PN-ABM-300
ISN 79220

REVIEW OF THE MALAWI CDD PROGRAM

A Report Prepared By:
AGMA PRINS

During The Period:
JUNE 2 - 15, 1989

TECHNOLOGIES FOR PRIMARY HEALTH CARE (PRITECH) PROJECT
Supported By The:
U.S. Agency For International Development
CONTRACT NO: AID/DPE-5969-Z-00-7064-00
PROJECT NO: 936-5969

AUTHORIZATION:
AID/S&T/HEA: 09/16/92
ASSGN. NO: HSS 050-ML

TABLE OF CONTENTS

1. Introduction 1

2. General Country Description 1

3. Health in Malawi 2

4. The National CDD Program 3
   4.1 CDD Program management 3
   4.2 Diarrhea Case Management in Health Facilities . . 4
   4.3 ORS Logistics 4
   4.4 Training of Health Personnel 5
   4.5 Health Education, Information, and Communications . 5
   4.6 Information: Monitoring, Evaluation,Documentation . 6

5. Major Recommendations 7

6. USAID Assistance to Malawi CDD 7

1. Introduction

From June 2 - 15, 1989 PRITECH Regional Program Officer, Agma Prins, visited Malawi to participate, on behalf of USAID/Malawi, in the joint Government of Malawi/WHO/Unicef/USAID Comprehensive Review of the CDD/Malaria Control Programs. Due to the late start of the review and the short duration of the visit, Ms. Prins' participation was limited to assisting in the planning of the review and two days of field work during the actual information gathering phase of the activity. She did not participate in the completion of field activities, nor in the analysis of the data. However, the visit resulted in an overview briefing paper (see annex I) which was presented to mission personnel prior to her departure. Also, a number of handwritten documents containing observations and recommendations concerning various components of the CDD program were left behind for the other members of the evaluation team to use as they saw fit. The draft review report (see Annex 2) showed that the majority of these comments had been adopted almost verbatim by the other team members.

This report serves to round out and summarize the information contained in the mission briefing document and the draft review report.

2. General Country Description

Malawi is a landlocked country in southeastern Africa bordered by Mozambique, Tanzania and Zambia. The more than eight(8) million inhabitants live in an area of 45,750 square miles, over a quarter of which is covered by Lake Malawi and two other large lakes. Only 36% of the land is arable. This limited land availability combines with an annual population growth rate of 3.66 to make Malawi one of the most densely populated countries in Africa.

Eighty-one percent (81%) of the population lives in rural areas. Well over half the population earns its living exclusively from agriculture, both on small land holdings and on large estates. The average land holding among small farmers, however, is only 1.14 hectares. At least 25% of farmers have holdings of less than 0.5 hectares. National food self sufficiency, long a primary objective of President Banda's government, was achieved in the early 1980s, but has been increasingly threatened by population pressures on the land as well as by a series of natural disasters.

Often cited as an "economic miracle", the Malawian economy has suffered from a series of setbacks since the late 1970s. Currently the relatively stable economy experiences only very limited growth. Malawi remains among the six poorest countries in Africa. One result of this poverty is that a large proportion of Malawi families live on the edge of hunger much of the time. Lower income urban families spend as much as 80% of their income on food. Rural families with land holdings of under 1 hectare cannot produce enough to feed themselves from their own fields and must either buy food or exchange their labor for it. During years of low production these families not only produce less themselves but have fewer opportunities to hire out their labor, thus sometimes experiencing severe food shortages. One survey showed that in January, 1989, in Lilongwe district, 22 - 29 % of families had

eaten only one daily meal of the maize staple. Up to 27% of families had eaten no condiments of any kind with their maize meal.

On the basis of household language and cultural origins the population can be divided into nine major ethnic groups. However, ethnic divisions are blurred in Malawi due to widespread and large scale migrations starting as early as the 13th century and continuing to the present day when an estimated 17,000 Mozambican refugees arrive monthly (The total refugee population now exceeds 600,000 and accounts for over 7.5% of the total population).

Chichewa, the language of the largest, and ruling ethnic group (over 50% of the population), became the official national language in 1968 and is reportedly spoken by over 75% of the people as either a first or second language. All public education, for both children and adults, both formal and informal, is currently carried out in Chichewa. English is the language of business and commerce and of instruction at most post-secondary schools.

Literacy remains low in Malawi. Only 3% of the population over age 5 has attended secondary school and 45% has completed primary school. An estimated 17% of women and 41% of men over the age of 15 are able to read.

3. Health in Malawi

Infant and child mortality rates in Malawi are among the highest in Africa at 151/1000 (age 0 to 11 months) and 239/1000 (age 0 to 4 years) respectively. Children under five years of age accounted for 57% of all recorded deaths in 1984.

Malnutrition is the most serious child health problem. High rates of diarrheal and other child illnesses, poor child feeding practices, maternal impairment due to high levels of malaria infection and periodic family food insufficiencies combine to make this a recalcitrant health problem. A 1980/1981 national sample survey of agriculture indicates that 55% of Malawian children under the age of 5 were nutritionally stunted. Close to 20% of newborns are below 2500 grams, reflecting the poor nutritional status of the mother.

After malnutrition, acute respiratory infection, malaria, measles and diarrheal disease account, in that order for the greatest percentage of child deaths. Malarial deaths have increased since the early 80s with the increasing rate of severe chloroquine resistant malaria. Measles , inexplicably, continues to account for an unaltered high percentage of deaths despite an 80% immunization coverage rate. AIDS is an increasingly severe problem in Malawi, which can be expected to have a considerable impact on disease rates and health service utilization patterns in the near future.

Health care in Malawi is provided by both public and private sector facilities. The Private Hospital Association of Malawi (PHAM), an umbrella organization which includes both mission and other non-profit organizations, accounts for about 40% of health care delivery services. Another 45% are provided by the government. The rest is supplied by private practitioners. Health care coverage, as defined by the percentage of population living within 8km. (5 miles) of a health care facility is unusually high (80%) in Malawi. However the quality of care suffers from

insufficient and inadequately trained staff, and lack of equipment, drugs and other supplies.

4. The National CDD Program

The program was launched in 1981 with the creation of a multisectoral CDD Committee at the national level. In 1985, a five year Strategy/Policy was published (although this document is called a "plan" it does not provide an operational timeline). The program was implemented under the auspices of the CCCD project in conjunction with the Malaria Control Program. One program manager was responsible for both programs. It was difficult to determine what activities had been carried out in the course of the past four years as there had been major staffing changes and there were few available reports detailing or describing activities. However there was little doubt that a broad range of CDD initiatives had been undertaken: ORT corners have been established in most appropriate health care facilities (word of mouth puts the number at 600); central and regional level health staff have participated in CDD program management and laboratory courses as well as limited case management training; twenty-five different types of health education materials aimed at mothers have been developed and widely distributed to health facilities of all kinds...many health staff have received some training in their use; ORS packets have been imported and distributed to almost all health facilities; A sentinel surveillance system has been set up in twelve health centers across the country; at least three CDD-related operations research studies have been completed. Despite the depth and range of these activities, it appears that there may be serious shortcomings in most program components which jeopardize program effectiveness and sustainibility. Each of the separate CDD Program component will be discussed in more detail below.

4.1 CDD Program management

It is a tribute to the competence and hard work of the CDD Program Manager and his colleagues that so much has been accomplished with so few human resources. Yet, unless the management component of the CDD program is strengthened, many of the current gains risk to be lost and further progress will be unlikely. The CDD program suffers from four main management constraints:

1. No operational plans exist for CDD at either the national, regional or district levels. Operational targets and priorities have not been established. At the district and regional levels, responsible staff tend to think of CDD planning only in terms of training programs.
2. There is no clear budget for CDD so that no one knows how much has been spent, how much is needed nor how much is available for CDD activities. This is true at district and regional levels as well as at national level.
3. Management personnel assigned responsibility for planning, implementing, monitoring and supervising CDD activities at both national and regional or district

levels are insufficient in number, sometimes inadequately trained, and burdened with other responsibilities unrelated to CDD. The National Program Manager is also responsible for the malaria program and has no support staff.

4. Supervisory activities at all levels are sporadic, not carefully planned,and unguided by specific performance criteria, standards or targets.

4.2 Diarrhea Case Management in Health Facilities

ORS packets are widely available in health care facilities down to the most peripheral levels of the health care system. ORS solution appears to be a standard component of diarrhea case management in almost all health services, including hospitals. Special areas for the administration and teaching of ORT (ORT corners) exist in most health facilities. In many health services, mothers of children with diarrhea receive some instruction about how to care for their children at home. Despite these considerable achievements, much remains to be done to improve diarrhea care both in health facilities and at home. The main areas for improvement are the following:

1. Many ORT corners are managed by ward attendants or other auxiliary personnel who have received no special training in ORT. Perhaps for this reason, it appears from diarrhea case registers and discussions with health personnel that, although ORT is widely prescribed for child diarrhea, the quantities administered often do not correspond with the patient's hydration status, age or weight. In some facilities, antibiotics continue to be routinely given to children with diarrhea.
2. Nutritional management of diarrhea appears to be neglected at all levels: No arrangements are made to feed diarrhea patients during their stay at health care facilities (with rare exceptions); mother's education about feeding and diarrhea is usually inadequate and sometimes incorrect. Advice to mothers concerning diarrhea prevention also seems generally incomplete.
3. There is widespread confusion concerning the policy regarding home management of diarrhea following a health center visit: some health personnel recommend SSS, others give mothers premixed ORS to take home, still others give mothers ORS salts (usually only one package) to mix at home. None of these practices would seem ideal.

4.3 ORS Logistics

As stated earlier ORS supplies were generally available in adequate quantities throughout the health system. Large quantities of packets have been donated by Unicef, increasing from 130,000 liter sachets in 1982 to 1,125,000 in 1988. A private company started producing limited quantities of ORS in Malawi in 1987. These are only sold in private pharmacies at a relatively high price. The Central Pharmacy has repeatedly considered starting to produce ORS locally, but has so far refrained from doing so on the

basis of a number of feasibility studies which showed that this would be unprofitable. Locally produced liter measuring cups have been widely distributed in health facilities. Major program issues in ORS logistics include the following:

1. As no stock management system exists for ORS, there is no record of the quantities of ORS received, used or needed at any level of the health care system. One result of this has been that, even though there have been no reported stockouts, some health care workers restricted use of ORS for fear of possible shortages.
2. ORS is not currently distributed through the same channels as other drugs and there is no budget line item in the Ministry of Health budget for ORS. This separate handling of ORS may cause problems later on when procurement of packets becomes a government responsibility.

4.4 Training of Health Personnel

From 1985 to 1989, numerous diarrhea training activities were carried out, mostly for senior and mid-level managers from the national. regional and district levels. A limited amount of training in diarrhea case management for health workers was also completed. As there are almost no reports of these training activities, it is virtually impossible to determine the effectiveness of the training. Worse, as there are no lists of participants, no one knows which or how many health personnel participated in what type of training. It appears from field observations and interviews that, often, the people currently most involved with CDD activities were not the ones that were trained. Other problems with the CDD Training component include the following:

1. From oral reports, it appears that the people most often tasked with carrying out the training activities usually have had no training in educational methodology. Even though their technical knowledge and skills may be excellent, the lack of training skills may mean that the content is not always transmitted as clearly as could be.
2. It appears that most of the training activities were of inadequate duration, were highly didactic, offering little opportunity for practical work and were not followed by review, refresher courses or supervisory visits.

4.5 Health Education, Information, and Communications

The health education component of the Malawi CDD program was carried out by the Malawi Ministry of Health-Health Education Service with the assistance of the Healthcom Project starting in 1986. More than two dozen attractive, innovative materials were developed for educating both mothers and health workers (see list in Annex I of Draft Review report). These were widely distributed at the regional and district levels. Regional and district level personnel participated in three day workshops on the use of these materials. Despite this impressive base of achievement, the health

education component of the program suffers from serious deficiencies:

1. Due largely to personnel conflicts, those currently in charge of the Health Education Unit have distanced themselves from the "Healthcom Materials". The process and purpose of these materials is currently poorly understood within the unit. As a result, these materials appear to be underutilized.
2. Distribution of the materials beyond the district level has been spotty. Many health facilities have only some of the materials.
3. The training in the use of the materials appears to have been inadequate: Many of the health personnel who did participate in the training activities seem to have an unclear idea about the usage and purpose of the materials; Many of the health center personnel currently responsible for teaching mothers about diarrhea appear to have received no training in the use of these materials (or even in health education methods in general).
4. Message content of the materials in all major areas: liquids, feeding and prevention, is either incomplete or inadequately researched to assure appropriate behavior by mothers.
5. Behavioral research to support the development of the educational materials appears to have been inadequate in both regional coverage and scope of inquiry. Some of the decisions based on this research (eg. abandonment of SSS, promotion of "phala"-maize porridge) appear precipitous.

4.6 Information: Monitoring, Evaluation, Documentation

The information component of the Malawi CDD program is poorly developed. Very little documentation exists in either MOH, USAID or other local archives regarding any of the program components. There are no available records of expenditures, no training reports, no regular periodic progress reports documenting activities (Although there are "final reports" by some of the USAID technical assistants to the program, these are far from complete, providing only extremely limited information about most program aspects.), no ORS stock or inventory reports, no records of pretests for health education materials. Although at least three diarrhea related research studies had been completed, no complete report of either the research design, process, analysis or results could be located for any of them. Twelve "sentinel surveillance" sites have been established across the country. However, the information gathered from them does not appear to be reliable and may, in any case, not be used to guide program decisions. Occasional supervisory visits were carried out by national level personnel. However, these do not appear to be regularly scheduled, nor are they guided by standard criteria of evaluation. There are also no reports of the results of these visits.

5. Major Recommendations

1. A full time national program manager should be assigned as soon as possible. If possible, a long term technical assistant should be recruited to assist him or her. Regional and district level CDD program management should be strengthened by assigning the task of CDD program coordination to a single individual.

2. A detailed plan of operations should be developed for the National CDD program to serve as a guide for project implementation. The plan should include a calendar of activities and a budget.

3. Diarrhea case management in health care facilities should be strengthened by provision of appropriate training of those actually running the ORT and by developing or clarifying and clearly communicating to health personnel policy about nutritional management, home management after a visit to a health facility, antibiotic use and diarrhea prevention educational messages.

4. Development of an ORS stock management system is vital to the effective and continuous distribution of ORS in the long run. A wider distribution network - beyond the health facilities - should be developed as soon as possible.

5. CDD training activities should be strengthened by the development of a national or regional training team or teams made up of health professionals who have received special supplemental instruction in training methods. After an appropriate needs assessment, a training strategy and plan should be developed to upgrade existing skills of those currently responsible for CDD activities and those likely to bear that responsibility in the future. The plan should include in-service workshops and short training sessions to be provided during supervisory visits.

6. The message content, form and distribution of the currently available health education materials should be reviewed and appropriate improvements made. Personnel responsible for educating mothers should receive additional training in the appropriate use of the materials. Special attention should be paid to the review of the policy re use of "phala" and other home available fluids to assure that the advice given to mothers is both medically and culturally appropriate.

7. A comprehensive, but simple CDD information system should be developed to provide program managers with the essential information necessary to program decision-making. The system should include regular operational reports by program managers as well as systematic reporting on ORS stock flow and on health indicators relating to program targets and objectives.

6. USAID Assistance to Malawi CDD

USAID has provided assistance to the Malawi CDD program since 1985. In order to assure the sustainibility of past gains, this assistance should continue for the next two years. USAID can contribute to the strengthening of CDD/Malawi most effectively by offering assistance in the areas of program management and planning, health education, training and supervision, ORS stock management and operations research.

ANNEX 1

DISCUSSION OVERVIEW FOR CDSS BRIEFING:
DIARRHEAL DISEASE CONTROL

SUMMARY STATEMENT:

Diarrheal disease control activities in Malawi appear to have achieved broad coverage in terms both of geographic spread and range of activities. However, depth of quality, sustainability and commitment appear generally weak. For example: 600 ORT units or corners have been created in health facilities across the country, but many of these are currently being managed by ward attendants of other low level personnel who have received no special training in ORT; thousands of copies of 25 different types of educational and training materials have been produced and distributed throughout the country but few people know how to use them and some of these materials are rarely used; ORS salts are available throughout all health services in the country, but there is no stock-keeping system at any level so that noone knows how much ORS is actually being used (Also the system is supply driven rather than based on demand); sentinel sites are producing data on CDD practices on a regular basis-the date is computerized, but the quality of the data is highly suspect; thousands of health workers have participated in CDD training activities, but it appears that most training has been too brief, too didactic and lacking in practical skills-based methods. Also, it is not clear that the right people (those actually responsible for the work) were always trained.

The main reasons behind these short-comings appear to be the following:

* An orientation toward quantity over quality on the part of the USAID Project Advisors working with the Malawian CDD program. An overemphasis on technical as opposed to operational needs of the program.

* A lack of sufficient management and operational personnel at national, regional and district levels with the necessary skills and time to achieve the necessary tasks.

* A lack of operational planning, including establishment of priority objectives, analysis of preliminary and intermediate operational steps, analysis of personnel and other resource needs, activity schedules and budgets related to actual operational plans.

* A lack of sufficiently frequent and specifically targetted supervision and follow-up of project activities once initiated.

* Inappropriate training: not practical, not long enough, not frequent enough, not executed by skilled trainers, not necessarily directed at the right people (Question: to what extent is selection of participants governed by the fact that inordinately high per diems - a daily rate equal to 1/3 to 3/4 monthly salaries - are used as a defacto salary supplementing mechanism?).

* Insufficient well-done operational research to study and solve program implementation problems (e.g. what kinds of educational materials are not only understood by mothers but likely to be used effectively by health personnel?)

Despite the problems, however, much has been accomplished in terms of increasing the awareness and improving the practices of both health workers and mothers in regards to diarrheal disease. This broad base needs to be strengthened, refined and added to, to ensure sustainability of current achievements.

SPECIFIC PROBLEMS AND CONSTRAINTS

o At the moment the only person assigned full-time CDD management responsibilities at any level is the National Coordinator, who is also responsible for Malaria Control. The job is too large for one individual.

o In theory, regional and district committees are responsible for program implementation at local levels. However, they do not participate in the development of any plans, they have no budgets, they are often not even aware of national program directions, there is often not one person clearly designated as responsible for CDD interventions. All committee members have full time other jobs, limiting their time and commitment to any one activity.

o Low salaries and limited rewards for achievement act as a motivational constraint at all levels of the health system. The system of paying excessively high per diems (by local standards) and paying ministry personnel to perform tasks which are normally part of their job descriptions (practices engaged in by USAID and other donor projects), further undermines motivation.

o There currently exists no (and, to the best of my knowledge, has never existed, an) operational implementation plan for CDD. What is referred to as an "implementation plan" is in reality a detailed national strategy statement. Operational objectives (as opposed to impact targets) have not been clearly spelled out. Operational priorities consistent with resource availability have not been established. There is no record of actual costs incurred (by GOM and donors) in the implementation of CDD activities todate and so no measure of long-term program costs.

o In the attempt to achieve wide coverage, the quality of services provided has been neglected. Although ORS is widely used, a job performance survey completed in 1987 showed that only 7% of children were receiving enough ORS at health facilities. The nutritional management of diarrheal diseases has been virtually ignored, a serious omission in a country with malnutrition rates as high as in Malawi. This does not appear to have changed. As already mentioned, the same lack of quality appears to hold true for sentinal surveillance data and use of educational materials by health workers.

o Supervision is infrequent, not carefully planned, not targetted at specific job performance standards of criteria. Supervision does not currently function as an effective mechanism to improve quality of program interventions.

o Experiential, practical, skills-based training methods are virtually unknown in the health sector in Malawi, although they are slowly being introduced through the water-sector and family planning activities. There is no cadre of Malawian trainers skilled in the planning, implementation and evaluation of participatory, non-didactic adult learning activities. The vast majority of training and educational activities at all levels appear to be conducted using lecture or joint reading methods. They are usually conducted in English, a language not fully mastered by many lower level health personnel. They are frequently led by people who have appropriate technical, but not training skills. T-O-T too often means technical only training. The results are predictably unsatisfactory despite great investments in time and money.

o Reporting on operational components of the CDD (and other) programs is non-existent. Numbers are collected from the routine health center reporting system and from sentinel sites principally morbidity mortality and treatment practices data. Although computerized at the central level, the quality of record-keeping at the peripheral level leaves much to be desired. Reports on training activities (even number and categories of people trained), ORS supplies, research activities, monthly operational reports and the like, are absent at every level. There is thus no regular way to know what is being achieved or what has been achieved in the past. There is no mechanism for solving routine operational problems.

o The quantity and quality of operations research has been insufficient. Little is known about actual diarrhea related practices and attitudes in the community, methods for increasing community support and participation, approaches to practical integration of diarrhea prevention activities, alternate approaches in increasing effective diarrhea case management in health centers and so on. I was unable to locate any complete reports on the research which was carried out.

o It is unlikely that the health system is the most effective channel for reaching mothers with health messages. As the idea of multisectoral collaboration is heartily promoted in Malawi, other community based channels should be mobilized (water and sanitation projects, community development agents, etc)

RECOMMENDED USAID AREAS OF ASSISTANCE

* Improved national, regional and district level planning and operational monitoring and reporting

USAID should provide technical assistance to the CDD National Program Coordinator to develop an operational plan for CDD for the next 3 to 5 year period, with more detailed plans for the next year. The plans should specify priority intervention components as well as resource requirements and operational responsibilities. USAID should work with the National Coordinator to actively involve district personnel in planning activities and to set up an operational reporting system (e.g. reports of activities, operational problems, operational solutions).

* Management Skills Training

USAID should consider providing in-service management training to national, regional and district level health authorities (and their colleagues in the PHC committees). The centrally funded IQC to Coverdale might be a source for this assistance.

* Improving the Quality of CDD (and other) health education (IEC) by:

- supporting in-depth socio-cultural research regarding actual practices and attitudes of mothers (and health personnel) about diarrhoea - using rapid ethnographic assessment techniques.

- studying health workers' and other extension workers' health education skills and preferences and modifying existing health materials or developing new ones which are most suited to their needs.

- retesting, as necessary, available CDD educational and training materials.

- Developing a training cadre in the Health Education Unit capable of planning, conducting and evaluating experiential practical training activities (this can be accomplished by conducting a series of 3 or 4 in-service T-O-T workshops over the space of one or two years - TRG (Training Resources Group/PRITECH/WASH are good sources of assistance in this area.

- Retraining lower level health personnel to use the existing educational materials appropriately and training other extension workers as necessary. Integrate water project personnel into those trained to use these educational materials.

- Providing funds for intensive post-training supervision/follow-up of recently trained people.

* Improving Supervision and In-Service "Mini-training" as part of Supervision

USAID should assist the MOH in the development of a supervisory system which includes site-visits (with established objectives, performance criteria, checklists), monthly operational reporting, feedback to the supervised staff and other appropriate mechanisms suited to local realities and constraints. This may be an area for operations research to test various possible approaches. Part of the objective of the supervisory system should be to improve health worker performance with regard to the case management of diarrheal disease, especially adequate nutritional management.

* Improving ORS stock management

USAID should assist CDD to systematize ORS ordering and distribution so that the distribution is based on actual usage figures and an estimate can be made of the recurrent cost implications of a variety of ORS distribution strategies (e.g. health centers only, general distribution in the community or other policies). The Government of Malawi should be encouraged to incorporate ORS into its regular drug distribution system and budget as soon as possible.

* Conducting studies to assist in operational decision making

USAID should assist CDD in identifying program problems which would benefit from short studies designed to gather information necessary for making key programatic decisions (e.g. type of personnel best suited to managing ORT units in health centers).

OTHER AREAS USAID SHOULD TRY TO INFLUENCE

* Separation of the malaria and CDD programs and the designation of a single person to coordinate CDD program activities only at national level.

* Revision and standardization of per diem policies for training and other activities.

* Elimination of the practice of paying government employees to do their regularly appointed tasks for USAID-funded projects (i.e. to buy priority treatment for project activities)

RESOURCES

* It seems that the above areas of assistance are entirely consistent with the aims of the PHICS project and perhaps, HID. The wisdom of separating in-service training responsibility from activity implementation needs to be carefully considered, however.

* "Centrally Funded" Activities which could provide support include CCCD, WASH, HEATHCOM and PRITECH.

  AED is the main contractor for the HEATHCOM project and a sub-contractor for the PRITECH project. It is unclear whether this relationship would inhibit or facilitate an input by these two projects through the existing PHICS project AED contracting mechanism.

* The decision not to employ a long-term advisor for the CDD program should be reconsidered given the intense management burden this program represents and the paucity of available Ministry of Health manpower.

* PRITECH should be considered as a source of both short and long term technical assistance for CDD activities. This would necessitate a mission buy-in, however.

ANNEX II

DRAFT

A REPORT OF THE JOINT GOVERNMENT OF MALAWI/WHO/UNICEF/USAID COMPREHENSIVE REVIEW OF CDD/MALARIA CONTROL PROGRAMMES

5TH - 25TH JUNE, 1989

EXECUTIVE SUMMARY

INTRODUCTION

A comprehensive review of the National CDD/Malaria Control Programmes was carried out from 5th to 25th June, 1989 by a joint Government/WHO team, with the collaboration of UNICEF and USAID.

The objectives of the review were:-

- To examine Diarrhoea and Malaria activities in Malawi and assess the degree of success in achieving the established goals.
- To identify operational and technical problems regarding CDD/Malaria strategies in Malawi.
- To recommend possible solutions to optimize the implementation of CDD/Malaria strategies.
- To develop guidelines for a plan of operation for the operation for the period 1990 - 1994.
- To prepare a written report of the recommendations for the consideration of the Ministry of Health in Malawi.

PROGRAMME REVIEW - METHODOLOGY

The review team was composed of twenty-two nationals and six international members representing WHO/UNICEF/USAID respectively. The activities of the national CDD/Malaria Programmes were reviewed at national level and included the interview of the key health personnel. The WHO recommended thirty randomly selected cluster methodology from all the three regions was used and included 19 out of the 24 districts of the country. Knowledge attitude and practices of various cadres was assessed using questionnaires which had been developed. The team was divided into five groups comprising of one international member and four nationals with regional staff to facilitate field activities. Upon arrival at each health facility theadministration was informed of the purpose of the visit and asked to identify the personnel responsible for diarrhoea/malaria control programmes for children under five years of age.

14

In total the review teams visited and evaluated CDD/Malaria activities in:-

2	Major hospitals
1	General hospital
16	District hospitals
30	Health centres
870	Households with children less than 5 years of age.

SCHEDULE OF ACTIVITIES

June 5 - 6, 1989	-	The external Consultants joined key members of the MOH staff to review, evaluate and finalize the questionnaires for use to collect information at the national, regional, district and community levels (Figure 2).
June 7, 1989	-	Arrival of Malawian participants.
June 8, 1989	-	Informal opening ceremony where the major problems of malaria and diarrhoea diseases were presented and the purpose of the evaluation explained. In addition, 2 guest speakers presented the activities of their research group: Dr. Molyneux briefly discussed their attempts to develop regimens for use in treating critical falciparum infections at health centers at Queen Elizabeth Central Hospital. Dr. Steketee of the Mangochi Malaria Research Project (MMRP) then summarized their activities which focuses on the evaluation of the effect of malaria on the pregnant female. The consultants and the participants were assigned to one of 5 teams. The teams composition and itinerary are shown in Figure 3.
June 11, 1989	-	The team departed for field work.
June 18, 1989	-	The team returned to Lilongwe.
June 19 - 20, 1989	-	Computerization of field data for collation and anal sis. Team members were divided into 2 groups to discuss, respectively, the findings and future strategy for malaria and diarrhoea control.

June 22, 1989	-	Completion of the first draft of report along with recommendations.
June 23, 1989	-	Presentation of final report to MOH
June 24, 1989	-	Departure of team members.

Following compilation of reports from the field visits, discussions were held during which problem-areas were identified and from which recommendations were formulated.

The main findings of the review are presented below. The programmes achievements are presented followed by the major problems and recommendations. A complete list of problems and recommendations is contained in the full report of the review.

GEOGRAPHIC AND DEMOGRAPHIC DESCRIPTION OF MALAWI

The Republic of Malawi is a land-locked country which lies between 9° and 17° south latitude in the Rift Valley of East and Southern Africa (Figure 1). The country is 900km in length by 80 - 160km wide with almost the eastern border occupied by Lake Malawi. In altitude, Malawi ranges from 200m above sea level at the lakeshore to 2900m on the high plateaus.

Malawi has distinctive wet and dry seasons. The wet season is from November to April, with the heaviest rainfall between December and March. The dry season is from May to October. The temperature ranges, depending on the season, from an occasional below 0° centigrade at the high altitudes during June and July, to 40° centigrade just prior to the rains.

Administratively, Malawi is divided into three regions and 24 districts. The 1988 projected population, based on the 1977 census, is some some 8 million of which 9% is urban dwelling. Nineteen percent of the population is less than 5 years of age and 25% is from 5 - 15 years of age. The annual growth rate is estimated to be 3.1%.

Vital statistics reflecting state of basic health of population is shown in Table 1.

Table 1 : Vital Statistics, Malawi, Estimates for 1987

Crude Birth rate	50.8/1,000 population
Crude Death reate.....	24.3/1,000 population
Population Growth rate.....	3.1%
Infant Mortality rate (rural).....	151/1,000 live births
Child Mortality, 1 - 4 years	51% of all deaths.

Health services in Malawi are provided by a variety of public and private organizations as well as individuals. The Government provides approximately 45% of all health services whereas the Private Hospital Association of Malawi (PHAM), which includes mission and other non-profit organizations, provides an additional 40% of the services. Besides providing health services the MOH also sets policies, coordinate other national health resources and develop strategies and programmes for health care. In contrast to past policy emphasizing curative services, the current MOH strategy is to focus more attention on preventive health and primary health care delivery at the community level.

ACHIEVEMENTS

The review team noted prgress with respect to a number of the strategies outlined in "Guidelines for the CDD programme". The major achievements include:-

Planning and Administration

Since its inception in 1985 the programme has established an administrative structure for CDD at the Central level. The current CDD manager also has responsibility for the malaria control programme. The management burden for CDD and Malaria is too big for one person

Training

During the period 1985 to 1989 training courses mainly on programme management and laboratory aspects of diarrhoeal diseases have been conducted at central and regional levels. Health workers, especially clinical officers, medical assistants, nurses, public health officers and health education officers have been trained. A great majority of supervisory staff from the central level down to the commune level have received managererial training (including some training in diarrhoea case management). The incorporation of CDD training materials in the curricula of the 13 Nursing Schools has been initiated. Written materials on diarrhoea treatment and prevention are available to health workers, they include the WHO DIARRHOEA TREATMENT CHARTS AND THE WHO guidelines for trainers on diarrhoea treatment and prevention. These have been translated into Chichewa - the country's national language, and made available to some health facilities in the areas covered by the CDD programme.

Case Management

- All health c facilities in the areas covered by the CDD programme use ORS as the treatment of choice for diarrhoea patients, as a result, nearly all reported diarrhoea cases have received ORS.

- Many health facilities have reported a dramatic reduction in the use of intravenous infusions for the rehydration of diarrhoea cases, as well as in the use of antibiotics and other drugs for diarrhoea treatment. The national policy of "3 hygiene achievements" (water source, bathroom, latrine) appears to be adequately promoted in the areas visited by the review team.

- Personal hygiene education is widely practised in primary and secondary school..

From oral reports the CDD programme has established 600 ORT corners

ORS LOGISTICS

ORS Sachets are in adequate supply at central, regional and most peripheral health facilities. Distribution of ORS to the population is done through village volunteers and village health workers has been initiated.

An unknown quantity of one litre volume water containers for the preparation of ORS solution at the health facilities have been produced and are distributed on request.

Monitoring and Evaluation

A new recording system "SENTINEL SYSTEM" has been initiated to facilitate the collection of CDD programme information. There are twelve such sentinel stations in the country.

Health Communication Unit

The Health Education component of the CDD project and therefore of the national CDD programme was managed by the Health Comm. Project and the Health Education Service.

Compared to many other African countries the Malawi Ministry of Health is relatively well staffed with two univ[illegible] educated health education professionals, 14 other professional staff, two artists, a health education band other support staff.

- Booklets on diarrhoea treatment and prevention have been developed and translated into Chichewa for [illegible] health workers.
- There are also Flyer's Posters, Flipcharts and diarrhoea wheels. All these bear messages about diarrhoea treatment and prevention.

Operational Research

- In 1986 a study of 900 randomly selected caretakers in Mulanje district in the South-western of Malawi was conducted. This study showed that 79% households had salt in the home and only 28% had sugar in the home. Nothing was said about the nearest available source of sugar.

- A second study for which no report could be located, showed that many mothers incorrectly (mixed) prepared ORS solution. The writers were unable to determine how many mothers were included in this study, how many study sites were included and whether the quality of teaching mothers received about SSS was also evaluated.

In February, 1987, a diarrhoea formative research study was undertaken in 6 villages; two in each region, one per region close to a health facility and one away from the health facility. A total of 34 mothers were interviewed using focus group discussions. Although the questionnaires were quite extensive seeking information on local attitudes towards child health and illness, types of diarrhoea foods eaten by healthy and sick chid children etc, the reported results were very limited and do not appear to have been used in the development of educational messages or materials. (See section on RESEARCH FOR HEALTH EDUCATION).

CDD PROGRAMME MANAGEMENT - PROBLEMS

1. There is at present no person with executive responsibility for CDD. The current programme manager also has responsibility for the Malaria Programme. The management burden for CDD and Malaria is too big for one person. Below the Programme Manager there is no support structure.

2. There are no operational plans for CDD at either national or regional and district levels. Operational priorities and targets have not been established. There is only a booklet on policy issues which does not spell out the execution of the 5 year programme.

3. At district level, the national CDD strategy document is often not available and not known. Also, district staff tend to think of planning excluding other components of CDD (or PHC) programming: supply (ORS, educational materilas) management, supervision, evaluation activities, community level activities, collaboration with other sectors and soforth.

4. There is no clear national budget for CDD activities so that it is not known how much is spent nor how much is needed to sustain certain programme components. Even where districts have developed their annual training schedules there has been no assurance in advance that these plans will be executed in the absence of a specific budget for this activity.

CDD PROGRAMME MANAGEMENT - RECOMMENDATIONS

1. A full-time manager with full executive powers be appointed at the national level. At regional and district levels, at least one specific individual should be designated coordinator for CDD even if that person has other job responsibilities as well.

2. A national plan of operations should be developed for CDD. Once national objectives and priorities have been developed, national CDD staff and regional coordinators should work with district staff to develop district work plans should include budgets and should designate human resources responsible for carrying out activities. Plans should cover a scope of programatic activities not just limited to training. Sufficient financial resources should be earmarked for district use to allow districts to implement activities. District level (with regional) coordinators should meet at least twice a year to review progress towards targets, problems encountered, solutions and upcoming plans.

3. Consideration should be given to requesting one technical assistant skilled at programme planning, management and organisation to assist the national CDD programme manager in preparing, implementing and monitoring programme activities.

21

PROBLEMS AND RECOMMENDATIONS

CASE MANAGEMENT - PROBLEMS

1. Diarrhoea registers show that in many health centres, the quantities of ORS solution given to patients do not correspond consistently to the patient's age, weight and degree of dehydration.

2. In most health facilities, children are not fed during their stay while they are being rehydrated (Queen Elizabeth Central Hospital is an exception to this).

3. Several health workers interviewed said that they prescribed sulfaguanadine, flagyl and tetracycline to patients with "severe diarrhoea" without benefit of stool examination or other symptoms (e.g. bloody stool).

4. In many health facilities, the ORT corners are being run by ward attendants, "hospital workers", cleaning personnel or other lower level personnel who have received no special training in ORT. These same people are often responsible for educating mothers.

5. There is widespread confusion regarding the official policy about distribution of ORS packets. Some facilities believe mothers are never to receive ORS packets and either counsel mothers leaving the ORT unit after rehydration to "give home fluids" or give mothers already prepared ORS to take home. In the latter case, the quantity of ORS given depends on the size of the available containers and does not always appear to be enough. In other instances, ORS packets are provided to mothers, but only one is given each day - obliging the mother to return to the health centre if diarrhoea continues (she may not do so if she lives far away). Some health facilities provide packets to village health volunteers or village health committees.

6. Some health personnel are continuing to encourage mothers to prepare SSS at home. Not all of these could site the correct formula for SSS. Some health personnel are telling mothers to use "plain phala" (not water down) as a home fluid.

7. Advice given to mothers about feeding is very inadequate:

   * mothers are encouraged to breastfeed but are also encouraged to give water even to infants; Exclusive breastfeeding be encouraged.

   * mothers are told to continue feeding but this message is often combined with advice about giving only certain types of foods (fruits, proteins, bland foods) and restrictions on when to feed - not if the child is vomiting, not until the child feels better etc.

   * mothers are not being advised on quantities nor frequencies of feeding during diarrhoea.

   * mothers are not being encouraged to increase food intake after diarrhoea stops (catch-up feeding).

8. The preparation of ORS is not being demonstrated to mothers by health care personnel.

9. Advice about prevention is limited to handwashing, latrine use and household hygiene.

CASE-MANAGEMENT - RECOMMENDATIONS

1. Refresher training in cases' management should be organised for ward attendants and others actually running the ORT CORNERS. This could possibly be done by "mini-modules" during supervisory visits, at least in part.

2. A circular should be sent to all health facilities emphasizing treatment policies regarding antibiotic use for diarrhoea

3. All health personnel should receive training and/or information concerning the importance of adequate nutritional management of diarrhoea (especially where the malnutritional rate is so high). Frequent small meals during diarrhoea and extra food for about one week after diarrhoea should be encouraged. Exclusive breastfeeding until age 4 months should be promoted.

4. Health facilities should be encouraged to look for ways and means to ensure that children being kept for rehydration are fed during their stay. This is perhaps a good operations research topic.

5. The policy concerning distribution of ORS packets should be clarified. A wider range of channels of distribution should be sought (VHC, Village Committees, small shops, etc). Health centres should be told to provide all children who come to the centre with diarrhoea with two packets. ORS preparation should be demonstrated to the mothers. The practice of handing out already prepared ORS should be discouraged. At the very least, the Ministry of Health should conduct a small operational study to assess the effects of different ORS distribution policies or ORS consumption and home management of child with diarrhoea.

6. Carefull research should be done to determine the effectiveness of various available home fluids. Questions to be addressed should include:

   * which fluids are available in the home.
   * which fluids are traditionally used for sick children.
   * which traditional fluids do mothers consider appropriate for children with diarrhoea (according to traditional categories of diarrhoea).
   * in what quantities are they traditionally given.
   * what is their medical effectiveness (e.g. osmolarity, electrolite content, etc).
   * how are they traditionally prepared (recipes).

23

It should not be assumed that the answers to these questions are the same throughout the country.

Once this research is completed, the current policy regarding fluids be reconsidered and refined in the light of the available information.

In the meantime, health personnel should be encouraged either not to recommend SSS and/or to verify that those mothers who continue to use SSS do so correctly.

7. Prevention messages should include specific advice regarding disposal of human excreta including child stools, use of soap to wash hands when possible, exclusive breastfeeding and measles vaccination.

TRAINING - PROBLEMS

1. There are no reports of any of the CDD-related training activities which have taken place in the past. This makes it difficult to find out the content, methodology or participants of the various training activities.

2. From oral reports, it appears that the majority of the training activities at all levels have been highly didactic with little emphasis on practical or experiential sessions. The training activities were of quite short duration (a week or less), were generally not adequately followed up by either supervisory visits or repeat, refresher or follow-up training activities or problem solving meetings.

3. In many instances, the people carrying out the work presently are not the same ones that have been trained: ORT corners are managed by ward attendants who have not been trained, sentinel surveillance sites are run by clinical officers other than those initially trained, health education is conducted by people who have received little or no training in how to use the new educational materials.

4. People responsible for conducting training activities often have had little or no training in educational methodologies - even though they may have excellent technical skills in the content area of the training (e.g. diarrhoea case management) This means they are not always able to get their message across as effectively as might be desirable.

TRAINING - RECOMMENDATIONS

1. In the future, training activities should be documented by brief reports which describe the content, educational approaches and participants of each programme. The reports should also include a list of training materials used and a budget detailing actual costs.

2. A cadre of trainers, drawn from both national and district and other responsible personnel, should be formed and receive special training in practical participatory, experiential training methods.

3. A survey should be conducted of staff actually conducting CDD activities and an assessment made of their needs for supplementary training. Based on this survey, in-service training activities should be designed. Some of these activities could take the form of "mini-modules" to be completed during supervisory visits. Some may invlove brief district level workshops.

4. When possible, more than one staff member from each health facility should be trained to avoid discontinuity of activities when the trained staff member is transferred.

ORS LOGISTICS - PROBLEMS

1. There is no stock keeping system for ORS supplies at any level. No-one knows how much ORS is received, used, or needed at either health facility, district or national level.

2. Eventhough all health facilities had ORS in stock in what looked like sufficient quantities and none reported stock-outs, some said that they restricted ORS use for fear of possible stock-outs.

3. It was reported that large quantities of expired ORS were stored in some health facilities. The contents had not been checked but health personnel were being encouraged not to use them (this from the Senior Pharmacist, Dr. M. G. P. Chisale, at Queen Elizabeth Central Hospital in Blantyre).

ORS LOGISTICS - RECOMMENDATIONS

1. A stock system for ORS should be developed to monitor ORS use in health facilities and to promote distribution based on need.

2. ORS should be distributed through the same channel as other medications - but a wider number of channel of distribution at the community level should be developed.

SENTINEL SURVEILLANCE - PROBLEMS

In the sentinel sites visited, the following problems were encountered:

1. The data on the monthly tally sheets often did not correspond to the data in the daily registers (counted incorrectly).

2. Patients over 5 years of age (including adults) were being registered in the diarrhoea registers. These were being counted in the 1-4 year age group on the monthly tally sheets.

3. The registers currently being used have no space to record breastfeeding practices or liquids given before arrival at the health facility. Yet on the monthly tally sheet there were figures given for this information. Where were these figures coming from?

4. Only the clinical officer had been trained to gather the data. On days of his absence - as was the case when we visited, no-one knew how to enter the necessary information correctly. It was reported that the clinical officer also felt he had been inadequately trained.

SENTINEL SURVEILLANCE - RECOMMENDATIONS

The Ministry of Health should consider whether the additional inputs in retraining and supervision required to improve the reliability of the data are worth the value of the generated information for programme planning and evaluation. It is likely that periodic community based studies might be more useful.

Even if the sentinel sites are maintained, it might be more useful to collect information about feeding practices than information on breastfeeding (especially as these questions are apparently poorly understood by the health workers collecting the information).

OTHER PROGRAMME MONITORING AND EVALUATION ISSUES - PROBLEMS

1. No information is available at any level regarding operational achievements:

   * Types of training activities, number and types of health workers trained, number of health facilities with trained health workers.

   * Rates of ORS use, ORS stock reports.

   * Distribution of educational visual aids, number and types of activities to train mothers.

   * Number and types of supervision activities and results of these visits.

   * Problems encountered in the field and solutions tried.

   * Numbers and types of training materials developed and used.

2. Supervisory activities are uneven in quantity, quality and content. They do not appear to be generally guided by specific objectives (of the visit), behavioural targets or standards of achievements. They do not appear to be generally used as opportunities for continued training.

RECOMMENDATIONS

1. A regular reporting system should be instituted at the district level to document programme activities. CDD should develop and outline guidelines for these reports. The reporting system should be part of a district level approach to planning. That is, reports should correspond to an activities' plan which details operational objectives, preparatory steps, responsibilities, dates and resource needs for planned activities at the district level. National and regional staff should work with district staff to develop these plans and draft the initial reports.

2. A supervisory system should be developed and tested to include site visits usingobjectives for each visit, standards of performance and targets (checklists); reporting; feedback and other appropriate mechanisms.

HEALTH EDUCATION INFORMATION AND COMMUNICATIONS

1. BACKGROUND

1.1 The Healthcom Project

The Health Education component of the CCCD project, and therefore of the national CDD programme, was managed by the Healthcom Project and the Health Education Service (HEU). The Healthcom Advisor arrived in the country in May, 1986 and departed in August 1988. Further assistance was provided by two Peace Corps graphic artists. According to the CCCD project paper, the IEC strategy was to comprise two components: 1) Programme Support, emphasizing materials production, community participation: informal adult education and, 2) Operations Research including developing and testing methods to promote community involvement and support, formative research to identify factors leading to acceptance or rejection of CCCD support interventions and development and testing of methods to increase utilization of CCCD services. Although very few written records remain from this project and most of the personnel involved appear to have moved to other jobs, available information indicates that the scope of work was only partially completed. Emphasis was placed on production of educational and training materials. Little operations research was done (see below).

1.2 The Health Education Unit

Compared to many other African countries, the Malawi Ministry of Health H.E.U. is relatively well staffed with 2 University educated health education professionals, 14 other profession staff, two artists, a health education band and other support staff. Regional staff, however, is poorly trained and limited in number (3). All operational funding for the unit is provided by donors. Current donor support is very limited, much of it earmarked for specific activities (AIDS, UNICEF posters), severely restricting the unit's capability to develop and bring to fruition its own initiatives. Also as elsewhere, heavy demands for short turn-around visual materials are made by many government departments (posters for campaigns, flyers for a fair A etc).so that, in fact existing staff is insufficient to meet these demands and cannot easily follow the necessary process steps including pre-development research and field testing to produce quality materials.

HEALTH EDUCATION PROBLEMS

1. MESSAGE CONTENT - FEEDING

As mentioned elsewhere in this report, messages concerning the nutritional management of diarrhoeal diseases have been severely neglected - limited only to telling mothers to continue feeding during diarrhoea. Preliminary results from mothers interviews conducted during the assessment in southern region suggest that many mothers are not feeding children with diarrhoea adequately. Messages should be added to explain how children should be fed during diarrhoea, frequent small meals, for children like.

Special emphasis should be given to catch-up feeding after diarrhoea (one extra meal per day for one week ad after diarrhoea stops) to reduce the severe nutritional impact of repeated episodes of diarrhoea.

LIQUIDS

At the moment, mothers are told to increase liquids including dilute phala (maize porridge), fruit juices and weak tea. It appears from the household data that many mothers are giving more liquids during diarrhoea. THis is good. However, messages concerning liquids should be strengthened by more specific advice on the type of liquids to give (based on preliminaryresearch to discover the most appropriate liquids at the householdlevel - see research section). Also it is not clear whether the phala which is given is actually diluted and whether mothers then perceive it as food or a drink. When giving phala as a liquid, do mothers then feed the child with other foods? The addition of small amount of salt to the phala would increase the effectiveness of this recommended rehydration drink. Lastly, many mothers continue to use SSS and some health centre staff continue to teach it - sometimes incorrectly. Rather than ignore this fact it may be useful to encourage health centre staff to learn the correct SSS formula and to verify that those mothers that do use it, know how to mix it correctly.

PREVENTION

Prevention messages currently focus on household cleanliness and handwashing. These messages should be strengthened by specific recommendations for the disposal of child stools, the use of soap, breastfeeding (one of the pictures on the diarrhoea mobile, actually shows a baby with a feeding bottle - this should be eliminated) and measles vaccination. Hygien ic water storage, water transport and water usage should be taught at health facilities as well as in community water projects.

2. EDUCATIONAL MATERIALS

As stated earlier, the majority of the educational materials are attractive and simple. However, it is unclear whether some of them are really practical for health personnel to use. The mobiles, especially, although widely displayed, do not appear to be easy for health workers to use in their present form (the top pictures hang tochigh to touch, they turn at the wrong time, there are no hooks to hang them on the ceiling, so they are hung against the wall - hiding half the pictures). The "diarrhoea wheel" was frequently found hidden under or behind other papers, perhaps indicating that it was not used frequently - although health workers said that they did use it occasionally and that mothers understood.

Many of the materials were soiled, torn (indicating exposure to the elements - not used) - if possible, they should be covered with plastic.

One question which needs to be studied more closely is whether, in a culture which has traditionally been poor in visual arts, such visual learning materials are as effective as audio ones? Songs, stories and playlets are not only more participatory, but might result in greater comprehension.

29

The Health worker training manuals and tapes (partnership for health services) appear to be little used. At least one district MCH coordinator misunderstood their use - explaining that the tapes did not give enough information to mothers (the tapes are meant to train health personnel).

3. DISTRIBUTION OF MATERIALS

The Healthcom materials" were distributed to regional and district level health personnel as per Table .... Distribution to health care facilities after this appears to have been spotty. Many and maybe most health facilities, including district hospitals do not have all the materials although most have some of them: the "wheel" and some of the mobiles appear to have reached most health facilities, as have the malaria posters.

4. TRAINING TO USE THE EDUCATIONAL MATERIALS

Training to use the materials for regional and district level stff as well as most health centre personnel appears to have been inadequat although uneven. Regional and District staff participated in groups of 35 to 50 in three day workshops in which all the 25 different materials were introduced and participants engaged in short practical exercises in the use of some of them. These personnel were then to train health personnel. This "training" reportedly not infrequently took the form of brief explanations to health workers when they were given the materials. Some five-day workshops were held but there is little evidence that appropriate educational methods are being used at the health centre level with the Healthcom materials. Most interviews with those in charge of ORT corners revealed that they usually gave brief talks to mothers without bothering to use the visual materials at all.

5. RESEARCH FOR HEALTH EDUCATION

Operation research activities related to diarrhoea have been few in number, limited in scope and poorly documented. Decisions of considerable magnitude have been based on the relatively limited results of these studies.

In 1988 a study of 900 randomly selected caretakers in the Mulanje district in the south-western tip of Malawi. This study showed that in this district, only 79% of households had salt in the home and 28% had sugar at home. Nothing was said about the nearest available source of sugar. A second study, for which no report could be located, showed that many mothers incorrectly mixed ORS. These writers were unable to determine how many mothers were included in this study, how many study sites were included and whether the source and quality of teaching mothers received about about SSS was also evaluated. Based on these two studies the decision was made to switch from a policy of SSS promotion to a policy promoting "more fluids" using "any home available fluids". CCCD Project documents state that "uniformly, throughout the country, women reported that traditionally they used dilute phala (maize meal porridge) to treat children with diarrhoea". The source of this information is not stated and it contradicts other information collected during [illegible]

30

In February, 1987, a diarrhoea formative research study was undertaken in 6 villages, two in each region, one per region close to a health facility and one further from a health facility. A total of 34 mothers were interviewed using focus group discussion and indepth interviews. Although the questionnaires were quite extensive seeking information on local attitudes toward child health and illness, types of diarrhoea, foods eaten by healthy and sick children etc, the reported results were very limited and do not appear to have been used in the development of educational messages or mateials. For example, a chart was drawn up listing different traditional categories of diarrhoea, g signs and symptoms of each kind, causes and treatment used. SSS and/or "hospital treatment" was apparently considered appropriate only to local herbs or other traditional treatments. This interesting information does not appear to have been further pursued and there is no indication that educational messages were modified in response. The study also indicated that these 34 mothers used "weak phala" as a "hydration liquid"- but only in small quantities. It is not clear how the researchers determined that mothers thought of phala as a "hydrating" liquid. Also, the fact that only small quantities were given does not appear to have led to a specific message encouraging mothers to give large quantities of phala. Sugar and sweet foods appear to be traditionally restricted during diarrhoea - this too is not addressed in the educational messages.

In general, little appears to be known regarding mothers real attitudes and practices relating to child diarrhoea, available information having been drawn from small, localized samples and not fully analized or interpreted, and not used in the development of educational materials and messages.

DIARRHOEAL DISEASE CONTROL STRATEGIES 1990 - 1995

From outpatient reporting in 1982, diarrhoeal diseases are the third most common disease of children under five, after malaria and respiratory tract infections, accounting for 9% of under-five visits. From hospital mortality reports on children under five, diarrhoeal disease ranked fifth, while measles, with which is often associated, rank first.

Diarrhoeal disease increase in frequency beginning in September and reach a peak in January, February and March, after which they decrease to minimum during winter months of June, July and August. The diarrhoeal disease control policies are integrated with MCH/PHC activities.

1. OBJECTIVES AND TARGETS

1.1 Objectives

- To reduce mortality due to diarrhoeal diseases in the underfives.
- To reduce morbidity due to diarrhoeal diseases in children aged under five years of age.

1.2 Targets

1.2.1 DATA COLLECTION

By 1992, establish baseline morbidity data far the control of diarrhoeal diseases in children under five years of age.

By 1993, establish baseline mortality data in children under five years of age for the control of diarrhoeal diseases.

1.2.2 MORTALITY REDUCTION

BY 1994, reduce mortality associated with acute diarrhoeal diseases in children aged under five by 35%.

1.2.3. MORBIDITY

By 1995 establish baseline data on morbidity for effective control of diarrhoeal diseases in children aged under five by 20%.

1.2.4. By 1995, ensure that ORS packets have been available, without interruption, during the preceeding 12 months in:

- 95% of fixed health facilities in all the 24 districts.
- 75% of communities in all the 24 districts.

1.2.5. UTILIZATION

By 1995, ensure that:

- 65% of mothers are treating acute diarrhoeal diseases with ORT.
- 90% of all health workers are using ORS as the treatment of choice in children with mild or moderate dehyration due to diarrhoeal diseases.
- Hospital use of intravenous infusions for the severe dehydrated underfives has decreased by 90%
- At least two packets of ORS are distributed to the mother to continue treating acute diarrhoea at home.

1.2.6. TRAINING

By 1995, ensure that:

- 90% of MCH/PHC personnel in each district have been trained in mid-level supervisory courses.
- 70% of TBAs and VHWs have been trained in ORT.
- 95% of Primary and Secondary School have inluded ORT in health education courses.
- 100% of nursing schools have included ORT in their curricula.
- The Lilongwe School for Health Sciences has included ORT in their cirr curriculum.
- Each district hospital has an ORT health education plan for mothers with children under five years of age.

1.2.7. STRATEGY FOR THE CONTROL OF DIARRHOEAL DISEASES PROGRAMME

- Effective case management of the underfive through extensive use of ORT and epidemiological surveillance of diarrhoeal diseases.

  Inproved nutrition promotion of exclusive breastfeeding for the first 4 months of life and thereafter for up to 24 months. Good and appropriate weaning practices; to continue giving small frequent amounts of food during and after diarrhoea for two weeks for catch-up growth purposes

- Adequate supply and use of safe clean drinking water.

- Personal and domestic hygiene including proper washing of hands with soap and clean water.

- Improved environmental health practices through health education in conjunction with safe water programmes. This should include construction, maintenance and use of latrines, by those old enough to use them, appropriate disposal of stools of infants and young children.

- Measles immunization.

III SUMMARY OF 1985-89 DIARRHOEAL DISEASE CONTROL STRATEGY AND PROGRAMME

Diarrhoeal diseases control activities in Malawi began in 1981 with the formation of a multisectorial committee. Among the recommendations of this committee were:

- Formation of sub-committees for the control of diarrhoeal diseases committees.
- Integration of diarrhoeal diseases control activities with primary health care system.
- Implementation of diarrhoeal diseases control activities through MCH clinics and PHC workers.
- Provision of Oral Rehydration Salts (ORS) in packets to all fixed health facilities, and education of the community in the use of oral rehydration therapy for treating children with acute diarrhoea.
- Training of health workers in diarrhoeal diseases case management was started at Kamuzu Central Hospital in the Central Region of Malawi in 1985, and spread to all health and other extension workers across the country. Parallel to this, oral rehydration units were established starting with major health facilities, extending to peripheral health units. By the end of 1987, almost all health facilities were treating children with diarrhoea at Oral Rehydration Units. However, because of constraints such as staff shortage in the health facilities, not all the ORT centres are functioning well.

In 1985, five-year implementation plan (1985-1989) was developed for both diarrhoea and malaria programmes. The objectives of Diarrhoeal Diseases Control activities are:

- To decrease mortality due to diarrhoea in infants and young children by extensive use of oral rehydration therapy and promotion of appropriate and good feeding habits during and after diarrhoea.
- To decrease morbidity due to diarrhoeal diseases through MCH services; mothers encouraged to breastfeed as long as possible, to use locally available weaning foods, and to improve their personal and domestic hygiene.

In addition to integrating Diarrhoeal Diseases Control activities within the MCH/PHC System, the diarrhoeal disease control programme was merged with Malaria Control Programme and the two are manged together. A health education and sanitation promotion campaign is being conducted along with the rural piped water project which covers about a third of the country. Health education of mothers all over the country initially promoted the use of salt and sugar solutions made from one fanta bottle top of salt and ten bottle tops of sugar dissolved in three bottle (300mls) of clean drinking water. As a result of poor

perception of the mothers on the preparation of the recipe, and because sugar and salt are not as commonly available as was thought and believed, the focus of health education was, in February, 1988, changed from the use of salt and sugar solution to the use of other home available fluids such as diluted porridge, soups and weak tea early during a diarrhoeal episode.

There is an increasing number of community volunteers treating individuals with diarrhoea at community level using ORS.

UNICEF provides almost all the ORS salts distributed throughout the health system. Supply of ORS packets, presently being imported, has increased from 130,000 litre-sachets in 1982 to 1,125,000 litre packets in 1988 with a corresponding increase of packet/underfive child from 0.12 in 1982 to 1.42 in 1988. Assuming each underfive child in Malawi required four packets per year, Malawi would need about 6.5 million packets of ORS in a year.

A private company started producing ORS in Malawi in 1987. All packets produced are sold in shops at a price which is considered unaffordable by the majority in the country. There is an apparent surplus of ORS sachets in Malawi at present. This is probably due to low use rate resulting from the current ORS dispensing policy. All intravenous infusions used in Malawi are imported.

OBJECTIVES AND TARGETS

The objectives of the five-year implementation plan are:

- To reduce mortality due to diarrhoeal diseases, especially among children underfive years of age.
- To reduce morbidity due to diarrhoeal diseases in children underfive years of age.

TARGETS

1. Data Collection

   - By December 1986, establish baseline mortality/morbidity data for the control of diarrhoeal diseases.

2. Mortality Reduction

   - By 1989, reduce mortality associated with acute diarrhoeal diseases by 45% in children underfive years of age.

3. Morbidity

   - By 1989, establish baseline data rates of morbidity associated with diarrhoeal diseases among children underfive at the community level.

4. Access

- By 1989, ensure that ORS packets (sachets) have been available, without interruption, during the preceding 12 months in

  - 80% of fixed health facilities in at least 16 districts.

  - 80% of communities in at least 16 districts..

5. Utilization (ORS use rate)

- By 1989, ensure that:

  - 60% of mothers are treating diarrhoeal diseases with some type of ORT.

  - 70% of all health workers are using ORS as the first line of treatment of a child with mild to moderate dehydration,

  - hospital use of intravenous infusions for the treatment of mild or moderate dehydration has been decreased by 90%.

  - at least two packets of ORS per child under five years of age are available each year.

7. Training

By 1989, ensure that:

- 100% of MCH/PHC personnel in each district have been trained in mid-level supervisory courses which include ORT.

- 65% of Traditional Birth Attendants (TBAs) and Village Health Workers (VHWs) have been trained in ORT.

- 100% of Primary and Secondary Schools have included ORT in their curricula.

- The Lilongwe School of Health Sciences has included ORT in its curriculum.

- Each district hospital has an ORT Health Education plan for mothers with children under five years of age.

The following strategies were used in order to achieve the targets set:

- Case management by use of ORT.

- Improved Maternal and Child Health Care Services.

- Epidemiological Surveillance of diarrhoeal diseases.

- Improved environmental health intervention through health education in conjunction with safe water [illegible]

ANNEX III

LIST OF CDD RELATED IEC MATERIALS DEVELOPED UNDER HEALTHCOM

A. MOTHER EDUCATION VISUAL AIDS

a "diarrhoea wheel" to teach the definition of diarrhoea, the need for fluids and the need for referral if the child becomes weak. It is unclear whether this material was field tested.

a "diarrhoea mobile": a series of 5 cardboard cards panels with one picture on each side (10 pictures in all) repeating the messages of the diarrhoea wheel.

a "diarrhoea prevention mobile": a series of 6 cardboard panels promoting use of latrines, hand washing, food hygiene and village cleanliness.

As no hooks were provided to hang these mobiles from the ceiling as was the original intention, they are not being used as mobiles. This may be just as well as it is unclear whether they were field tested as mobiles.

a one litre plastic ORS container with the PHC logo (plus a wooden spoon for stirring the solution).

an ORS poster and accompanying flyer showing the six steps in mixing ORS solutions

a local language diarrhoea booklet to be used by health workers as a reference guide and a teaching tool for mothers. The booklet gives the definition of diarrhoea (3 stools/day), explains dehydration and the signs of dehydration, gives the steps for mixing ORS and for giving it to the sick child, recommends continued feeding and breastfeeding, gives recommendations for referral and lists hygiene actions for diarrhoea prevention.

a diarrhoea flip chart/big book with the identical content of the small booklets.

B. MATERIALS FOR VILLAGE HEALTH WORKERS

a diarrhoea record form to record the patients' age, treatment with ORS and outcome of child diarrhoea episodes.

a referral form to accompany a sick child to the health centre stating the quantity of ORS given (or of chloroquine in case of malaria).

a monthly reporting form listing the number of cases, the treatment given and the outcome of diarrhoeal (and malarial) illness.

A series of three health worker's learning manuals each accompanied by a supervisor's training manual and a set of audio cassette tapes to be used as "mini" training "modules" by supervisors during supervisory [illegible]

* [illegible]

* Communication and listening skills for talking to mothers.

* Preparation of health education activities.

Best Available Document

Table 2

ANNEX IV

Major Causes of Morbidity and Mortality in Malawian Children Less Than Five Years of Age in 1988 as Reported to the MOH

	OUTPATIENTS		~~OUTPATIENTS~~ Inpatient —			
	No. of [illegible]	% of Total	No. Cases**	% of Total	No. deaths	% of Total
1. Malaria	1,7[illegible]	35.8%	25,155	30.0%	1,544	19.4%
2. Anemia	865,342	18.2%	10,997	13.1%	983	12.4%
3. Pneumonia	326,321	6.9%	9,574	11.4%	958	12.1%
4. Measles	326,823	6.9%	5,900	6.6%	542	6.8%
5. Diarrhoea	323,372	6.8%	6,301	7.5%	637	8.0%

* Total No. Outpatient less than 5 years : 4,753,799

** Total No. Inpatient less than 5 years : 83,922