

Diarrhoea Training Unit

Director's Guide

World Health Organization



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Diarrhoea Training Unit Director's Guide

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INTRODUCTION

Acute diarrhoeal diseases are a leading cause of childhood mortality and morbidity in the developing world. Dehydration from acute diarrhoeas of all etiologies and in all age groups can be treated safely and effectively by the simple method of oral rehydration therapy (ORT). ORT has made it possible to undertake a global effort to reduce deaths from acute diarrhoeas and diarrhoea-associated malnutrition.

Physicians and health staff around the world must be introduced to and trained in proper diarrhoea treatment which includes use of ORT. Many have already learned proper treatment procedures at diarrhoea training units. In the future many more will be trained at these units. It is essential that every country trains its health staff in proper diarrhoea case management.

What Is A Diarrhoea Training Unit?

A unit in a hospital which routinely treats many cases of acute childhood diarrhoea and conducts training in diarrhoea treatment.

In a large hospital where treatment of diarrhoea cases is a major activity, the unit may be assigned a permanent area in the facility. In other hospitals, a diarrhoea training unit may be set up or expanded as the need occurs, particularly during the high season for diarrhoea.

What Does A Diarrhoea Training Unit Do?

A diarrhoea training unit develops the skill and confidence of physicians and other health workers so they can give proper therapy to cases of diarrhoea. When participants attend clinical training, they develop skills in management of diarrhoea, especially use of ORT. They learn to treat cases, manage complicated cases, and teach others how to do it. They learn the effectiveness of ORT as a therapeutic tool. They become confident and knowledgeable enough to overcome resistance to the modern methods from other health professionals or from patients and their families.

Participants from hospitals throughout the country are trained at the diarrhoea training unit to support the national programme for control of diarrhoeal diseases. Some countries may have several diarrhoea training units. The number of participants being trained at one time may range from one to fifteen.

Diarrhoea training units with adequate facilities and accommodations for a large number of participants also may train participants from other countries.

Some diarrhoea training units may conduct clinical research on various aspects of diarrhoea management. But the primary purpose of a diarrhoea training unit is always to teach participants to treat diarrhoea properly and to give them experience doing it.

Why Was This Guide Developed?

WHO realizes that diarrhoea training units face many problems in trying to provide training that is certain to give participants this level of skill and the essential technical knowledge. Hands-on training, which requires each participant to treat several patients with guidance and support from the staff, can be very effective. However, hands-on training places considerable demands on the staff and, if not organized well, can be disruptive to the normal operation of a facility. It is also difficult to select and provide the most important technical knowledge in the limited time available for training.

Effective training requires substantial time and effort to plan well. There are many decisions to be made about the skills to be taught, the information to be covered, the activities of the participants, instructors, schedules, operational arrangements and supplies. These decisions and arrangements are assigned to the director of training (the individual may or may not have this title), who often has many important and demanding responsibilities.

This guide was written to help the director of a diarrhoea training unit plan and conduct effective training. It describes a range of ways that training could be done and the most important things to include. It outlines decisions that need to be made and makes some suggestions. It contains lists of steps for planning and conducting the training. It contains

information that will be helpful to anyone who is setting up or running a diarrhoea training unit.

Another WHO publication, *Diarrhoea Training Unit Teaching Materials, WHO/CDD/SER/88.1*, provides complete training designs, instructor guidelines, lecture text and slides, and evaluation forms to help the director carry out the training. These can be used as needed and modified to suit the needs of the particular unit.

How Is A Diarrhoea Training Unit Established?

If the staff of a facility shows interest in hosting training for physicians and nurses in diarrhoea case management, it may be possible to set up a diarrhoea training unit there.

There should be many patients, especially infants and young children, who come to the facility to be treated for acute diarrhoea and dehydration, so that each participant will be able to be trained by actually treating patients. It is not necessary to conduct large courses for many participants at a time, however. A diarrhoea training unit could host just one or two participants at a time.

Dedication to the practice of proper diarrhoea case management including the use of ORT, and a high level of skill among the staff are other prerequisites. The unit should be in a geographic location which will be accessible for the participants who come for training.

If the facility meets these basic criteria, it is advisable that the person who will be responsible for the training attend a training session at a well-run diarrhoea training unit. That individual will see how a training unit operates and receive information on the support available from WHO.

By learning from the experience of other diarrhoea training units and by following this guide, the training director can plan and conduct this important training for health professionals.

Who Is Trained At A Diarrhoea Training Unit?

The following types of people will come to diarrhoea training units:

1. Senior pediatricians from central or provincial hospitals who are interested in treatment of diarrhoea.
2. Other senior medical staff from national or provincial hospitals where diarrhoea cases of any age are treated.

3. Senior nurses and other medical and nursing staff from national or provincial hospitals where diarrhoea cases of any age are treated.
4. Teaching staff of medical schools, schools of nursing or training institutions for other health workers.
5. House staff (e.g., interns and residents) and medical and nursing students from an associated medical training facility which treats patients, such as a university teaching hospital.
6. In addition, the unit may train similar staff of neighboring countries.

Senior staff who are considering establishing a diarrhoea training unit in their hospital may come to learn how to set one up.

A diarrhoea training unit may also provide one day of practical training to participants in WHO *Supervisory Skills* courses.



Purposes Of A Diarrhoea Training Unit

To Train Physicians And Other Health Workers To Treat Cases Of Diarrhoea Properly

This purpose is accomplished by having participants observe proper case management and gain first hand experience treating patients. Participants also obtain relevant technical information through lectures, case presentations and discussions with experienced staff and other participants, and review of reference articles.

To Prepare Participants To Improve Case Management In Their Own Hospitals Or Private Practices

This purpose is just as important as the first, but is easy to overlook.

Participants may know how to treat cases properly *at the diarrhoea training unit*, but may not be able to use these procedures when they return to their own hospital. Unless there is support for the procedures, participants will find it too difficult or even impossible to use them. Support is needed in terms of attitudes of senior administrators, policies, physical facilities, supplies, and skilled staff.

Participants will need to build the necessary support at their own facilities. They will need to convince colleagues and patients that a different way of treating diarrhoea will be better. They will need to be able to describe the facilities, arrangements and supplies needed. They may have to change certain policies and train health staff to treat cases properly.

The diarrhoea training unit helps participants prepare for this challenge. It is a model for the physical arrangements and operating procedures of a health facility that treats diarrhoea cases properly. During the training, participants identify changes that will need to be made at their hospitals so that the procedures they are learning can be applied. Advice from instructors and the exchange of ideas among participants helps each participant plan how specific changes can be accomplished.

To Prepare Participants To Establish A Diarrhoea Training Unit

Some participants who come to the diarrhoea training unit will come to learn how to establish one in their own hospital.

It is very impressive to see participants working alongside the staff, treating patients and getting the experience they need without disrupting the facility. An individual who has participated in training at a well-run diarrhoea training unit will remember the different activities that were effective and will have a clear understanding of what a diarrhoea training unit should accomplish.

By observing carefully how the diarrhoea training unit is set up and how the training is conducted, participants get specific ideas for their training units. When trying to solve problems in preparing or conducting the training, they can recall the operational arrangements and training procedures that worked well.

These participants are given this guide and other materials to help them. In addition, the director of the diarrhoea training unit meets with them to discuss their questions and give practical advice.



Description Of A Diarrhoea Training Unit

Each diarrhoea training unit will be arranged and will operate somewhat differently from others, but certain characteristics are essential for any diarrhoea training unit.

1. Proper therapy for diarrhoea is practiced on a routine basis, so participants can see the therapy and be a part of it.
 - a) Mothers stay with their children to give ORT and continue breastfeeding.
 - b) Mothers are taught how to give ORT, continue ORT at home, feed during and after diarrhoea, and recognize the signs indicating that a child should be brought back to a health worker. They are given other relevant health education messages on prevention of diarrhoea.
 - c) ORT is used appropriately; IV therapy is not used when ORT would be effective.
 - d) Antibiotics are used only as needed; antidiarrhoeal drugs are never used.
2. There are adequate numbers of child diarrhoea cases coming to the unit for treatment so that each participant may treat several patients during the training. (See page 21.)
3. Physicians, nurses and other staff members have compatible ideas on diarrhoea treatment and work together well.
4. Space is arranged so that there are 3 areas for management of diarrhoea cases as described on the next two pages. These areas may or may not be next to one another. The diarrhoea ward is often part of a general ward.

Reception and Triage Area, where:

- Cases are assessed and classified for treatment;
- Mothers of cases without signs of dehydration are taught about management of diarrhoea at home and prevention of diarrhoea. They practice mixing and administering ORS. They learn to recognize the signs that indicate the child should be brought back to the health worker.

ORT Area, where:

- Benches with side tables (or other seats like chairs or mats) are provided, with space for movement of physicians, other staff, participants and mothers;
- Cases are given ORS by their mothers or relatives, with supervision;
- There is adequate ventilation (e.g., fans) and access to toilet and washing facilities;
- ORS is mixed from packets or in bulk volumes (or this might be done in the pharmacy);
- Children who stay more than 4-6 hours are offered food.

Diarrhoea Ward, where:

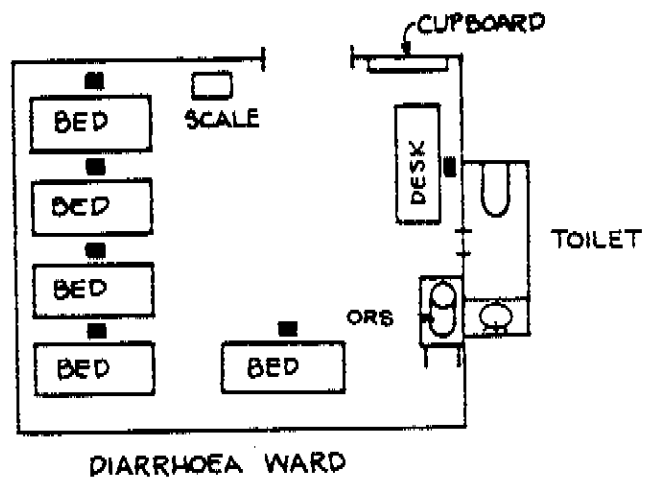
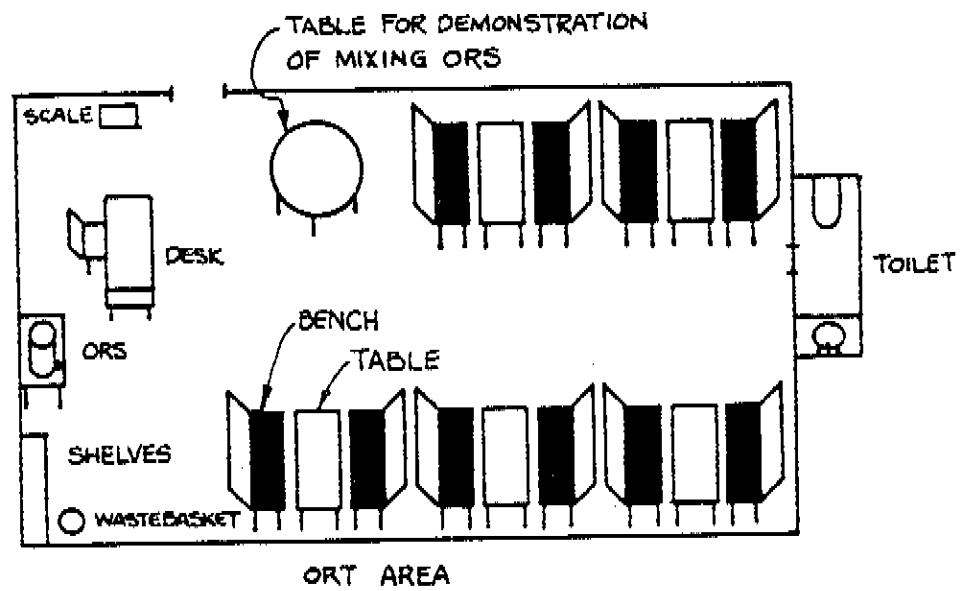
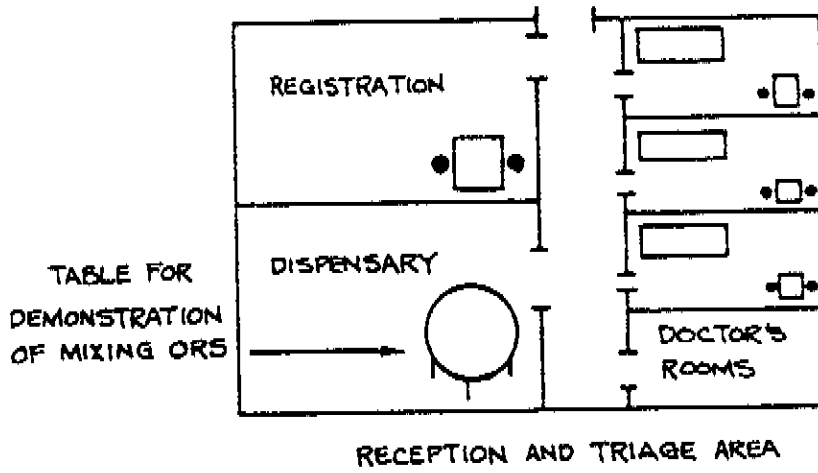
- Cases of severe dehydration and diarrhoea cases with complications are partitioned off from cases of other illnesses;
- Cases receive treatment with IV or nasogastric fluid initially, begin ORS as soon as appropriate, receive other necessary therapy;
- The mother or other relative can stay next to the patient's bed.

5. The diarrhoea treatment areas of the unit are reasonably similar to the hospital settings where participants will work, in terms of the physical characteristics, staffing, range of patient care needs and equipment.

This is important so that participants understand that the procedures they learn should be possible to do in their own facilities.

6. At night, continued care is provided for inpatients and new emergency cases. A staff member with experience in ORT is on call at all times.

EXAMPLE



7. Appropriate supplies are available in adequate quantities. (A list of supplies needed in each of the three treatment areas is in Annex A.) The supplies should be taken out of the storage area and arranged each morning so that they will be convenient to use.
8. The unit has access to a conference/lecture room nearby which can comfortably seat all the participants and instructors.
9. A director for the diarrhoea training unit is appointed and supported by the hospital administration. This director should be:
 - a) a physician with at least one year of experience in clinical management of acute diarrhoea, using ORT,
 - b) assigned responsibility for the training program,
 - c) given authority to obtain the necessary staff and resources to conduct training successfully,
 - d) trained to run the unit and conduct training using the WHO materials, and
 - e) able to devote the time necessary to do it well.



Training Objectives

Exactly what the training includes, how it is done, and how long it takes will differ from one diarrhoea training unit to another. These things will depend on the number and type of participants and the resources and capabilities of the diarrhoea training unit. However, the training should always accomplish the 3 basic purposes of a diarrhoea training unit:

- to train physicians and other health workers to treat cases of diarrhoea properly,
- to prepare participants to improve case management in their own hospitals or private practices, and
- to prepare selected participants to establish a diarrhoea training unit.

This chapter provides objectives for training at a diarrhoea training unit that will accomplish these purposes.

What Are Characteristics Of Good Training?

Good training teaches needed skills and knowledge in a positive and supportive way. Specifically, it is:

Performance based

Skills and knowledge that will help participants to perform their jobs better are the focus of the training. Instructors relate what they are teaching to the work the participants will be doing.

Active

Participants have an active role in the learning, so that they understand and remember more than if they just listened or read. They ask and answer questions, have discussions, write plans, explain something, give a demonstration and do role plays. As much as possible, they practice the new skills in a situation that is similar to their work situation.

Individualized

Each participant is able to ask questions and get explanations, demonstrations and coaching to the extent needed to learn the skill. The training schedule and methods are flexible to allow for differences in the ways participants learn.

Well organized

Careful planning and administrative support enable the training to be done smoothly. Participants and instructors know what to do when and have the space and supplies needed. There are few administrative problems to cause delay and little confusion to distract participants.

Positive

Instructors demonstrate pride, confidence and commitment to what they are teaching. They show that they care whether the participants learn.

Training Objectives For Increased Understanding Of Diarrhoea And Case Management

Each participant will receive information to increase his or her understanding of diarrhoea, its management, and related issues through different methods such as lecture, first hand experience, talking with staff, and review of reference articles. On completion of the training, participants will be able to answer basic questions about the following topics:

Principles of Clinical Management of Acute Diarrhoea

- Diarrhoeal dehydration
- How ORT works
- Formulation of ORS
- Convincing mothers to use ORT
- Advantages of ORT over IV therapy
- Impact of ORT in the hospital and community
- Reasons for failure of ORT
- Home fluids to prevent dehydration
- Feeding during and after diarrhoea
- Antimicrobials and other drugs
- Super ORS

Management of Acute Diarrhoea

- Assessment of the patient and degree of dehydration
- Prevention of dehydration
- Rehydration therapy using ORS
- Therapy for severe dehydration
- Associated conditions
- Treatment of dysentery

Pathogenesis of Diarrhoeal Disease

- Physiology of intestinal absorption and secretion
- Virulence factors
- Invasive diarrhoeas and secretory diarrhoeas
- Malabsorption and malnutrition
- Persistent diarrhoea

Epidemiology and Etiology of Acute Diarrhoeas

- Magnitude of the problem
- Mode of transmission and risk factors
- Seasonality
- Etiologic agents
- Epidemiologic characteristics of specific enteropathogens
- Other causes of diarrhoea

Prevention of Diarrhoea

- Breastfeeding
- Improved weaning practices
- Use of plenty of clean water
- Handwashing
- Use of latrines
- Proper disposal of stools of young children
- Measles immunization

Training Objectives For Development Of Skills In Case Management

At the diarrhoea training unit, each participant will develop the following skills by practicing them under the supervision of instructors and staff.

In The Reception And Triage Area

1. Assess diarrhoea cases to:
 - a) determine extent of dehydration,
 - b) identify other problems (e.g., dysentery, fever, severe malnutrition), complications (e.g., paralytic ileus), or associated diseases (e.g., measles), and
 - c) identify other diseases (e.g., meningitis) that may require treatment elsewhere.
2. Decide which cases need to be sent to the ORT area or diarrhoea ward for treatment.
3. Teach each mother management of diarrhoea at home (fluids, food and signs that indicate a child should be brought to a health worker).

Note: If it is the policy to give ORS packets to mothers of children who do not have signs of dehydration, participants should demonstrate and teach mothers how to mix and administer ORS.

4. Educate each mother in prevention of diarrhoea.
5. Prescribe other medicines if needed.

In The ORT Area

1. Assess and treat cases:
 - a) Take history.
 - b) Examine patient and determine amount of fluid to be given in 4-6 hours.
 - c) Discuss findings and recommendations for treatment with staff.
 - d) Begin administering ORS and teach mother to administer the ORS.
 - e) Assess patient's progress periodically and record findings (every 2 hours until patient is rehydrated; every 6 hours thereafter).

- f) Determine amount of ORS to be given for maintenance and advise the mother.
 - g) Treat other problems (e.g., reduce fever, give an antibiotic for dysentery).
2. Mix oral solution in bulk volumes. (If this is done in the pharmacy, participants should assist in doing it there.)
 3. Deal with difficulties administering ORS (such as vomiting).
 4. Supervise mothers and nurses giving ORS.
 5. Determine success or failure of ORS.
 6. Encourage the mother to begin feeding the child according to guidelines established by the facility. (The facility should provide food to children who remain at the facility for 4-6 hours or more and to their guardians if necessary.)
 7. Before a mother leaves, teach her how to continue caring for her child at home and the signs that indicate she should bring her child back. Tell the mother that if her child's dehydration recurs, she should return to the facility. Also explain what she can do to prevent diarrhoea and how to treat it when it occurs.

In The Diarrhoea Ward

1. Assess patients with severe dehydration:
 - a) Take history and read any hospital chart or notes.
 - b) Examine case.
 - c) Determine amount of fluid required.
 - d) If there will be a delay in putting in the IV, and if the patient can drink, begin ORS while waiting for IV.
 - e) Discuss findings and recommendations for treatment with staff.
2. Treat as appropriate:
 - a) Administer intravenous therapy.
 - b) Insert nasogastric tube and administer oral solution.
 - c) Care for other problems, complications and associated diseases.

-
3. Assess patient's progress periodically and record findings (every 2 hours until patient is rehydrated; every 6 hours thereafter). Discontinue IV and begin ORT as soon as appropriate.
 4. Before the child is discharged from the diarrhoea ward, be sure that the mother is taught how to continue caring for her child at home and the signs that indicate she should bring her child back. Tell the mother that if her child's dehydration recurs, if he gets a fever, does not eat and drink normally, or seems not to be getting better, she should bring her child back. Also explain what she can do to prevent diarrhoea and how to treat it when it occurs.

Training Objectives For Improving Current Practice

At the diarrhoea training unit, participants will prepare to make improvements needed so that cases will be managed properly at their own facilities or private practices.

1. Observe how the facility is set up to manage diarrhoea cases. Notice the activities of staff and mothers, the supplies and the records.
2. Think of your own facility's policies, treatment procedures, equipment, staff and arrangement. Consider different possible arrangements of space and staff for assessment and treatment of diarrhoea patients. List changes needed at your own facility for proper case management. List training, additional resources (such as equipment, space, staff), changes in policy, changes in attitude, etc., that will enable the needed improvements to be made.
3. Sketch a floor plan of the outpatient area in your facility where diarrhoea cases will be treated, as it is now or the way you will rearrange it.
4. Prepare a list of questions that might be asked by your senior colleagues when you propose changing current practice. Prepare answers to the questions.
5. List the steps that must be done to make the needed improvements, and how you will do those things, such as how you will:
 - convince colleagues and staff of the effectiveness of ORT,
 - demonstrate that ORT does not have to take too much staff time,
 - obtain the necessary supplies,
 - train other physicians in ORT techniques,
 - train nurses and other staff to give ORT,
 - rearrange the facility,
 - inform and convince staff to follow the current recommendations for use of antibiotics for diarrhoea (i.e., only for suspected shigellosis and cholera),
 - overcome pressure from staff and patients to use IV therapy and unnecessary drugs,
 - revise any policy that prohibits mothers in the diarrhoea ward, so they will be allowed to always stay with their children.

Training Objectives For Establishing A Diarrhoea Training Unit

Some of the participants will want to learn how to establish a diarrhoea training unit. These participants will want to accomplish the objectives below, in addition to the objectives already listed.

Notice that these objectives are for participants who want to establish not just an ORT area in their hospitals, but a diarrhoea *training* unit to train participants from other hospitals.

1. Discuss prerequisites for establishing a diarrhoea training unit with the director of this diarrhoea training unit.
2. Obtain a copy of the *Diarrhoea Training Unit Director's Guide* and other materials that were used to plan this training or were used during the training. Review the director's guide.
3. Observe the physical arrangements for the training.
4. Observe the activities of the participants, instructors, staff and the training director during the training and assess how the objectives are accomplished.
5. Outline and discuss your plans for establishing a diarrhoea training unit with the training director. Learn what support is available from the ministry of health or from WHO and how to obtain it.
6. Begin planning for training courses that you will conduct. For example, plan the type and number of participants that can be trained, staff needed, training objectives and activities.



Steps To Prepare For The Training

Careful planning is essential for the training to be successful. Preparations will include both technical and administrative work. The director of the diarrhoea training unit should perform or assign responsibility to someone who will perform each of the steps below. Suggestions for each step are provided in this chapter.

Notice that some of the steps, such as steps 3 and 4, will be time-consuming only the first time this training is planned. When training is conducted subsequently, the same procedures and materials will be used with only minor adjustments if necessary.

- 1. Determine the number of participants that can be trained.
- 2. Make sure adequate funds are available for all expenditures.
- 3. Plan the training design (that is, the training methods and activities).
- 4. Plan how participants' progress will be monitored.
- 5. Select instructors.
- 6. Select dates for training and write the agenda.
- 7. Prepare and distribute a course description.
- 8. Check supplies and order any additions needed.
- 9. Obtain copies of training materials and references in the appropriate language.
- 10. Arrange for lodging, meals and transportation.
- 11. Prepare instructors and other staff.

Step 1 - Determine The Number Of Participants That Can Be Trained

The diarrhoea training unit must receive adequate numbers of child diarrhoea cases of different degrees of severity. This is essential so that each participant can observe a range of types of cases and treat several cases.

At a minimum, each participant should treat three dehydrated patients during the training. These patients should present with signs of dehydration and be treated in the ORT area or diarrhoea ward.

Training courses should only be organized at a time or place that this can be assured. It is highly recommended that each participant treat more than three patients to gain as much experience with ORT as possible.

The number of participants that can be trained is determined by the number of cases expected at the facility. Therefore, the number of participants that can be trained will be greater during the seasons when diarrhoea is more frequent.

How Many Participants Can Be Trained?

Average Number of Dehydrated Patients During Working Hours in a 5 Day Period	Maximum Number of Participants That Can Be Trained	Instructors Needed For The Training ¹	Nurses Needed (for a 24 hour period) ²
6 or less	1 - 2	1 - 2	3
12	4		
18	6	3	6
30	10		
45 or more	15		

¹ This number of instructors should be available during all hours that participant work is scheduled. Lecturers or other instructors who have brief contact with participants are additional.

² This number of nurses is needed to care for patients and assist participants in the ORT area and the diarrhoea ward.

Step 2 - Make Sure Adequate Funds Are Available For All Expenditures

Expenditures may include support for participants' travel and per diem, extra supplies, training and reference materials, special compensation for instructors, coffee and tea breaks, and other miscellaneous items.

Step 3 - Plan The Training Design

The training design is the plan of activities for the training. It is based on the training objectives. It outlines each activity, the training method, who does what, materials needed and the time allotted.

On the next page is part of a sample training design. A blank training design form is in Annex B.

Complete training designs which outline activities to achieve each group of training objectives are provided in the Teaching Materials. These training designs may help you design your own, or may be suitable to follow with slight or no modification.

The steps to develop a training design are given below. Though it is time-consuming to develop a complete training design, it only needs to be done once. The design will be followed again each time the training is given, so it is worthwhile to develop a very good one.

1. ***Review the specific training objectives (pp. 13-19) and plan how to address them in the training.*** If the training will not be able to address them all, select the most important ones.
2. ***Begin with the first objective or group of objectives and think of what participants could do to learn those skills.*** Write this in the activity column.

Some examples of activities are: mix ORS; teach a mother about home treatment; identify specific changes needed in the facility; present case studies; insert a nasogastric tube; treat complications; explain reasons that ORS is superior for treatment of dehydration.

3. *For each activity, specify the method that will be used to accomplish it in the next column. Tell who will do what.* Some examples of methods are:

- Demonstration
- Doing the task under supervision
- Role play
- Written or verbal question-and-answer session
- Case studies
- Lectures
- Small group discussion
- Group problem solving session
- Written exercises
- Review of reference articles

There may be several methods for accomplishing some activities. This can be very beneficial. When skills are used and reinforced repeatedly, participants will become more competent and confident doing them. When participants are given the same information from different sources in different ways, they will be more likely to understand, absorb and remember it.

For example, a participant should learn the five most useful signs of some dehydration and severe dehydration in infants. Imagine how well participants would know the signs if they read about them in an article, heard other participants' discussion of them in their case studies, and looked for them in each of the patients they treated during the training. With each repetition, the recall of the signs would be quicker and easier.

On the chart under "Method," write what will be done and who will be involved. Write enough words to clearly describe how the method will work. For example, "Instructor distributes and reviews assessment chart; participant assesses a case and tells his findings; instructor and other participants discuss them."

4. *List the resources that will be needed to carry out the training activity.*

Resources could include materials for training, supplies for case management, or space of a certain type. When the number of participants is known, write in the number of copies of written materials and the quantities of other materials needed.

TRAINING DESIGN FORM

ACTIVITY	METHOD	RESOURCES	TIME
<p>Objectives: Improving Current Practices</p> <p>Introduction:</p> <ul style="list-style-type: none"> - Why applying procedures is important - Training objectives - Recognition of difficulties in making a change <p>Observe how the facility is set up and functions</p> <p>Compare own hospital with the diarrhoea training unit.</p>	<p>Instructor reviews each objective and schedule of activities, answers questions about what participants will do.</p> <p>Instructor asks participants to list benefits that will result if ORT is initiated. Writes benefits on chalkboard.</p> <p>Instructor asks participants to tell any experiences they have had trying to make a change. Lists types of resistance and difficulties mentioned on chalkboard.</p> <p>In closing, says it will be difficult to make changes but it can be done. Participants will discuss ways to overcome resistance later in the course.</p> <p>Participants observe treatment areas while they work.</p> <p>Participants individually write lists of changes needed in own facilities.</p>	<p>Copies of training objectives</p> <p>Meeting room with chairs</p> <p>Chalkboard or flipchart</p> <p>List of items to specifically notice in each area</p> <p>Quiet space for participants to sit and work.</p>	<p>1- 1/2 hour</p> <p>1/2-1 day, while managing cases</p> <p>2 hours for individual work</p>

Some examples: Diarrhoea Treatment Chart, reference articles, chalkboard with chalk or large easel with paper and felt tip markers, supplies for administering ORT, room with chairs and tables, ORT films, a projector, blank case record forms.

5. Estimate the time required to do the activity.

Write the amount of time (for example, 10 minutes, or 2 hours) in the appropriate column.

6. Repeat steps 2 through 5 for each activity. Refer to the specific training objectives on pages 13-19 and continue the list of activities until all the objectives have been addressed.

7. Rearrange the entries in the training design so that they are in the order that they should occur during the training.

Add an introductory and a closing session for the training course. Where needed, add an activity to introduce a new subject or group of activities, such as, "Explanation of next group of activities: planning how to improve case management in your own hospital."

Some activities probably can be grouped together. Revise the time estimates for activities that are combined.

Sequence the training to keep participants interested. For example, avoid having only lectures all day. Schedule the lectures between more stimulating methods such as working with patients or small group discussions.

8. Determine the length of the training course.

Total the times listed for the activities. Also add some time for opening and closing sessions and lunch and tea breaks. Divide the activities among the number of days available. It may be necessary to revise some of the times, or to add or omit activities.

If the amount of time needed is very different from the number of days tentatively planned for the training, carefully examine whether the number of days or the training design should be changed. Be sure that the training objectives will be achieved.

Be sure that participants will spend at least half of the time doing practical work, that is, observing, discussing or practicing proper case management procedures.

Some suggestions for the training design

Below are some suggestions that could be used in a training design. This is not a complete design, but provides some ideas.

For skill development in case management:

Assemble the group at the triage area. (Assign pairs of participants to work together if there will not be many diarrhoea cases to treat.) An instructor assesses the first child presenting with diarrhoea, describing each sign of dehydration as it is assessed.

Ask a participant to do the assessment of the next child that comes in with diarrhoea. If that child needs to be treated in the ORT area or the diarrhoea ward, that participant accompanies the patient and administers the appropriate treatment (under the supervision of the instructor assigned to that area). If the child does not need to remain at the facility for treatment, the participant teaches the mother how she should care for the child and teaches her the other relevant health education messages.

As more patients arrive, other participants assess and treat them. When a child's treatment has been started and the child's condition is stable (for example, after 2-4 hours), the participant returns to the triage area to be assigned another patient.

Participants are made to feel that they are responsible for their own cases. They report to the staff in case of difficulty. Participants also move around to observe other cases and be exposed to more situations and procedures. Staff are encouraged to talk about their experience with difficult cases and unusual problems, particularly problems not seen in cases at that time.

The instructor in the triage area makes sure that each participant has an opportunity to treat a variety of cases during the training. Throughout the practical work, participants learn by observing other participants and staff and by discussing the cases among themselves and with the instructors. (See "Practical Work" in the *Teaching Materials* for additional guidance and materials.)

Participants write a case history and progress report on each patient cared for. They record this information on a form for this purpose. A sample case record form is in Annex C.

Schedule several sessions for participants to present case studies to the group. Every participant should present one or more case studies during the training. Each case presentation should include a discussion of why the treatment was appropriate and other relevant issues. (See "Case Presentations" in the *Teaching Materials*.)

For increased understanding of diarrhoea case management:

Encourage questions and discussion during or following the lectures. During practical work, instructors discuss with participants points from the lectures and the references. Instructors ask questions about the cases being treated that remind participants of the benefits of ORT and principles of good case management.

For improving current practices:

Participants assess their own facilities and write a list of improvements needed if proper diarrhoea treatment practices are to be practiced. They sketch a floor plan of the areas where diarrhoea cases will be treated.

Each participant writes a list of what must be done to enable the changes on the first list to be made (such as convincing the chief of staff that the new procedures are better and are feasible, or obtaining adequate supplies of ORS).

Small groups meet to make suggestions on how certain changes can be accomplished. For example, the group might plan to convince the chief of staff by doing a demonstration of the efficacy of ORT, and providing credible reference materials on the time and cost savings in a hospital when ORT is used. The plans should include specifically how the demonstration can be planned and carried out and what reference materials will be most relevant and convincing. Participants and instructors could role play a discussion to convince a colleague to try ORT. (See "Improving Current Practice" in the *Teaching Materials*.)

For establishing a diarrhoea training unit:

Give participants a copy of this guide to read during the course. They observe the activities of the other participants, instructors and staff. In a discussion they review the training objectives and the activities related to each objective. Participants then discuss whether they will do the training in the same or a different way and why. The training director discusses his or her experience planning and conducting this training.

Participants begin outlining a plan for the training courses they will conduct. Specifically, they do (or begin) several of the steps described in Chapter 4, such as,

- Determine the number of participants that can be trained
- Plan the training design
- Plan how participants' progress will be monitored

An instructor or the training director reviews and discusses each participant's plans and offers suggestions. (See "Planning a Training Unit" in the *Teaching Materials*.)

Step 4 - Plan How Participants' Progress Will Be Monitored

There is a need to monitor to know what each participant has accomplished already and what remains. Then attention can be given to each participant as needed for him or her to complete the training successfully.

The basic tool for monitoring is a list, or checklist, of what the participants should do. Marking what each participant does on the list makes it clear what remains to be accomplished. The checklist might be the training objectives. Alternatively, it could be a more detailed list of activities taken from the training design.

Two ways to use the checklist to monitor are described below. One or both may be used.

Self-monitoring

Each participant has a list of the activities that he or she should accomplish during the training. Each day the participant checks off the activities accomplished that day. Periodically, the participant discusses his or her progress with an instructor and may bring any particular needs to the instructor's attention. (For example, the participant may not have had a chance to treat a severely dehydrated patient.)

Instructor monitoring

Each instructor is assigned certain participants to monitor. When a participant accomplishes an activity, the instructor marks it off on the checklist. The instructor learns about each participant's work by observing and talking to the participant and other instructors as needed.

Though this may be done informally, it is very important. Instructors must know what skills each participant has learned in order to know what remains to be taught. If a participant is having difficulties, the instructor will discuss these with the training director and plan what to do.

An example of an instructor's checklist is on page 29. With minor modification (e.g., substitute "case name" for "participant's name" and omit instructions at bottom of form), this can be used for self-monitoring.

The training director is responsible for making sure that each participant has the opportunity to participate and achieve all the training objectives. It will be of benefit, therefore, to have the instructors inform the director of the progress of the participants every day, so that adjustments can be made if needed. (For example, if time is running out and participants have not presented enough case studies, an evening session could be scheduled.)

Instructor's Evaluation Of Clinical Skills

(To be submitted to Course Director)

Location of Course _____ Instructor _____ Date of Course _____

Participant's Name	CLINICAL SKILLS								PLAN					
	Assess dehydration	Assess other problems	Select treatment	Teach mother to care for child at home	Educate mother in diarrhoea prevention	Determine amount of oral fluid for first 4-6 hours	Administer ORS	Teach mother to administer ORS		Deal with difficulties in administering ORT	Prescribe maintenance therapy with ORS and advise mother	Determine amount of IV fluid for first 4-6 hours (severe dehydration)	Assess progress and switch from IV to ORT when appropriate	Treat patients with other problems and complications
1														
2														
3														
4														
5														
6														
7														
8														

Plan for improving diarrhoea treatment practices at participant's facility was:
 Written (W)
 Written and Discussed (WD)
 Not Addressed (NA)
 Only Discussed (D)

Record highest level of skill exhibited by participant: 1--Performed correctly, confidently, without assistance 2--Performed correctly with assistance; or correctly but very unsure of self 3--Performed not entirely correctly 4--Did not perform the skill

Step 5 - Select Instructors

The instructors will be responsible for assigning participants to cases and supervising them as they treat the cases. (Staff who normally treat cases will also be there to assist participants, answer their questions and keep the usual patient records.) The instructors will also lead group discussions, case presentations, and other activities planned by the training director.

The physicians and nurses who will be instructors should:

- Be trained to use ORS and have experience treating over 100 dehydrated cases (including 25 with complications) using ORT.
- Be given adequate time to do the training.
- Want to be instructors. (There is low turnover; instructors will not quickly move out of teaching.)
- Be committed to use of ORT and proud that they use it.
- Be available during normal outpatient department hours.
- Have skills in training, such as:
 - getting the participants' attention and keeping them alert,
 - checking often for understanding and skill development, and providing appropriate information or feedback to increase learning,
 - encouraging participation and questions,
 - providing correct and concise answers to questions, or guiding participants to reach answers themselves,
 - using words that participants understand, a clear and audible voice, and training aids that help, not distract.

Looking at the training design, determine the number and types of instructors that will be needed. Think about how many participants there will be and what the instructors will need to do.

Notice the specific skills and topics that small group discussions, lectures, role plays and other activities outside the ward are designed to teach. Select an instructor for each of these sessions who will teach the specific skill or topic well.

Be sure there will be enough instructors and experienced staff members for each participant to receive individual attention.

Step 6 - Select Dates For Training And Write The Agenda

Select precise dates for the training that will be most convenient for the instructors, the participants and the facility. Also consider schedules of the transportation that participants will use to come to the facility and availability of accommodations on those dates.

Write an agenda for the training that specifies the dates and major activities. This should be easy to write by referring to the training design. The agenda will be helpful to show instructors, staff, potential participants and other people who are interested in what is planned.

A sample agenda is in Annex D.

Step 7 - Prepare And Distribute A Course Description

Participants who are committed to learning and using the diarrhoea treatment procedures will make the training a success.

You can take certain actions to help assure that appropriate and motivated participants will come to the training. Create the proper expectations by clearly describing what the training will accomplish and whom it is for. Contact hospital directors or other groups that will send participants to the training and send them the course description. Ask them to select the best participants. They should give a copy of the course description to the potential participants so that each participant will realize what will be expected.

Prepare a course description that covers the following points:

- Benefit to the participant -- skills the participant will learn
- What type of participant should come and why -- responsibilities and characteristics of people who can apply the skills in their work
- Purpose -- why the training is being offered
- Involvement -- that participants will work in the hospital with patients and their families
- Schedule -- dates and times that participants are expected to be at the diarrhoea training unit and the location
- Administrative information -- any additional information about accommodations, transportation and per diem
- Response -- how to register and the deadline for registering

Step 8 - Check Supplies And Order Any Additions Needed

Review the lists of supplies in Annex A and take inventory of the supplies on hand. Will these be sufficient considering the normal case load, plus the expected number of participants?

Review the training design to see if any materials need to be prepared. An example might be diarrhoea case record forms for participants to complete on each of their assigned patients. Design these if they are not available and make sufficient copies.

The *Teaching Materials* provides some participant handouts. These may be adapted as needed and photocopied for distribution to participants.

Step 9 - Obtain Copies Of Training Materials And References In The Appropriate Language

Make copies of any handouts and obtain enough copies of the references for *every* participant to have a set. This is important so that each participant will have access to the information during the training. However, it is even more important to provide the materials as a way to support the participants when they return to their hospitals.

Participants will use the references for information on specific treatment procedures or unusual situations. References will help to answer questions from others about treatment procedures and the rationale for them. The references will give credibility to the new ideas and will help to convince other physicians and staff. Participants will also use the references when training others.

A list of references is in Annex E. You should add references of national or regional importance.

Step 10 - Arrange For Lodging, Meals And Transportation

The diarrhoea training unit or the ministry of health might make these arrangements. If participants are asked to make their own arrangements, recommendations from the diarrhoea training unit will help them.

Some considerations for making these arrangements are listed below.

- Sleeping accommodations for participants should be near the diarrhoea training unit so that a lot of time will not be spent traveling back and forth each day. It is ideal if participants can return to the ward during the evening to check the progress of their patients.
- Eating facilities should be convenient to the diarrhoea training unit and to the sleeping accommodations.

- Reliable transportation is needed to carry participants between the diarrhoea training unit and where they eat and sleep. It should be free or very inexpensive.

Step 11 - Prepare Instructors And Other Staff

Instructors

Conduct a meeting to prepare the instructors for the training. Give them copies of the specific objectives and, if possible, the training design, and any instructor guidelines and forms. Review the training design and assign each individual to certain sessions. Provide lecture notes and slides to instructors who are responsible for lectures. If each instructor will not receive a copy of the complete training design, give each one a written description of the activities he or she will lead or participate in.

The *Teaching Materials* provides instructor guidelines for activities described in that document as well as lecture notes and slides.

Staff

Be sure that the staff members who will be working closely with the participants:

- are present during each shift, each day of the course, in adequate numbers,
- are trained to give proper ORT and teach mothers,
- perform case management tasks correctly,
- keep adequate records to document a patient's progress (that is, adequate for participants to learn a patient's response to therapy during time participants are not there) and
- are friendly and supportive of participants, so that they will help the participants as needed, correct mistakes diplomatically, and discuss their experiences treating difficult or unusual cases.

Conduct a meeting to prepare the staff for the training. They must be informed of what the participants will be doing in the facility and asked to help and guide the participants. Give them an opportunity to ask questions about how the training will work and what they should do. Answer these questions carefully. The staff will have a critical teaching role.



Conducting The Training

With a thoughtful training design and well-prepared instructors and staff, the director's role will be to keep the training on track.

Give the opening welcome and briefing for participants

- Describe the objectives of the training and the planned activities.
- Challenge participants to participate and learn as much as possible.
- Introduce the instructors.
- Discuss administrative details.

Monitor the overall progress

- Check whether things are going according to plan. If needed, modify the plan and communicate the changes to all involved.
- Make sure that the staff and instructors have what they need to do their jobs.

Monitor the progress of participants

- Assign each instructor some participants to monitor.
- Follow the plans developed for monitoring progress using the checklist of activities or objectives (Step 4 - Plan how participants' progress will be monitored, page 28).
- Meet with the instructors regularly to get information on the participants' progress and plan solutions for any problems.

Monitor instructors and staff

- Observe small group discussions and practical work, as well as the lectures, to learn what instructors are doing. Give feedback on what is being done. (For example, instructors may follow the training design, or they may get off track.)
- Monitor how the teaching is being done. (For example, staff may give helpful advice to participants on their cases, or staff may respond to questions impatiently.)
- Conduct feedback discussions with the instructors as needed on ways to improve training in the future.



Evaluation

Evaluation conducted at the end of the course will assess what participants have accomplished *at the course*. Evaluations conducted weeks or months after the training assess what participants have done *on the job* using what they learned. Some evaluation methods are described below.

First decide what needs to be learned from an evaluation, how the results will be used, and who will analyze the data. Then select one or more evaluation methods that will provide the information needed. There is no point in conducting evaluations if the results will not be used.

End-Of-Course Evaluation Methods:

Activity Checklists - If these checklists are kept on each participant and are accurate, they are an excellent way to evaluate the course. Analysis can be done of the number of participants that successfully accomplished all or certain activities (such as the case management activities).

If many participants were not able to accomplish a certain activity, the evaluation should try to determine why. Perhaps in subsequent courses, participants should be given more assistance, more time, or the activity should be changed.

Pre- and Post-Tests - These tests can assess whether participants learn certain pieces of information during the training. (The pre-test is helpful to alert participants to what they will be expected to learn.) A pre- and post-test is provided in the *Teaching Materials*.

End-of-Course Questionnaire - Questionnaires only provide information on perceptions and feelings that participants are willing to write down. If the questions are selected and worded carefully, questionnaires may give the training director some useful suggestions for improving future courses. A possible evaluation questionnaire is provided in the *Teaching Materials*.

On-The-Job (Follow Up) Evaluation Method:

On-Site Observation - Making follow up visits to participants to observe and discuss what they have been able to accomplish since the training is time-consuming. However, it is the best way to determine what is actually being done in a hospital.

WHO is willing to support visits to evaluate whether participants in intercountry courses have been able to implement correct diarrhoea treatment procedures in their hospitals.

The national CDD Programme could conduct follow up visits to evaluate whether participants in national courses are managing diarrhoea cases properly since the training.



Support Participants After Training

The diarrhoea training unit also should help participants *after* they complete the training. There should be specific ways that the unit supports participants' efforts to apply what they have learned.

Participants may need support when:

- They are uncertain about some of the procedures they have learned or encounter difficult cases.
- They teach others the new procedures and answer questions about them.
- They need to implement changes at their hospital so that the new techniques can be used.

A way to support participants would be to provide technical reference materials on diarrhoea management and updated information when it becomes available. Another may be to give participants a list of other physicians or facilities that are using the proper techniques so that they can locate supporters in their area. Another might be a visit to a participant or a request for someone representing the national CDD Programme to visit in order to help establish or improve a unit.

Whatever support is planned, explain to the participants what it is and how they can obtain it.

Support Participants Who Will Establish A Diarrhoea Training Unit

Participants who encounter questions or difficulties when setting up a training unit should be encouraged to obtain advice by writing to WHO or visiting the director of the unit where they were trained.

Support Intercountry Course Participants

Participants at intercountry courses can be placed on the mailing list of the WHO Programme for Control of Diarrhoeal Diseases. They will be sent the most recent publications on diarrhoea control as they become available.



Annexes

Annex A: Supplies For The Diarrhoea Training Unit

Annex B: Training Design Form

Annex C: Case Record Form

Annex D: Prototype Agenda

Annex E: Reference Materials

Supplies For The Diarrhoea Training Unit

Supplies for the Reception and Triage Area

- White coats for all participants
- Wall chart on diarrhoea treatment
- Mother's Cards, other health education pamphlets, and other materials for families on prevention and management of diarrhoea, including feeding
- Posters on preparation of ORS solution, home therapy fluid, diarrhoea prevention, etc.
- Forms for record keeping
- ORS packets of the standard size in the area (for demonstrating to mothers)
- Jars and flasks (commonly available sizes and one marked with volume measurements)
- Glasses, cups and spoons

Supplies for the ORT Area

- ORS packets for 5, 10 or 20 litres
- 5, 10 or 20 litre drum with cover and side tap
- ORS packets of the standard size in the area (for demonstrating to mothers)
- Jars and flasks (commonly available sizes and one marked with volume measurements)
- Antibiotics (such as tetracycline capsules) and a suitable antibiotic for dysentery
- Mother's Cards, other health education pamphlets, and other materials for families on prevention and management of diarrhoea, including feeding
- Posters on preparation of ORS solution, home therapy fluid, diarrhoea prevention, etc.
- Baby scales (accurate to 20 grams)
- Thermometers

- | | |
|---|--|
| <input type="checkbox"/> Glasses, cups and spoons | <input type="checkbox"/> Forms for record keeping |
| <input type="checkbox"/> Feeding bottles | <input type="checkbox"/> Droppers |
| <input type="checkbox"/> Cotton | <input type="checkbox"/> Syringes |
| <input type="checkbox"/> Gauze | <input type="checkbox"/> Soap |
| <input type="checkbox"/> Milk powder | <input type="checkbox"/> Diapers |
| <input type="checkbox"/> Towels and other linens | <input type="checkbox"/> Waste basket/bucket |
| <input type="checkbox"/> Storage cabinet or shelves | <input type="checkbox"/> Wash basin and towel rack |

Supplies for the Diarrhoea Ward

- | | |
|--|---|
| <input type="checkbox"/> Beds or tables with wires above for hanging bottles of IV fluid | |
| <input type="checkbox"/> Lactated Ringer with giving sets | |
| <input type="checkbox"/> Scalp vein (butterfly) needles | |
| <input type="checkbox"/> Antibiotics, such as tetracycline capsules, and a suitable antibiotic for dysentery | |
| <input type="checkbox"/> Glucose for injection (20%) - 50ml ampules x 10 | |
| <input type="checkbox"/> Baby scales (accurate to 20 grams) | |
| <input type="checkbox"/> Nasogastric tubes | <input type="checkbox"/> Syringes and needles |
| <input type="checkbox"/> Thermometer | <input type="checkbox"/> Alcohol, cotton, gauze |
| <input type="checkbox"/> Droppers | <input type="checkbox"/> Glasses, cups and spoons |
| <input type="checkbox"/> Empty bottles | <input type="checkbox"/> One litre and 1/2 litre flasks |
| <input type="checkbox"/> Feeding bottles | <input type="checkbox"/> Towels and other linens |
| <input type="checkbox"/> Milk powder | <input type="checkbox"/> Diapers |
| <input type="checkbox"/> Soap | <input type="checkbox"/> Desk and chair for the nurse |
| <input type="checkbox"/> Forms for record keeping | <input type="checkbox"/> Tray or cart for supplies |
| <input type="checkbox"/> Cupboard | <input type="checkbox"/> Waste basket/bucket |

- Bedside stools for attending mothers
- All the supplies required for administering ORS
- Health education materials for families and posters

Supplies and Equipment for Training

- 35 mm slide projector and slide sets
- Flip charts and felt pens
- Photocopying machine and supplies
- Automatic stencil cutting and duplicating machine with supplies
- Overhead projector, transparent paper and felt pens
- Film projector and training films
- Other items needed to carry out the training design, such as case record forms
- Paper and pens for participants
- File of additional reference materials for participants to consult

Supplies and Equipment for the Pharmacy

For dry packing 5, 10 or 20 litre packets for hospital use:

- Stock for 5000 litres

Sodium chloride 17,5 Kg

Trisodium citrate, dihydrate 14,5 Kg

Potassium chloride 7,5 Kg

Glucose 100 Kg

- Polyethylene packaging material and labels
- Sealing apparatus

TRAINING DESIGN FORM

ACTIVITY	METHOD	RESOURCES	TIME

Diarrhoea Case Record Form

For Completion by Diarrhoea Training Unit Participant in ORT Area or Diarrhoea Ward

Registration No. _____ Admission date _____ Hour _____
 Discharge date _____ Hour _____

Patient's Name: _____

Address: _____

Age: _____ years _____ months Sex _____

Date and hour of onset of diarrhoea: _____

Number of stools last 24 hours: _____ Blood _____ Mucus _____

Number of occurrences of vomiting last 24 hours: _____

Type and volume of fluids drunk since onset: _____

Dietary history: Exclusively breastfed _____ Partially breastfed _____
 Other milk/formula only _____ Fully weaned _____

Type of food eaten since onset: _____

Medicines taken since onset: _____

Other symptoms or problems: _____

At Time Of Admission

Body weight: _____

Clinical diagnosis: _____

Degree of dehydration: _____ Estimated fluid deficit: _____

Amount of fluid to be given in first 4 hours: _____

Type of fluid: _____ ORS, or _____ Ringer's Lactate

Other medicines ordered (specify dosage): _____

CLINICAL STATUS	On Admission	Hours After Admission			
		At 2 Hours	At 4 Hours	At 6 Hours	At 24 Hours
General Appearance					
Thirst					
Radial Pulse					
Respiration					
Fontanelle					
Skin Elasticity					
Eyes					
Tears					
Mucous Membranes					
Urine Flow					
Blood Pressure					
Temperature					

CLINICAL STATUS	Hours After Admission			
	From 0 to 2 Hours	From 2 to 4 Hours	From 4 to 6 Hours	From 6 to 24 Hours
Number of stools				
Episodes of vomiting				
ORS consumed, volume				
Other fluids drunk, volume				
IV fluid given, volume				
Food eaten				
Medicines taken				

At Time Of Discharge

Body weight: _____ Amount of fluid to be given in next 24 hours: _____

Other instructions given to mother: _____

Clinical Training Course

Prototype Agenda

Day 1

8:30 - 9:00	Registration
9:00 - 9:30	Official opening session
9:30 - 10:00	Coffee*
10:00 - 10:30	Briefing: Objectives of the training, planned activities, administrative announcements
10:30 - 10:45	Overview of Global WHO Diarrhoeal Diseases Control Programme**
10:45 - 11:30	Pre-Test
11:30 - 12:30	Lecture 1: Principles of Clinical Management of Acute Diarrhoea
12:30 - 14:00	Lunch
14:00 - 15:00	Participant reports on past and current activities related to diarrhoea treatment at their facilities
15:00 - 16:30	Lecture 2: Management of Acute Diarrhoea

Day 2

8:30 - 9:15	Lecture 3: Pathogenesis of Diarrhoeal Disease
9:15 - 12:00	Practical work: case management***
12:00 - 13:30	Lunch
13:30 - 15:30	Practical work
15:30 - 16:30	Lecture 4: Epidemiology and Etiology of Acute Diarrhoeas

Day 3

8:30 - 9:30	Discussion: Improving current case management practices
9:30 - 12:00	Practical work
12:00 - 13:30	Lunch
13:30 - 15:30	Practical work
15:30 - 17:00	Case presentations

*Coffee and tea breaks would be taken mid-morning and mid-afternoon.

**Option: can be incorporated into the briefing session or into the session on the national CDD Programme (Day 5)

***The most important scheduling consideration is that practical work begin when most patients present at the treatment unit. This agenda assumes that patients would not be available until 9:15. If patients are waiting or if cases come who will be good for demonstration, the practical work should be first; if necessary, the lectures should be rescheduled or interrupted. At times when participants are not actively involved in case management, they should remain near the treatment area, in case new patients arrive or an instructor wants to discuss a patient with the group. During this time participants can read reference materials and work on their plans for improving current practices.

Day 4

8:30 - 9:15	Lecture 5: Prevention of Diarrhoea
9:15 - 12:00	Practical work
12:00 - 13:30	Lunch
13:30 - 14:00	Introduction to establishing a training unit (Optional*)
14:00 - 15:30	Practical work
15:30 - 17:00	Case presentations

Day 5

8:30 - 10:00	Small group discussions of changes needed to improve case management
10:00 - 12:00	Practical work
12:00 - 13:30	Lunch
13:30 - 15:00	Practical work
15:00 - 16:00	Case presentations
16:00 - 16:45	Lecture 6: National Programme for Diarrhoeal Diseases Control
16:45 - 17:30	Post-Test

Day 6

8:30 - 10:00	Individual work: Planning how to make needed changes
10:00 - 12:00	Group discussion: How to make changes
12:00 - 13:30	Lunch
13:30 - 15:30	Individual work: Writing final plans
15:30 - 16:30	Closing session

Day 7* (Optional)

8:30 - 9:30	Discussion: Conducting clinical training
9:30 - 12:00	Individual work: Plans for the diarrhoea training unit
12:00 - 13:30	Lunch
13:30 - 15:00	Group discussion: Organizing clinical training

*The activities scheduled for Day 7 and the introductory session on Day 4 would be included only if participants will be establishing a diarrhoea training unit.

Reference Materials

Reference Materials to be Provided to Every Participant

1. *The management of diarrhoea and use of oral rehydration therapy--a joint WHO/UNICEF Statement.* Geneva, WHO (1985).
2. *A manual for the treatment of acute diarrhoea for use by physicians and other senior health workers.* WHO unpublished document WHO/CDD/SER/80.2 Rev.2 (1988).
3. *Treatment and prevention of acute diarrhoea--practical guidelines.* Geneva, WHO (1988).

Reference Materials to be Made Available for Consultation by Participants

1. *Oral rehydration therapy (ORT) for childhood diarrhea.* Population Reports, Series L, No. 2 (revised 1984). Baltimore, Johns Hopkins University.
2. Hirschhorn, N. (1980) *The treatment of acute diarrhea in children.* An historical and physiological perspective. *Amer. J. Clin. Nutr.*, 33: 637-663.
3. Mahalanabis, D., M.H. Merson, & D. Barua. (1981) *Oral rehydration therapy--recent advances.* *World Health Forum*, 2: 245-249.
4. *Impact of Oral Rehydration Therapy on Hospital Admissions and Case Fatality Rates for Diarrhoeal Disease: Results from Eleven Countries.* World Health Organization Weekly Epidemiological Record, 63: 49 - 52 (1988).
5. Clements, M.L. et al. (1980) *Oral therapy with glucose electrolyte solution.* *Lancet*, D2: 34.
6. Santosham, M. et al. (1982) *Oral rehydration therapy of infantile diarrhea.* A controlled study of well-nourished children hospitalized in the United States and Panama. *New Engl. J. Med.*, 306: 1070-1076.
7. Pizarro, D. et al. (1983) *Treatment of 242 neonates with dehydrating diarrhoea with an oral glucose-electrolyte solution.* *J. Pediatrics*, 102: 153-156.
8. Mahalanabis, D., M.H. Merson. (1986) *Development of an Improved Formulation of Oral Rehydration Salts (ORS) with Antidiarrhoeal and Nutritional Properties: A "Super ORS."* In: Holmgren, J., Lindberg, A., and Mollby, R. (eds.) *Development of Vaccines and Drugs Against Diarrhea*, 11th Nobel Conference, Stockholm 1985. Lund, Sweden, Studentlitteratur, pp. 240-256.

9. *Oral Rehydration Therapy: An annotated bibliography*. 2nd ed. Washington, PAHO/WHO Sci. Publ. No. 445 (1983).
10. *Oral rehydration therapy for treatment of diarrhoea in the home*. WHO unpublished document WHO/CDD/SER/86.9 (1986).
11. *A decision process for establishing policy on home therapy for diarrhoea*. WHO unpublished document WHO/CDD/SER/87.10 (1987).
12. National Research Council, Subcommittee on Nutrition and Diarrheal Diseases Control, Committee on International Nutrition Programs, Food and Nutrition Board. 1985. *Nutritional Management of Acute Diarrhea in Infants and Children*. Washington, D.C.: National Academy Press.
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18. *Manual for laboratory investigations of acute enteric infections*. WHO unpublished document CDD/83.3 Rev. 1 (1986).
19. *Guidelines for cholera control*. WHO unpublished document WHO/CDD/SER/80.4 Rev. 1 (1986).
20. *Bibliography of acute diarrhoeal diseases*. WHO unpublished document series WHO/CDD/BIB.

Teaching Aids

1. *Diarrhoea Training Unit Teaching Materials*. WHO unpublished document WHO/CDD/SER/88.1 (1988).
2. *Lectures for Training Courses on the Clinical Management of Acute Diarrhoea* (with slides). WHO unpublished document CDD/SER/88.2. (Note: This is included as a part of the *Diarrhoea Training Unit Teaching Materials*. Request this publication if *only* the lectures and slides are needed.)
3. *Oral Rehydration for Childhood Diarrhoea*. WHO film. (1985) (20 minutes) (videotape also available)
4. Focus on Diarrhoea, Audio-visual information package: Diarrhoea--a major public health problem (60 slides); Diarrhoea--approaches to control (57 slides). The Ross Institute, London School of Hygiene and Tropical Medicine for the Save the Children Fund (1984).

For more information on establishing a diarrhoea training unit, write to the World Health Organization at headquarters or the appropriate Regional Office:

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