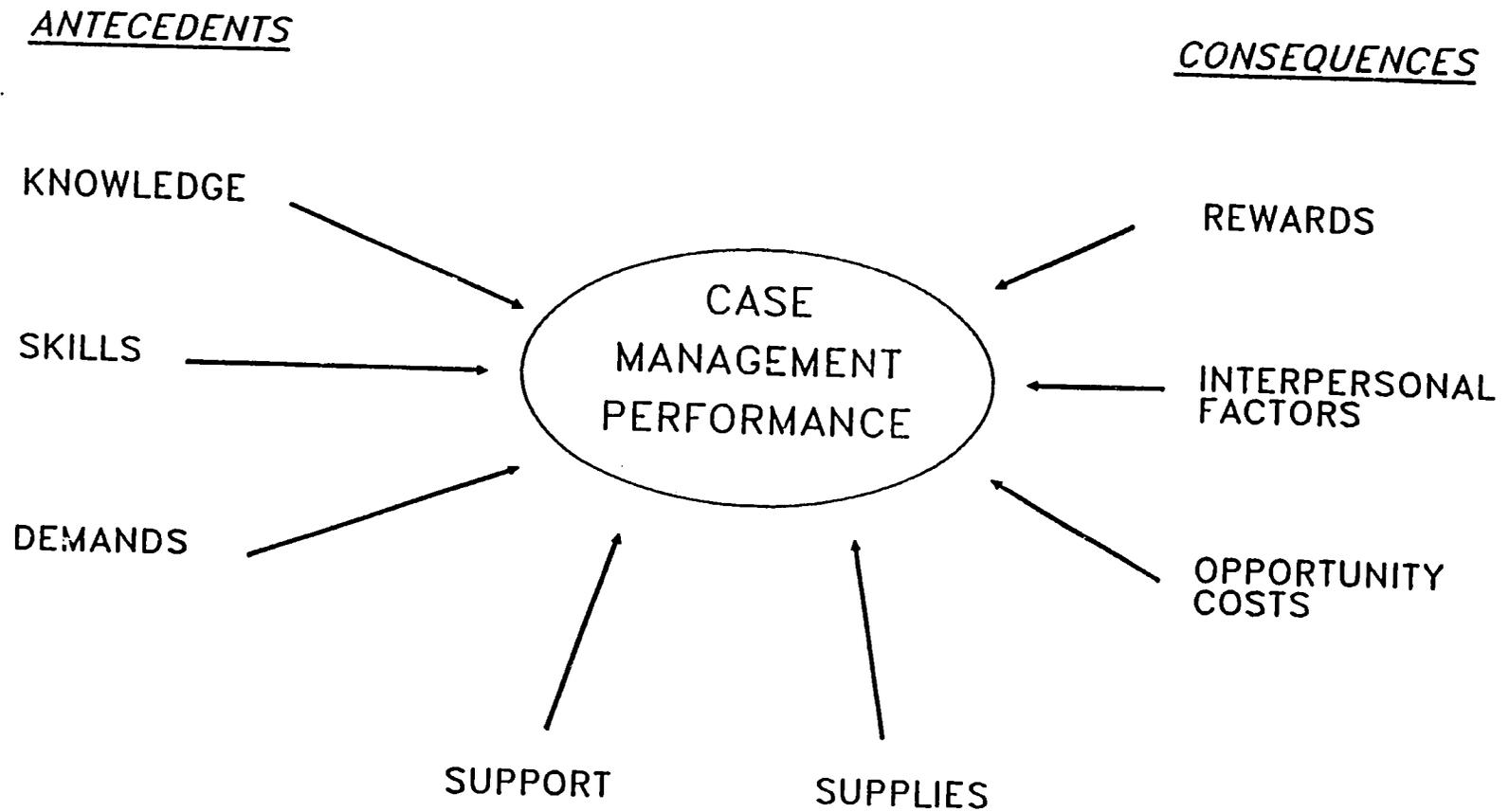
#### VIII. REWARDS/ PENALTIES

1. Problems Identified. With the exception of the Arthur Davidson Hospital in Ndola, the evaluation team found no evidence of rewards offered for good performance. Consequences for poor performance were in place, however, there is some question as to enforcement of these penalties.

#### 2. Recommendations.

- a. Upon graduation from DTU course, successful trainees could be awarded a plaque in metal or wood which would read (perhaps): "ORT Center".
- b. On follow-up visits to DTU trainees by central NCDDP staff, if the facility is found to be functioning within acceptable limits (i.e. ORT corner has been established and is well-managed), the NCDDP should send to this facility a letter of recognition with a plaque of accreditation that could be hung below the ORT Center plaque.
- c. The NCDDP staff should discuss with appropriate representatives of the Zambian Ministry of Health how incentives are or could be structured for public health employees, particularly with regard to facilities operating ORT corners.
- d. As highlighted in Recommendation III 2e, health workers identified by supervisors as being particularly good diarrheal case managers could be highlighted in the newsletter.

# CONSTRAINTS TO CASE MANAGEMENT PERFORMANCE



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FACILITY MANAGEMENT

Facility Name: \_\_\_\_\_ Date: \_\_\_\_\_

Facility Type: \_\_\_\_\_ (Hospital, Health Center )

Urban/Rural: /\_\_\_/ (U,R)

Interviewer: \_\_\_\_\_ (initials)

INTERVIEW WITH THE CLINIC HEAD  
 \*\*\*\*\*

IDENTIFY THE PERSON WHO IS THE HEAD OF THE CLINIC

1. How many people work at this facility? /\_\_\_/
2. How many of these people take care of children with diarrhoea? /\_\_\_/
3. Are there any current staff vacancies? Y N
4. Would you say there are enough staff to handle diarrhoea patients? Y N
5. In the last 3 months, has any staff member not received his salary? Y N  
 - if yes, is this a regular problem Y N
6. Is housing provided for staff? Y N
7. How many hours per day is this facility open /\_\_\_/
8. Do you ever give IV fluids in this facility? Y N
9. During the last 3 months, has this facility been without any of the following items?
  - a. ORS packets \_\_\_\_\_
  - b. containers for preparing ORS \_\_\_\_\_
  - c. cups and spoons \_\_\_\_\_
  - d. education materials for mothers \_\_\_\_\_
  - e. IV solutions and IV sets \_\_\_\_\_
  - f. antibiotics \_\_\_\_\_  
 (trimethoprim-sulpha, tetracycline)

10. If you run out of ORS, is it difficult or easy to get them?  
 difficult \_\_\_ easy \_\_\_
11. Is there a regular system of supply or do you have to make a special request when you need more?  
 regular supply \_\_\_ special request \_\_\_
12. Have you received training, in treatment of children with diarrhoea? Y N  
 (IF YES -----> Q12, IF NO -----> Q14)
13. If yes, was this training in?  
 a. supervisory skills \_\_\_\_\_  
 b. clinical management \_\_\_\_\_
14. Of those people in this facility who take care of children with diarrhoea, how many have received training? /\_\_\_\_/
15. Have there been any special training sessions in this facility to teach treatment of diarrhoea? Y N
16. Are there regular staff meetings held to discuss problems? Y N
17. Do you observe your staff in their treatment of children with diarrhoea? Y N
18. Do you use a checklist to assess performance? Y N
19. Do you provide feedback on performance? Y N
20. Do you assist your staff in the management of complicated diarrhoea cases? Y N
21. Are you supervised for CDD activities by an external supervisor? Y N
22. What did this supervisor do the last visit?  
 a. observe diarrhoea cases being treated \_\_\_\_\_  
 b. check supplies and records \_\_\_\_\_  
 c. give demonstrations/advice \_\_\_\_\_
24. Are these visits helpful for your activities? Y N

I WOULD LIKE TO LOOK AT YOUR FACILITY WITH YOUR PERMISSION

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## OBSERVATION OF THE FACILITY

- I. Site
25. Is there a special ORT area? Y N
26. Is there a functioning water tap nearby  
(within 2 minutes walk one way) Y N
27. Is there an Diarrhoea Treatment Chart  
on the wall in the treatment area? Y N
28. Is there a functioning weighing scale? Y N
29. Are there assessment forms for diarrhoea? Y N
30. Is there a register book?  
- if yes, how many diarrhoea cases  
in last 5 days? Y N  
—/
31. Are there tables for mixing ORS? Y N
32. Are there containers for ORS? Y N
33. Are there cups and spoons? Y N
34. Are there mothers' handouts? Y N
- II. Drug Supply
34. Is ORS stored properly (clean, dry) Y N
35. Number of packets in store? —
36. Are any of these expired? Y N
37. Are there IV solutions? Y N
38. Are there pediatric IV sets? Y N

F--

## HEALTH WORKER INTERVIEW

Facility Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Facility Type: \_\_\_\_\_ (Hospital, Health Center )  
 Urban/Rural: /\_\_\_/ (U,R)  
 Interviewer: \_\_\_ (initials)  
 Case Observed? Y N

BASIC DATA  
 \*\*\*\*\*

1. Name: \_\_\_\_\_
2. Age: \_\_\_\_\_ /\_\_\_/ (yrs)
3. Sex: \_\_\_\_\_ M F
4. Position Title: \_\_\_\_\_
5. How long have you worked in this facility? \_\_\_\_\_ /\_\_\_/ /\_\_\_/ (yrs) (mo)
6. Have you worked in other facilities? \_\_\_\_\_ Y N  
 (IF YES -----> Q7, IF NO-----> Q8)
7. Did you take care of children with diarrhoea? \_\_\_\_\_ Y N
8. How many days per week do you work here? \_\_\_\_\_ /\_\_\_/
9. How many children with diarrhoea did you see yesterday? \_\_\_\_\_ /\_\_\_/
10. In the last month have you seen any children with-  
 a. severe dehydration? \_\_\_\_\_ Y N
11. Do you think that you treat? (TICK ONE)
  - a. fewer patients than you can handle \_\_\_\_\_
  - b. as many patients as you can handle \_\_\_\_\_
  - c. more patients than you can handle \_\_\_\_\_

TRAINING  
\*\*\*\*\*

12. Have you received training in treatment of children with diarrhoea? Y N  
(IF YES -----> Q13, IF NO -----> Q27)
13. Where was this training? \_\_\_\_\_  
(location)
14. When was the training held? \_\_\_\_\_  
(mo/year)
15. How long did the training last? \_\_\_\_\_  
(days)
16. In this training, did you treat patients yourself? Y N  
(IF YES -----> Q17, IF NO -----> Q21)
17. What portion of the training involved direct patient care?  
a. less than half the time \_\_\_\_\_  
b. more than half the time \_\_\_\_\_  
(TICK ONE)
18. In the training, did you take care of a -  
a. severely dehydrated patient Y N  
b. complicated patient Y N
19. Did the instructors provide feedback during practical sessions? Y N
20. Was instruction during the practical sessions individual or group or both?  
a. individual \_\_\_\_\_  
b. group \_\_\_\_\_  
c. both \_\_\_\_\_
21. During the training, did you write plan of action? Y N
22. Have you implemented this plan-  
a. not at all \_\_\_\_\_  
b. some of it \_\_\_\_\_  
c. all of it \_\_\_\_\_

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23. To help implement your plan, were you provided-
- |                               |   |   |
|-------------------------------|---|---|
| a. treatment wall chart       | Y | N |
| b. health education materials | Y | N |
| c. materials to train others  | Y | N |
| d. other supplies/materials   | Y | N |
- specify? \_\_\_\_\_

24. Do you feel the training course prepared you adequately to-
- |   |   |   |
|---|---|---|
| a. assess children with diarrhoea         | Y | N |
| b. treat children with diarrhoea          | Y | N |
| c. teach mothers about ORT                | Y | N |
| d. train other health workers             | Y | N |
| e. organize/manage your ORT centre/corner | Y | N |

25. Since the training course, have you taught other workers in this facility or elsewhere about oral rehydration therapy?
- Y N

**SUPERVISION**

\*\*\*\*\*

26. Who is your supervisor from outside this facility?  
 \_\_\_\_\_ (name)
27. How often does he/she visit each year? /\_\_\_/
28. Has he/she visited in the last 3 months? Y N
29. How long did he/she stay last visit? /\_\_\_/ (hrs)
30. Did he/she observe you treating a diarrhoea case? Y N
31. Did he/she give you feedback on your performance? Y N
32. Do you feel that these visits improve your ability to treat children with diarrhoea? Y N
33. Do you have an immediate supervisor (one based at this facility)? Y N  
 (IF YES -----> Q 34, IF NO -----> Q38)
34. Does this person observe you treating patients? Y N

35. Does this person provide feedback on your performance? Y N
36. Do these contacts improve your ability to treat children with diarrhoea? Y N
37. When you have a complicated case, is there someone in this facility with whom you discuss the case? Y N

**INFORMATION**  
\*\*\*\*\*

38. Do you or this facility receive any newsletters or other materials to keep you current on diarrhoeal disease? Y N
39. Do you or this facility receive feedback on the reports that are submitted? Y N

**ATTITUDES**  
\*\*\*\*\*

40. Are you satisfied with-
- a. ORS supplies that are available Y N
  - b. amount of supervision you receive Y N
  - c. equipment available Y N
  - d. the space and layout of this facility Y N
  - e. record-keeping duties Y N
  - f. the way you are perceived by community Y N
  - g. respect you get from internal supervisor Y N
  - h. time you have to spend with patients Y N
  - j. treatment you give to children for diarrhoea Y N

**KNOWLEDGE**  
\*\*\*\*\*

41. If a child has diarrhoea, what questions do you ask about the illness? (TICK ALL RESPONSES GIVEN -DO NOT READ)
- a. # days of diarrhoea \_\_\_\_\_
  - b. blood in stools \_\_\_\_\_
  - c. presences of other illness \_\_\_\_\_

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- 42. To decide if a child is dehydrated, what questions do you ask the mother about? (TICK ALL RESPONSES GIVEN -DO NOT READ)
  - a. number of stools per day \_\_\_\_\_
  - b. presence and amount of vomiting \_\_\_\_\_
  - c. thirst - is child drinking \_\_\_\_\_
  - d. decreased or no urine \_\_\_\_\_
  
- 43. To decide if a child is dehydrated, what do you look for when you examine the child? (TICK ALL RESPONSES GIVEN - DO NOT READ)
  - a. general condition \_\_\_\_\_
  - b. presence of tears \_\_\_\_\_
  - c. sunken eyes \_\_\_\_\_
  - d. dry mouth and tongue \_\_\_\_\_
  - e. skin pinch \_\_\_\_\_
  
- 44. What step do you take first to treat a child with diarrhoea who has signs of some dehydration? (TICK ALL RESPONSES GIVEN - DO NOT READ)
  - a. home with advice on ORS or home fluid \_\_\_\_\_
  - b. home with packet of ORS \_\_\_\_\_
  - c. treat with ORS in the facility \_\_\_\_\_
  - d. admit or refer for IV rehydration \_\_\_\_\_
  
- 45. When do you prescribe an antibiotic for a child with diarrhoea? (TICK ALL RESPONSES GIVEN - DO NOT READ)
  - a. diarrhoea with blood \_\_\_\_\_
  - b. suspected cholera \_\_\_\_\_
  
- 46. When do you prescribe an antidiarrhoeal for a child with diarrhoea? (TICK ALL RESPONSES GIVEN - DO NOT READ)
  - a. never \_\_\_\_\_
  - b. other \_\_\_\_\_
  - specify? \_\_\_\_\_
  
- 47. What are the best ways to prevent diarrhoea? (TICK ALL RESPONSES GIVEN - DO NOT READ)
  - a. breast-feeding \_\_\_\_\_
  - b. proper weaning/feeding practices \_\_\_\_\_
  - c. plenty of clean water \_\_\_\_\_
  - d. hand-washing \_\_\_\_\_
  - e. use of latrines \_\_\_\_\_
  - f. dispose feces properly \_\_\_\_\_
  - g. measles vaccination \_\_\_\_\_

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NOW I WOULD LIKE TO GET YOUR THOUGHTS ON WORKING IN THIS FACILITY AND THIS COMMUNITY.

48. If you do a bad job, are there any penalties/punishments? Y N  
- if yes, what are they? \_\_\_\_\_
49. If you do a good job, are there any rewards? Y N  
- if yes, what are they? \_\_\_\_\_
50. What do you think are the main factors which help or hinder you ability to treat children with diarrhoea? Tell me about them.
51. What are the positive aspects to working in this place?

Form\_5

## CASE MANAGEMENT OBSERVATION

Facility Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Facility Type: \_\_\_\_\_ (Hospital, Health Center )  
 Urban/Rural: /\_\_\_/ (U,R)  
 Interviewer: \_\_\_ (initials)

## ASSESSMENT

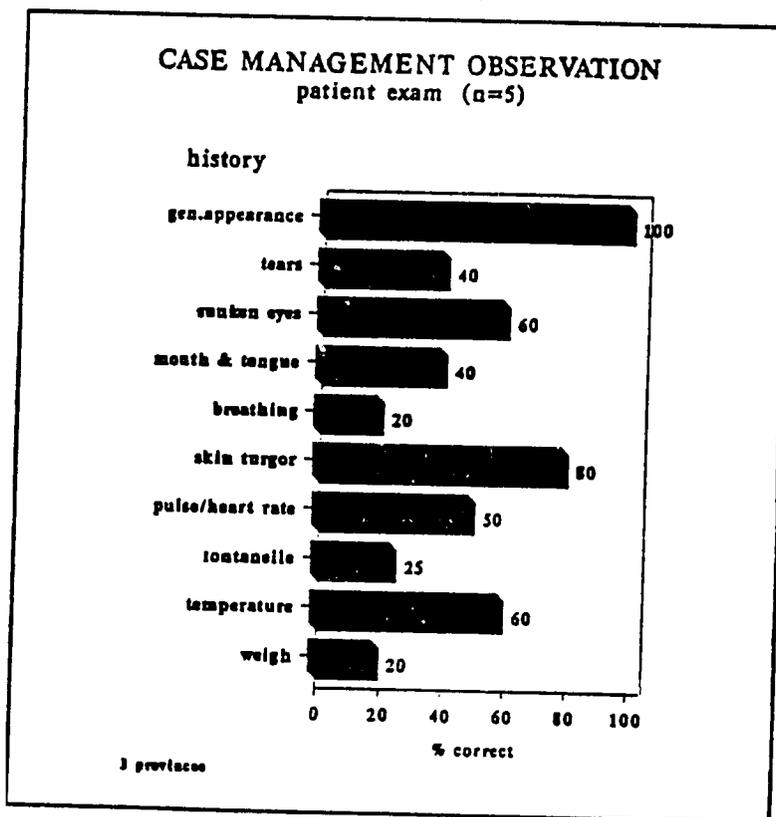
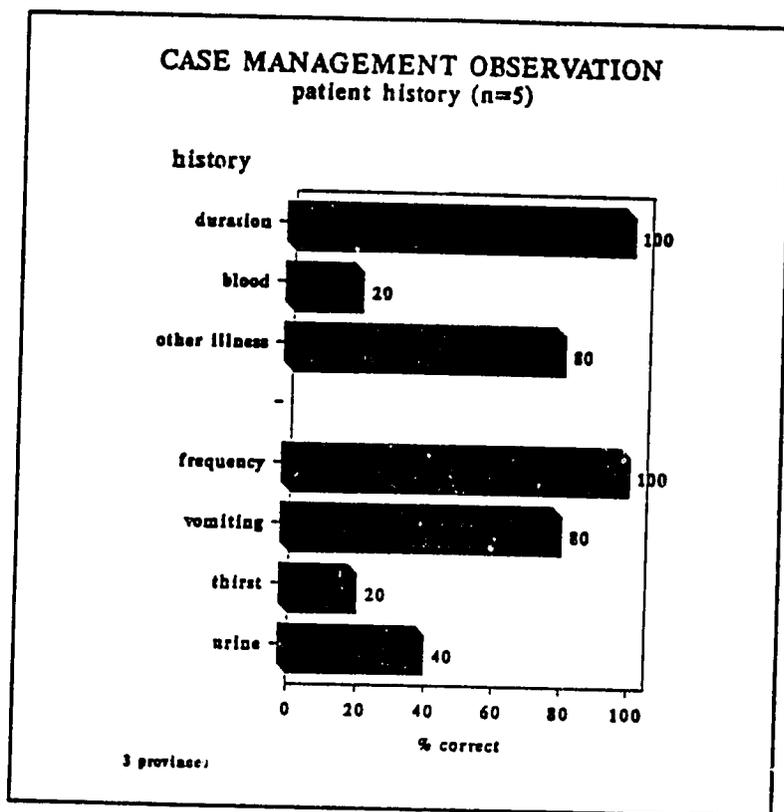
1. Does the health worker ask?
  - a. How many days of diarrhoea? Y N
  - b. Is stool bloody? Y N
  - c. Does the child have other illnesses? Y N
2. Does the health worker ask about?
  - a. Number of watery stools in last 24 hrs? Y N
  - b. Vomiting? Y N
  - c. Thirst? Y N
  - d. Urine? Y N
3. Does the health worker examine?
  - a. child's general appearance? Y N
  - b. tears? Y N
  - c. eyes Y N
  - d. mouth and tongue? Y N
  - e. breathing? Y N
  - f. skin pinch Y N
  - g. pulse or heart rate? Y N
  - h. fontanelle? Y N
4. Temperature taken? Y N
5. Child is weighed? Y N
6. Nutrition is assessed by?
  - a. visual inspection? Y N
  - b. arm circumference? Y N
7. Health Worker's conclusion about degree of dehydration? A \_\_\_ B \_\_\_ C \_\_\_

## TREATMENT OF CHILD

8. Treatment selected according to?  
 a. weight of child? \_\_\_\_\_  
 b. age using a treatment chart \_\_\_\_\_
9. Initial treatment selected according to Plan?  
 (TICK THE TREATMENT SELECTED)
- Plan A  
 a. home with no advice about ORS/home fluid \_\_\_\_\_  
 b. home with only advice about ORS/home fluid \_\_\_\_\_  
 c. home with ORS \_\_\_\_\_  
 d. other? \_\_\_\_\_  
     - specify? \_\_\_\_\_
- Plan B  
 d. treat with ORS in facility \_\_\_\_\_  
 e. other \_\_\_\_\_  
     - specify? \_\_\_\_\_
- Plan C  
 f. admit or refer for IV rehydration \_\_\_\_\_  
 g. treat with ORS in facility \_\_\_\_\_  
 h. other? \_\_\_\_\_  
     - specify? \_\_\_\_\_
10. Are antibiotics prescribed/given? Y N  
 (IF YES -----> Q11, IF NO -----> Q12)
11. If yes to Q10, what was the reason?  
 a. blood in stools \_\_\_\_\_  
 b. suspected cholera \_\_\_\_\_  
 c. other? \_\_\_\_\_  
     - specify? \_\_\_\_\_
12. Is an antidiarrheal prescribed/given? Y N
13. Does the health worker monitor the progress  
 of rehydration while in the facility? Y N

## ADVICE TO MOTHERS

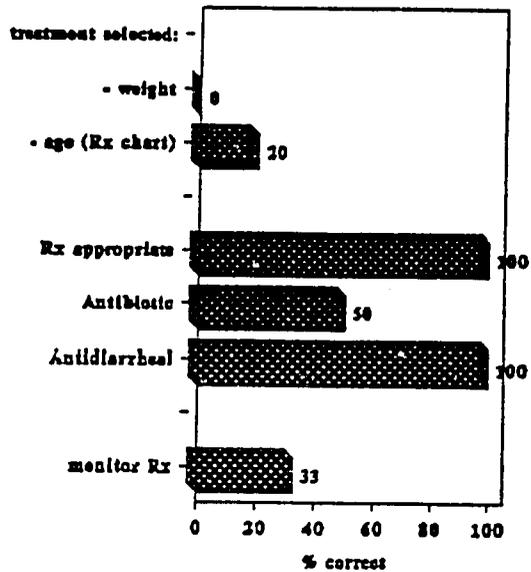
14. If ORS is given or recommended to the mother, does the health worker-
- a. explain ORS replaces fluid loss \_\_\_\_\_
  - b. explain/demonstrate how to prepare ORS \_\_\_\_\_
  - c. explain/demonstrate how much to give \_\_\_\_\_
  - d. check to see if instructions understood \_\_\_\_\_
15. Does the health worker advise the mother on?
- a. diet during and after diarrhea \_\_\_\_\_
  - b. when to bring the child to health worker for care \_\_\_\_\_
  - c. proper nutrition \_\_\_\_\_
  - d. using clean water \_\_\_\_\_
  - e. proper hygiene \_\_\_\_\_



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**CASE MANAGEMENT OBSERVATION**  
treatment (n=5)

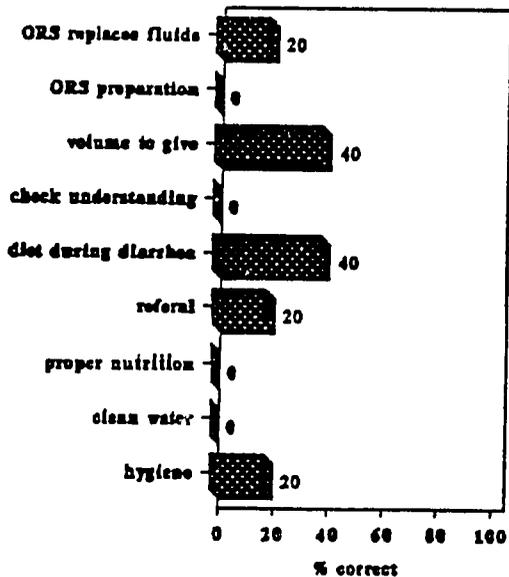
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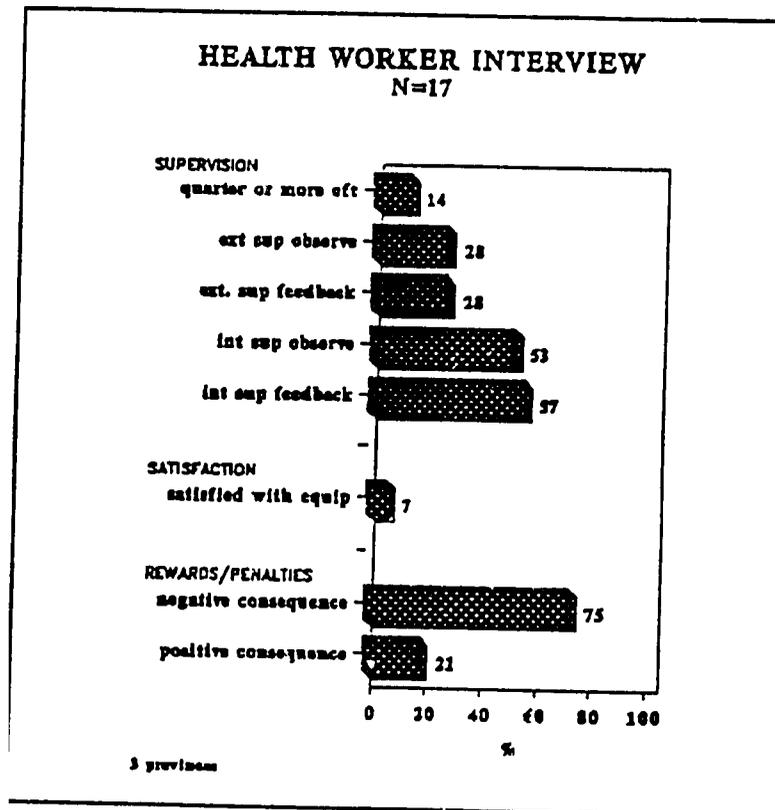
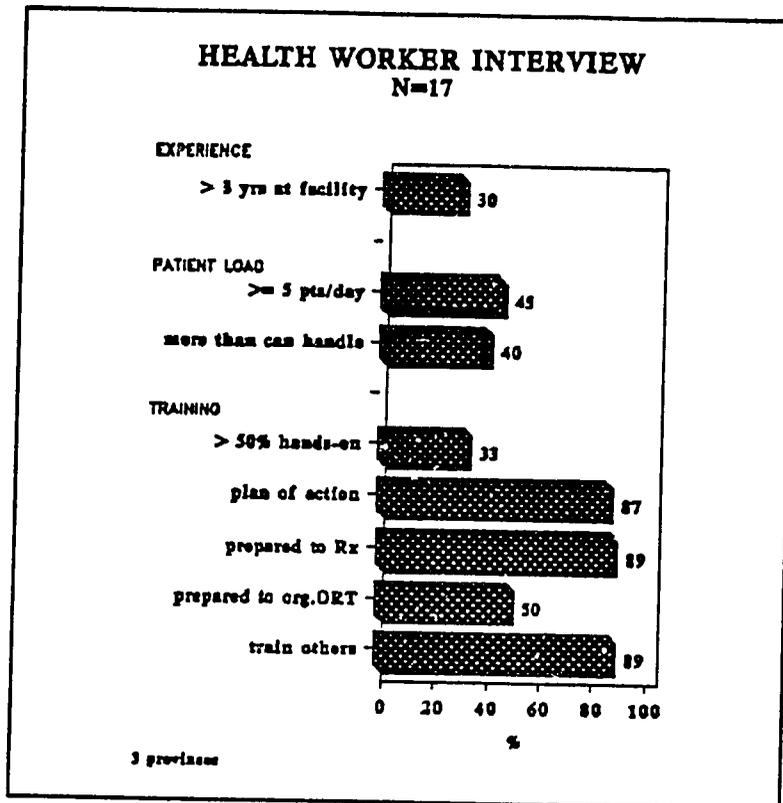
3 provinces

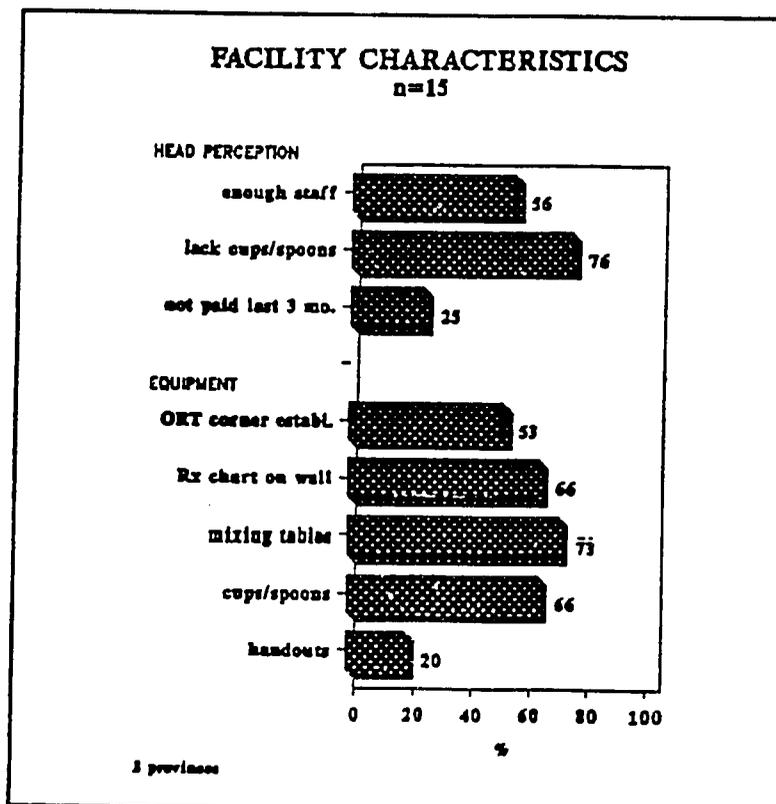
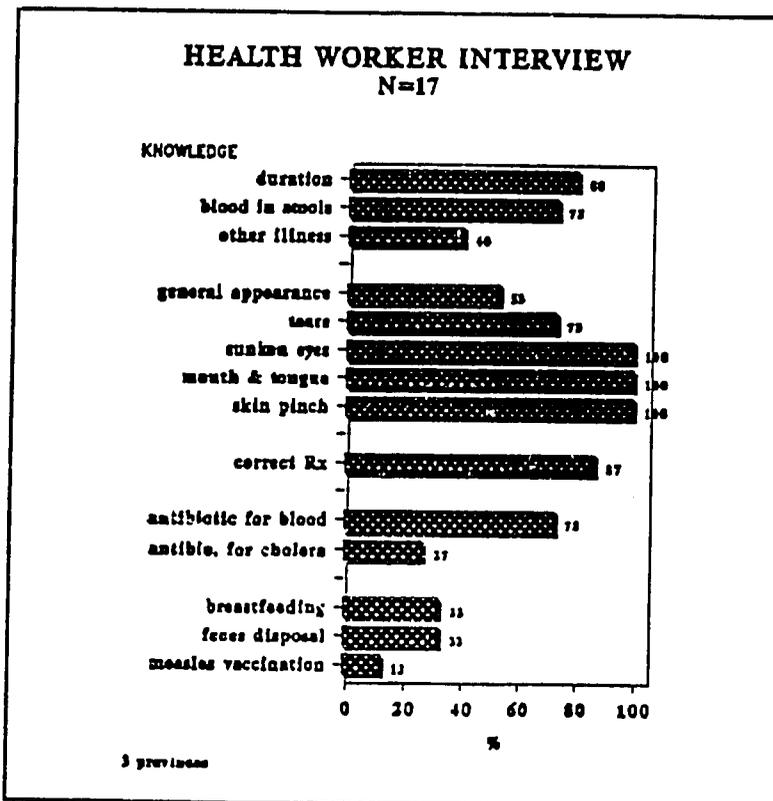
**CASE MANAGEMENT OBSERVATION**  
advice (n=5)

history



3 provinces





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REPORT ON THE SUPERVISORY TOUR TO SOUTHERN PROVINCE  
14 - 17 MAY 1991

by

Dr. Hans Troedsson  
APO/CDR/WHO  
Lusaka, Zambia

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## 1. INTRODUCTION

In order to get assessment of the CDD program. in Southern Province and to pre-test three questionnaires for case management evaluation the CDD Secretariat together with PRITECH and WHO undertook a supervisory tour during 14 - 17 May 1991.

The participants of the tour were Dr. Scott Endsley, PRITECH Consultant from Washington, Mrs. Mary Kaoma, CDD Secretariat/MoH, Mr. Mulenga, driver/MoH, and Dr. Hans Troedsson, APO/CDR/WHO. Dr. Bhat, Head of Paediatrics/University Teaching Hospital/Lusaka joined the team on May 15.

The pre-tested forms for case management, developed by PRITECH and WHO, were: "Health worker interview" with questions on basic background data, training, supervision, information, attitudes, and knowledge. "Facility management" including interview with the clinic head, and an observation of the facility. "Case management observation" with observation on assessment, treatment of a child with diarrhoea and advice to mothers.

The team found the forms easy to administer, and useful instruments in the evaluation of case management and identifying problems in the health facilities. If modified, the forms could also be a foundation for supervision in Zambia.

Southern Province has nine districts: Choma, Gwembe, Kalomo, Monze, Livingstone, Mazabuka, Namwala, Siavonga, Sinazongwe. The population is 946.353, with an annual population growth rate of 3.4%. The rural areas account for 80% of the population while urban areas account for 20%.

## 2. PLACES VISITED

- Office of the Provincial Medical Officer, Livingstone
- Mazabuka District Hospital
- Nakambala Sugar Estate Health Clinic
- Nega-Nega Rural Health Centre
- Batoka Rural Health Centre
- Sikalongo Rural Health Centre
- Choma General Hospital
- Mukuni Rural Health Centre
- Maramba Urban Health Centre
- Livingstone General Hospital
- Monze District Hospital

### 3. GENERAL OBSERVATIONS

#### 3.1 MAZABUKA DISTRICT

##### Mazabuka District Hospital:

An ORT-corner is established in the paediatric ward, the location of the corner is at the very back of the ward, which makes supervision difficult. The management chart is too high up on the wall, making it difficult to consult. The ORT-corner needs to be equipped with more cups and spoons. According to the records, inadequate amounts of ORS were sometimes given.

There is no ORT-corner in the OPD. The constraints are shortage of staff and equipment. An area just outside the OPD was identified by the team and the health staff, where an ORT-corner could be established. The clinical officer has a management chart on the wall in the assessment room. Health education seemed to be given to the mothers. The health workers at the OPD only described how to mix ORS, they did not demonstrate how to prepare ORS.

The hospital is well supplied with ORS.

Last year a 3-days CDD seminar was conducted by the CDD Secretariat in conjunction with WHO and UNICEF. The participants were 24 health workers from the health centers in the district. The training also included practical exercises with diarrhea cases. One of the facilitators was Dr. Bhat from UTH, who has experience from the clinical case management courses at the DTU in Lusaka.

This training was very much appreciated by the participants and it seemed to have had an impact on the case management in the district. Unfortunately, no supervision of the participants had been carried out after the training, due to lack of transport. A better coordination of existing transport would probably improve the supervision of rural health centers.

The district CDD-coordinator did not submit the ORS monthly returns, because she had not received adequate information.

##### Nakambala Sugar Estate Health Clinic:

The catchment area of the clinic has a population of 58.000 people. The sugar company is running the clinic with a medical advisor and 18 health workers.

The clinic has a well organized ORT-corner in use day and night. They are using assessment forms, but no register for diarrhoea cases. There is often a shortage of ORS. No health education materials were available.

The medical advisor is Dr. Sinwangwe, who is trained at the DTU in Lesotho. He is interested to participate as a facilitator in the clinical case management courses at the DTU in Lusaka.

Nega-Nega Rural Health Center:

The health staff have intentions to set up an ORT-corner, since diarrhea is a prominent problem in the area. The major constraint to establish an ORT-corner is the lack of equipment, such as cups and spoons.

The health center needs to be supplied with more ORS. The Essential Drugs Program will soon increase the number of sachets in the drug kits to all rural health centres from 150 to 200 per month. Supplementary supplies can be provided from the district hospital or the CDD Secretariat at Old Medical Stores in Lusaka.

No health education materials were available. There is a need for information in tonga, the local language.

The health center seemed to have well established routines regarding assessment and treatment of diarrhoea cases. The health workers have been more motivated and also improved their case management after they participated in the CDD seminar last year.

The major constraint to submit ORS monthly returns is lack of stationery.

A cholera treatment center was established next to the health center in Nega-Nega during the outbreak. Staff from the health centre worked in the cholera treatment center. No cholera case management training was conducted before or during the outbreak.

### 3.2 CHOMA DISTRICT

Batoka Rural Health Center:

There is no ORT-corner established. The health center is well supplied with ORS. There is a need for cups and spoons. The health center was provided with CDD management charts by the team.

The health center staff emphasized mothers health education, e.g. one mother was selected and trained in the morning to show other caretakers how to mix ORS. Case management routines seemed to be adequate.

Supervision has to be improved by the district CDD-coordinator. There were no regular visits to the health center.

Sikalongo Rural Health Center:

This is a missionary supported health center. They are well supplied with ORS. Malnutrition is common in the area. The health center has well established routines on rehydration, but there seems to be an overuse of naso-gastric tubes.

The health workers were interested in setting up an ORT-corner. The health center should send one participant to the next clinical case management course at the DTU in Lusaka.

Choma General Hospital:

There is an ORT-corner in the pediatric ward, with a table for mixing ORS and a management chart on the wall. The mothers have to bring their own cups and spoons. The OPD is without an ORT-corner, due to lack of space. The team identified an area next to the pediatric ward, that could be used as an ORT-corner for OPD-cases. The hospital has to be equipped with cups and spoons.

During a dysentery outbreak in December 1990, ORT-corners were established in the adult wards.

There is no shortage of ORS.

Three persons at the hospital have participated in the clinical case management courses at the DTU in Lusaka. They seemed to train and to supervise the hospital staff. They have not yet organized training for other health workers in the district.

### 3.3 KALOMO DISTRICT

Mukuni Rural Health Center:

The health center is well supplied with ORS. There is no ORT-corner. There is a need for equipment such as cups, spoons and health education material.

The staff have never received any CDD supervision or information from the district or provincial CDD-coordinators. The clinical officer at the health center was not aware of the existence of a CDD program in Zambia.

The health workers seemed to be very motivated and interested in setting-up an ORT-corner. They need to be provided with cups and spoons, and to be supervised on a regularly basis.

The health center did not submit any ORS monthly returns, due to lack of supervision and stationery.

There are problems with sanitation in the area, due to scarcity of water and collapsing latrines constructed on sandy ground. The health centre will in collaboration with the health inspector office and UNDP start a project to improve the sanitary conditions in the area.

The team observed the management of a diarrhea case at the health center. The assessment and treatment of the case were correct, but the health worker did not undress the child, weigh the child, check the nutritional status, use the children's clinic card, advise the mother on feeding. Instead of demonstrating how to prepare ORS, the health worker turned her back to the mother when she was mixing the ORS.

### 3.4 LIVINGSTONE DISTRICT

#### Maramba Urban Health Center:

The health center staff takes care of approximately 200 diarrhea cases per month. No one of the health workers had received training in treatment of children with diarrhea. There is no ORT-corner in the health center. There is no shortage of ORS or i.v. fluids. Cups and spoons were available, but management chart had to be provided.

Diarrhea cases were either sent home with ORS or if they were severe dehydrated referred to the hospital. Moderate dehydrated cases were not treated with ORS in the facility, they were referred to the hospital or sent home. This mismanagement of moderate dehydrated children was pointed out to the health staff by the team. The best improvement would be to establish an ORT-corner where these cases could receive treatment and be under observation. The team assisted the health staff to identify a space for the ORT-corner in the facility. One health worker will be responsible for the implementation, and the follow-up will be carried out by Mrs. Hamakala, the district supervisor.

#### Livingstone General Hospital:

An ORT-corner is established in the pediatric ward. There is a need for more space and equipment, e.g. cups and spoons. The hospital is usually well supplied with ORS, but there was no ORS in stock last month due to distribution problems.

Mrs. Ngandu, nursing officer, and Mr. Sepiso, clinical instructor, have been trained at the DTU in Lusaka. They will conduct a CDD clinical case management course this month for 27 participants from the urban health center in the district. The 5-days training will include case management, practical training, discussions on how to set up ORT-corners etc.

### 3.5 MONZE DISTRICT

#### Monze District Hospital:

The hospital has detailed guidelines for rehydration therapy. Most of the diarrhea cases are treated with SSS, due to scarcity of ORS. The team informed the health staff that supplementary ORS supplies can be provided from the CDD Secretariat at Old Medical Stores in Lusaka. Promotion of SSS should be discouraged, since there is a shortage of sugar in the area.

The hospital has an own production of i.v. fluids. There is no potassium in the fluids, and the content of sodium is low. The hospital should contact General Pharmaceutical Limited in Kabwe, to find out if the company can provide the hospital with potassium-chloride to add to the fluids.

The records from 1990 show that the hospital had 404 in-patients with diarrhea and 57 deaths. Giving a case fatality rate of 14%.

Diarrhea is the leading cause of morbidity and mortality in children in the region.

The health facility has a well organized malnutrition ward. In health education to mothers feeding and continued breastfeeding are emphasized.

The hospital will send two participants to the next clinical case management course at the DTU in Lusaka.

#### 4. CASE MANAGEMENT

The general impression is that the majority of health workers make correct assessment and give appropriate treatment to children with acute diarrhea. The major deficiency is in the level of communication with the mothers regarding ORS purpose, use, preparation and administration. There is also a need for a more holistic approach to the child's health, e.g. assessment of the presences of other illness was often neglected.

Preventive advice and messages to the mothers were seldom given by the health workers.

There is a high acceptance among mothers and health workers to ORT.

Since malnutrition is very common in children with diarrhea, the importance of a nutrition component and use of the growth charts should be more emphasized in the case management.

Establishing of ORT-corners in the health facilities would probably improve the case management practices, including communication with mothers and other health education activities.

#### 5. ORS AND OTHER SUPPLIES

The majority of health facilities visited were well supplied with ORS, though the distribution within the districts sometimes needs to be improved. Few centers had experienced shortages of ORS. The CDD Secretariat at Old Medical Stores can also provide extra supplies of ORS.

The promotion of GSS should be discouraged, if there is a shortage of sugar or salt in the region.

Most of the health facilities visited had a shortage of pediatric i.v. sets.

## 6. ORT-CORNERS

ORT-corners have only been established in pediatric wards in hospitals. There were no ORT-corners in the OPDs and health centers visited by the team. The major constraints seemed to be of local nature, e.g. lack of space and equipment, shortage of staff, low motivation etc.

All health facilities needed equipment, such as cups, spoons and jugs.

The Canadian High Commission has donated funds for basic ORT-corner equipment to 600 health centers throughout the country. It will be a first priority to the CDD Secretariat to distribute and provide the health facilities with the necessary equipment.

## 7. TRAINING ACTIVITIES

CDD clinical case management training was conducted in Mazabuka and Livingstone districts. The courses included practical training and seemed to be appreciated by the participants, who were health workers from rural and urban health centers. The training will improve case management in the health facilities and encourage the establishing of ORT-corners.

## 8. SUPERVISION

The supervision at district and provincial levels are inadequate or non-existent. To improve this situation an orientation course for provincial and district CDD-coordinators should be conducted, to spell out their supervisory roles.

There are also constraints of local nature, e.g. lack of transport and shortage of staff, which have to be solved.

The CDD coordinators could combine supervisory visits with other program supervisors.

Supervisory checklists are not used at district or provincial levels.

## 9. HEALTH EDUCATION

Health education activities were often referred to the MCH program. There is a need to strengthen the health education component in the case management of diarrhea cases.

The health facilities have to be provided with health education materials, especially leaflets and hand-outs in the local language.

## 10. REPORTING SYSTEM

The reporting system is often deficient in the districts, due to lack of stationery, insufficient information on how to use and submit the ORS monthly return forms. The health staff also receive very little feed-back, which probably results in a low motivation to conduct a well functioning reporting system.

## 11. FOLLOW-UP OF PARTICIPANTS TRAINED IN CLINICAL CASE MANAGEMENT AT THE DTU/UTH

MAZABUKA: Dr. Oakpara, Mrs. Muchuu and Mr. Sayowa. They have not yet set up an ORT-corner in the OPD. The ORT-corner in the pediatric ward was lacking equipment, e.g. cups and spoons. They seemed to have implemented well functioning case management routines. There is a need for more training of the hospital staff. Supervision of rural health centers was deficient.

CHOMA: Dr. Mijere, Dr. Mbwili and Mrs. Mwenda. They have established an ORT-corner in the pediatric ward, which was well functioning. There is a shortage of cups, spoons, jugs and health education material. The hospital staff seemed to be well trained by their supervisors. The Choma team should start to organize CDD seminars with practical exercises for health workers in the district.

LIVINGSTONE: Mr. Sepiso and Mrs. Ngandu. There is an ORT-corner in the pediatric ward, but it needs to be improved, e.g. another location, more equipment and health education material. A very good initiative is the clinical case management course for district health workers that will be held in May. The hospital staff seemed to be adequate supervised.

## 12. RECOMMENDATIONS

### Recommendation no. 1:

Establish ORT-corners in all health centers and district hospitals in the province, which will improve correct case management and serve as training units.

### Recommendation no. 2:

The CDD Secretariat should as soon as possible supply the health facilities with equipment needed for establishing an ORT-corner.

### Recommendation no. 3:

Distribute the new management chart to all health facilities in the province. The chart should be on the wall of the ORT-corner or where the child is assessed and treated.

### Recommendation no. 4:

Emphasize the importance of the nutrition component and the use of growth charts in correct case management.

### Recommendation no. 5:

Discourage the promotion of SSS, if there is a shortage of sugar in the region.

### Recommendation no. 6:

Continue to conduct clinical case management courses with focus on practical training, in the districts. Hold the training courses during the peak season for diarrheal diseases.

### Recommendation no. 7:

Allocate more time during all training for developing communication skills.

### Recommendation no. 8:

Encourage integrated supervisory visits at all levels.

### Recommendation no. 9:

Identify all CDD-coordinators in the province and conduct an orientation course for them, to spell out their supervisory roles.

### Recommendation no. 10:

Promote the use of checklists during supervisory visits at all levels.

**Recommendation no. 11:**

Distribute health education material to the health facilities in the province. Investigate the possibilities of producing leaflets for mothers in the local language, i.e. tonga.

**Recommendation no. 12:**

Strengthen the health education component in case management of diarrheal diseases.

**Recommendation no. 13:**

Strengthen the routine reporting system, especially when ORT-corners are established.

**Recommendation no. 14:**

Supervisory visits should be conducted to all those trained at the DTU/UTH in order to follow up the progress on the implementation of their workplans. The supervisory team should be comprised of the CDD Secretariat and training facilitators from DTU/UTH.

**Recommendation no. 15:**

Dr. Sinyangwe, Medical Advisor, Nakambala Sugar Estate Health Clinic, should be used as a facilitator at the DTU in Lusaka. He was trained in clinical case management in Lesotho, and has experience of the management of an ORT-corner in his health facility.

ANNEX 1.

LIST OF PERSONS MET:

- Dr. Malikinya, Provincial Medical Officer, Southern Province
- Dr. Oakpara, District Medical Officer, Mazabuka
- Mrs. Sindele, Nursing Officer, Mazabuka District Hospital
- Mr. Sayowa, Clinical Officer, Mazabuka District Hospital
- Mrs. Muchuu, Public Health Nurse, Mazabuka
- Mrs. Kanenga, Sister in Charge Paediatrics, Mazabuka Distr. Hosp.
- Dr. Sinyangwe, medical Advisor, Nakambala Health Clinic
- Mrs. Mataka, Nursing Officer, Nakambala Health Clinic
- Mr. Ngulube, Clinical Officer, Nega-Nega RHC
- Dr. Mijere, Medical Superintendent, Choma General Hospital
- Dr. Mbwili, Medical Officer, Choma General Hospital
- Mrs. Mwenda, Senior Nursing Officer, Choma General Hospital
- Mrs. Sooli, Public Health Care Coordinator, Choma
- Mr. Haakamwaya, Hospital Administrator, Choma General Hospital
- Mr. Bwalya, Clinical Officer, Batoka RHC
- Mrs. Rachael, Nursing Officer, Sikalongo RHC
- Mr. Phiri, Clinical Officer, Sikalongo RHC
- Dr. Shonga, Medical Officer MCH, Southern Province
- Mrs. Mwangala, Provincial F/P Trainer, Southern Province
- Mrs. Hamakalu, Public Health Nurse, Livingstone
- Mr. Munthali, Acting Chief Health Inspector, Livingstone
- Mr. Mboози, Clinical Officer, Mukuni RHC
- Mrs. Phiri, Nursing Officer, Mukuni RHC
- Mr. Machani, Clinical Officer, Maramba UHC
- Dr. Mwango, Medical Superintendent, Livingstone General Hospital
- Mr. Sepiso, Clinical Instructor, Livingstone General Hospital
- Mrs. Ngandu, Nursing Officer, Livingstone General Hospital
- Dr. Kelly, Medical Officer, Monze District Hospital
- Dr. Mukonka, Medical Officer, Monze District Hospital
- Health Workers at:
  - Mazabuka District Hospital
  - Nakambala Sugar Estate Health Clinic
  - Nega-Nega Rural Health Centre
  - Batoka Rural Health Centre
  - Sikalongo Rural Health Centre
  - Choma General Hospital
  - Mukuni Rural Health Centre
  - Maramba Urban Health Centre
  - Livingstone General Hospital
  - Monze District Hospital



# University Teaching Hospital

OFFICE OF THE DIRECTOR

P. O. BOX 50001  
LUSAKA, ZAMBIA  
TEL: 211440/218881  
TELEX: ZA: 40299

ANNEX 3

Our Ref:

Your Ref:

30th May, 1991

Dr. Larry Casazza, M.D., M.P.H.,  
Technical Officer,  
PRITECH,  
Technologies for Primary Health Care,  
1925 North Lynn Street, Suite 400,  
Arlington, Virginia - 22209,  
UNITED STATES OF AMERICA.

Dear Dr. Casazza,

RE: WELLSTART LACTATION MANAGEMENT TRAINING COURSE - SAN DIEGO

It was nice meeting with you on May 23, 1991, and to discuss about the above course. Though breast feeding is practised by most women in Zambia, exclusive breast feeding during first 4 - 6 months after child-birth is declining. There is great need to strengthen exclusive breast feeding practice to improve child survival in Zambia. University Teaching Hospital (UTH), Lusaka being the major training and referral institution in the country should take a lead in establishing a team to promote correct Lactation Management in our environment. We are encouraged by PRITECHS initiative to support such a team for the above training.

I am pleased to inform you that, in line with the selection criteria provided by you we have selected the following team members for training. Dr. G.J. Bhat, Head - Department of Paediatric and Child Health; Dr. N. Sikazwe, Head - Department of Obstetrics and Gynaecology; Mrs M.S. Ng'ambi, Acting Nursing Services Manager and Professor K. Mukelabai, Dean - School of Medicine, have guided me in selection of these candidates and we feel that these members will form a core force. They are:-

1. Dr. (Mrs) Dorothy Kavindele - Registrar, Post Graduate Student (P.G) Paediatric & Diarrhoea Training Unit.
2. Dr. (Mrs) Beatrice Amadi - Senior Resident P.G., Neonatal Intensive Care Unit (NICU).
3. Dr. (Ms) Velepi Mtonga - Senior Resident P.G., Department of Obstetrics & Gynaecology.

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4. Mrs Margaret Mbelenga, R/N Midwife, NICU & Post Natal Wards.

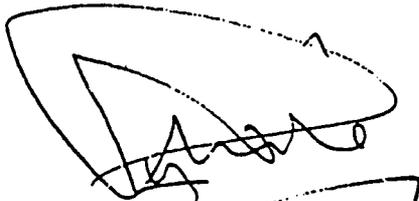
5. Mrs Molly Chisenga R/N Midwife, Paediatric Department & DTU.

After the completion of the training, the concerned departments and the hospital will give them necessary co-operation and support for them to implement their plan of action.

We wish them every success.

Thanking you.

Yours sincerely,  
UTH BOARD OF MANAGEMENT



M.E. Jimbembala MB ChB PhD  
EXECUTIVE DIRECTOR

c.c. Prof. K. Mukelabai, Dean - School of Medicine

c.c. Dr. G.J.\*Bhat, Head - Paediatric & Child Health

c.c. Dr. N. Sikazwe, Head - Obs/Gynae

c.c. Mrs M.S. Ng'ambi, Acting Nursing Services Manager

c.c. ALL TEAM MEMBERS viz:

Dr. Kavindele,  
Dr. Amadi,  
Dr. Mtonga,  
Mrs Mbelenga,  
Mrs Chisenga.

/jikm.