

**NOTE:** A flask is an insulated container, often round in shape like a bottle, which is not primarily designed to carry vaccines. Flasks tend to break easily and may not be sufficiently insulated.

**To Pack:**

Place fully frozen ice packs around the inside walls of the carrier.

Stack vaccine and diluent in the carrier.

Place plastic foam or packing material between DPT (DT), (TT) vaccine and the ice to prevent them from touching.

Place ice packs over the top of the vaccines and diluent; use soft ice packs provided for carriers.

Secure the lid tightly.

**NOTE:** Ice packs do fit inside flask, place vaccine and diluent into flask first. Then place blocks of ice on top.

**To keep in good condition when not in use.**

Leave the lid open after each use so that the inside will have a chance to dry out.

Clean inside after each use.

Examine inside and outside surfaces after each use for cracks repair immediately.

If adjustable latches are used to fasten the lid, adjust their tension so that the lid closes tightly.

Keep plastic carriers out of direct sun light, as this will heat them and may cause the plastic to warp or crack.

Do not drop carriers and flasks as this can damage them.

### 2.2.3 Ice Packs

**Use to:**

Keep vaccines cool in cold boxes and carriers.

**To keep vaccines cool with ice packs:**

Freeze pack immediately. Freeze the pack at least one day in freezer or in freezing compartment of refrigerator.

Pack ice packs closely in cold chain containers.

Check for leaks, throw away packs with holes if they cannot be repaired.

If there are extra ice packs, keep spare ice packs on the lower shelves of front opening refrigerators. This will help the refrigerator remain cool in the event of a power failure.

**NOTE:** You need not rely on commercially produced ice packs. Plastic bottles of water can be used just as effectively.

## 2.3 Maintaining Vaccines

When administering vaccine to mothers and children at the immunization site, you must take great care not to expose the vaccine to heat and sunlight more than is absolutely necessary. To do this:

Select a vaccination site that is as cool as possible, inside a room. If a room is not available, vaccinate in the shade. Do

not vaccinate in the sunlight.

Remove vaccines and diluent from the vaccine carrier or flask ONLY when you need them.

Take only one vial of one type of vaccine from the carrier/flask at a time. Do not take the second vial until it is needed.

Open the carrier/flask only when necessary.

Secure the lid tightly after opening.

Wrap the vials in silver foil to protect them from heat and light.

When you take vaccine out of the carrier/flask, place vials inside a cup containing water and blocks of ice. If the ice melts and no mothers and children are waiting, put the vials back into the vaccine carrier or flask until a mother and child arrive. Then place the vials inside the cup with new water and blocks of ice.

When your immunization session is completed, return all vials to the cold box. Empty opened vials.

If ice packs in the vaccine carrier or flask still contain solid ice, mark unopened vials in some way (scratch the label or mark it red) and return them to the cold box. Be sure to use these marked vials during the next vaccination session.

If the ice in the vaccine carrier or flask is completely melted but has been melted for less than one day:

Destroy all measles and polio vaccine, so that no one else can use it.

Mark the remaining DPT, Tetanus Toxoid, and BCG vaccines, return it to the cold box, and use it during the next vaccination session.

If the ice in the cold chain container is completely melted, but for more than one day, throw away all vaccines.

Do not take the same vial of vaccine out to the field more than three times. If a vial of vaccine has been taken more than three times, destroy it whether it has been opened or not.

Only one day's expected vaccine requirements should be taken from the vaccine store to the immunization site. Use cold boxes and ice packs.

Partially used vials of vaccine must be destroyed after a vaccine session.

If kept properly cool during the day, the unopened vials of vaccines can be returned to cold boxes. If possible, the cold boxes should be returned to the vaccine store where the vaccine is returned to the refrigerators and freezers.

Gathering together a few children before opening vaccine vials or reconstituting vaccine would ensure that not too much vaccine is lost. However, the main objective is to immunize as many children as possible, rather than to save vaccine.

### 3. Organizing EPI at the BHU

This section tells you when and how to organize an EPI session. Section 3.6 below tells you what equipment and supplies you need and how to prepare them and how to administer the vaccines. It also repeats some important points about maintaining the cold chain.

#### 3.1 Immunization Sessions

Ideally immunizations should be scheduled so that all children in the area served by the BHU can receive their first

set of immunizations as soon as possible after reaching the acceptable age. The children also need to receive their second and third doses of DPT (DT) and OPV vaccines as soon as possible after the minimum one-month interval between consecutive doses has passed. In order to ensure that all children in an area are immunized at the earliest acceptable age, immunizations at each BHU should be given either daily or at regularly scheduled days and times. From the parent's point of view, daily immunization sessions are the most convenient. They can bring the child for immunization any day that the BHU is open and do not have to remember a schedule of days and times. They can also seek other services for the same visit to the unit. Daily immunization sessions are also best for the child, who can receive the immunizations whenever appropriate, rather than having to wait until the next scheduled session.

**To remember:**

Immunize children as closely as possible to the ages recommended in the immunization schedule so they will get the full benefit from each injection. If a child receives the injections when too young, the body will not be able to build up resistance to fight the diseases as well as if the injections are received at the proper age. But if the child is not immunized as soon as old enough, there is a much greater risk of getting the disease. That is why it is so important to begin immunizing children at the age recommended by the immunization schedule.

Ensure that each child receives three doses of polio and DPT or two doses of DT vaccines. These vaccines are not strong enough to protect a child if only one dose is received, so make every effort to give three doses (or two DT). Children 2 to 5 years are given DT instead of DPT (this policy is adopted from the regular EPI of Pakistan).

Do not administer the second or third doses of polio or DPT (DT) vaccine to a child until at least one month has

passed since the child received the previous dose. If a child receives the second or third dose of these vaccines before a month has passed, the body will not have enough time to get the full benefit of the previous doses. The child's body will not have built up as much resistance against the disease as it should have and, even after receiving all three doses, the child will not be as strong against the disease as should be and may still become ill. So let at least one month pass between each dose of polio and DPT (DT) vaccines.

Administer only one dose of measles to each child. One dose provides sufficient protection and any other doses will be wasted.

There is no maximum time interval. Even if a year passes between successive doses of a vaccine, do not start the series of multiple doses of DPT, polio or tetanus vaccines from the beginning, just continue the series.

Your programme administers tetanus immunizations to all women of child bearing age, 15 – 45 years old. These tetanus immunizations are very important because they will protect the woman and any baby she will have during the next three years. If the woman has never had a tetanus immunization before, she must have two doses in order to be protected, with at least one month between the doses. If the woman is pregnant, in order for the vaccine to be effective for the baby, she should receive the second shot no later than two weeks before delivery is expected. If the woman has had either (a) one tetanus shot any time in the past, or (b) a series of two or more tetanus shots which was completed longer than three years ago, she should receive one shot of tetanus vaccine.

Follow the immunization schedule as closely as possible so that the children's immunizations will be completed as early as recommended and at the least possible cost. You have vaccine only in multi-dose vials. Once opened, the

vaccine must be used or it will become weak. If the vaccine is wasted, there may not be enough to vaccinate all the children who are brought to the next scheduled sessions. So, in order to ensure maximum use of the vaccine the immunizations should be given at sessions scheduled for the normal working hours of the BHU.

### 3.2 Activities at Immunization Sites

Normally the immunizations are given inside the BHU. Space required for the purpose should be large enough for the number of vaccinators, parents and children expected to be in the immunization area at one time.

In order to organize immunization sites in a BHU make sure that the rooms have one entrance and one exit to the immunization area. Close and lock any additional doors. Ensure that there is a place for the parents to sit and wait comfortably. If the waiting area is outside, it should have a roof for protection against the sun and rain. Limit the number of parents in the room to a reasonable number by admitting a new parent into the room only when another one has left.

- Screen mothers and children to determine which immunizations to administer.
- Issue immunization cards and fill in names and other information required.
- Indicate on cards which immunizations to administer.
- Record immunizations on Daily Immunization Register.
- Direct those not eligible for immunization to exit.
- Administer immunizations. If both OPV and other vaccines are being given, OPV should be given first, otherwise the child may cry after receiving the injection and resist any further attention.
- When mother and child complete all immuniza-

tions for which they are eligible, direct them to the exit.

- Ensure that the parents know when to bring their children back for further immunizations by asking them the date they should return.
- Explain possible reactions to the vaccines and what to do if they occur.

### 3.3 Cleansing and Sterilizing Equipment

Use disposable needles and syringes if they are available. If disposable needles and syringes are used:

- Immunize only one child with each needle and syringe.
- Save the needles and syringes used during the session so you can count them and dispose of them properly at the end of the immunization sessions each day. Then you will be ready to begin the sessions the next day without having to take time to clean and sterilize.
- Clean the syringes and needles and prepare them for sterilization;
- Rinse all the syringes and needles in clean water. Do not use detergent since it is hard to rinse out; if any detergent is left in the syringe it may weaken the vaccine.
- Take plungers out of the barrels of the syringes.
- Use a clean piece of cotton wool or gauze to remove any dirt, etc., in the barrels of the syringes.
- Wrap the barrel and plunger of each syringe together in one piece of gauze, but keep the barrel and plunger from touching each other. Keep barrel and the plunger wrapped by pushing a needle through a roll of gauze or tying a piece of string around the middle.
- Push the needles through small rolls of gauze to protect their points.



### 3.3.1 Sterilizing the Equipment

#### Using the sterilizer

- Put all the syringes, needles, forceps, etc. into the tray of the sterilizer.
- Put the tray into the sterilizer.
- Pour enough water in so that everything is covered by at least two centimetres of water.
- Put on lid.
- Light the burner(s) and bring the water to a boil.
- Boil the water for 30 minutes. Ensure that the water boils continuously. If the water temperature falls below boiling, any equipment cleaned in this water will not be sterile.
- Turn out the burner(s).
- Carefully lift out the tray of the sterilizer and put it down on the upturned lid of the sterilizer.
- Pour away the water.
- Replace the tray and put the lid back on.
- Leave the sterilizer and its contents until they are needed.

Do not touch any of the sterilized equipment. If anything falls out of the sterilizer or pan or is touched by the hands, it is no longer sterile, and it must be sterilized again.

Ideally, there would be enough needles and syringes to immunize each child with a clean, sterile one, in which case it would not be necessary to clean and sterilize during the session. In reality, however, there are usually not enough syringes, so it will be necessary to clean and sterilize during the session, using the methods described above.

### 3.3.2 Maintain the BCG syringe:

Clean the kit well after each immunization session.

Sterilize the kit before each session

Stainless steel needles can each be used for a few hundred injections, but the points do become dull after a while.

Check the needles and discard any that are blunt or corroded.

At the end of the metal plunger of the BCG syringe is a small red neoprene ring which sits in a groove. This ring may become split or worn out and vaccine will then leak from the syringe. If this happens, replace the ring.

In order to change the ring, do the following:

Remove the old ring with the point of a knife.

Place a new ring on the end of the plunger and squeeze it into position in the groove with your thumbs. You may sparingly use some high vacuum silicone grease to improve functioning (but not petroleum or mineral oil).

Sterilize the complete syringe before you use it again.

### 3.4 Educating Parents

It is important that the parents understand why their children are being immunized, which diseases they are being immunized against, and why they have to bring their children back for more injections. Ideally, the education process will be conducted in three phases: a group talk/discussion before immunizing the children, at the immunization and after the immunization.

- Compliment the parents for bringing their children.
- Explain immunization and the immunization activities in group talks/discussions before administering immunizations. Explain the immunizations to the Maliks and religious leaders to get their collaboration.
- A good time to educate parents is before their children are immunized, while they are waiting. If they have a

comfortable, sheltered area where they can sit, parents will not become impatient and they will be more likely to listen closely and participate in the discussion.

- Keep a group talk/discussion short and practical and primarily a time for parents to ask questions. Invite members of the group to supply answers and encourage free discussion. Ask for suggestions from the parents to help solve some of the problems with immunization sessions.
- Ensure that the parents understand and can describe important facts about immunization.
- Stress the importance of the immunization activities to the parents, their children and the community. Explain the benefits but do not exaggerate them.
- Explain which diseases the children will be immunized against and why. Emphasize that the children who are not immunized will not be protected and that there is little or no treatment available if they get these diseases.
- Stress the need for return visits and the date and time at which to return.
- Use this time also to compliment parents for coming, and encourage them to convince other parents, particularly new parents with their first baby, of the importance of having their children immunized.

Educating and motivating the parents who have come to the immunization session is important, but do not make them wait for a long time just to listen to you. Prompt, courteous service will do more to encourage attendance than words will.

At the immunization, ensure that the parents understand the important facts about the diseases and the vaccines.

- As you immunize each child, ask the parents if they have any questions. Explain anything he/she is uncertain about.
- While administering DPT (DT) and OPV vaccines,

explain that these vaccines are not strong enough to protect the child who receives just one dose, so the parent must bring the child back to receive these vaccines two more times.

### 3.5 Screening and Recording

The purpose of screening is to determine not only a child's immunization status, but also the general state of health. Therefore, in the screening process you should at least determine the child's age and weight as well as which immunizations have been received, if any, and which immunizations are to be received. A chart of significant events which can be used to determine the date of birth is in Appendix I. Screening takes place in "Under 5" clinics or any other BHU activities.

The information about the child must be recorded on cards in BHU for follow up of child's health or treatment of disease.

#### Growth Chart (Road to Better Health Chart)

The growth chart contains a grid for plotting the child's weight by age as well as space to record other information, reasons for special care, information about the child's brothers and sisters and the child's immunization status. The card is kept at the "Under 5" clinic. A growth chart should be established for every child who is immunized at the time of first visit.

#### EPI card

The EPI card contains space for recording the names and information about immunizations of all the children in a family. This is issued by the BHU and kept by the parents and brought to the immunization sessions.

### **EPI Daily Register/Permanent Register**

EPI Daily Register and EPI Permanent Register are special registers to record all immunizations performed by the BHU. These are kept by the BHU staff. These registers are the same as used by the regular EPI programme.

### **Family Record**

Every family should have a record in the BHU registry (AR-1). Information on each child's disease is recorded in a Family Record, one page of the booklet is retained by the BHU. Immunizations should be recorded in the same family record, to make it a comprehensive source of information to follow-up a child's health.

In order to screen the children and mothers and to record the information obtained, perform the following steps:

- Establish the child's birth date. If it is not known, estimate it as accurately as possible. An Islamic Calendar is furnished to help establish age (see Appendix I).
- If the child is too young to receive some of the immunizations explain this to the parents and tell them when the child will be old enough to be immunized.
- If the family has an EPI card for the child, review it to see that the information on it is complete and correct.
- Determine which vaccines to administer.
- Record in the proper spaces on the EPI card which immunizations the child is to receive at this session.
- In EPI register, after immunization, fill in the child's name, the father's name and passbook numbers and the address (group leader).
- Record in the EPI register, Growth Chart and Family Record which vaccines the child received.
- Give the EPI Card to the parents and emphasize that it is very important that they keep the card

and bring it with them when bringing the child back for his next set of immunizations.

### 3.6 Preparing Equipment and Vaccine

Place the equipment in the proper locations.

a) For all immunizations:

- 2 chairs (one for the parents and one for the vaccinator)
- water, soap, towel
- methylated spirit
- gauze
- sterilizer
- kerosene stove
- kerosene
- forceps
- ampoule files
- a cup

b) For OPV (Polio)

- droppers
- usually no other special equipment is required

Keep vaccine on ice.

Never expose the vaccine to the sun.

c) For DPT, and TT

- syringes: size 1 ml.
- needles : size 24 gauge ( $\frac{3}{4}$  inch) for children  
: size 22 gauge ( $1\frac{1}{4}$  inch) for adults
- container for sterile needles and syringes

- container for dirty needles and syringes.

Keep vaccine cool during the session.

d) For BCG

- several sterilized 1 ml. BCG vaccination syringes
- sterilized needles for each BCG syringe (10 mm, 25 or 26 gauge)
- sterilized 10 ml syringes for reconstituting the vaccine (one syringe for each ampule of vaccine)
- one long 18 gauge sterilized needle for each 10 ml. syringe
- a sterilized metal box with a lid, containing a plate fitted with clips to hold the syringes and needles, or a sterile gauze to protect them
- a piece of foil or paper to cover the opened ampoule

Keep vaccine and diluent cool together, out of the light.

e) For measles:

- syringes: size 1 ml.
- needles: size 24 gauge ( $\frac{3}{4}$  inch) for children  
size 22 gauge ( $1\frac{1}{4}$  inch) for adults
- container for sterile needles and syringes
- container for dirty needles and syringes

Keep vaccine and diluent cool together.

Never expose the vaccine to the sun.

Position the cold box so that it is convenient for the vaccinators and out of the way of the parents and children.

Cover the Cold Box.

Reconstitute freeze-dried BCG and Measles vaccine:

Mix container of vaccine powder with a container of diluent.

If the diluent or vaccine is in a glass ampoule, perform the following steps in order to open the ampoule:

File entirely around the neck of the ampoule.

If the ampoule contains powder, wrap a piece of plastic, cloth, or some other protective covering around the neck in order to avoid cutting your fingers or losing some of the powder.

Break the neck of the ampoule.

If the diluent or vaccine is in a rubber capped container, remove the metal part over the rubber stopper.

Draw the correct amount of reconstituting fluid up into the syringe, according to the vaccine manufacturer's instructions.

Do not prepare BCG vaccine with the Omega syringe which is used for administering the vaccine. Instead use a 10 ml. syringe and long mixing needle.

Reconstitute measles vaccine only with cold diluent (+4 degree C to +8 degree C). Otherwise the vaccine will be destroyed very quickly.

Empty the diluent from the syringe into the ampoule with the vaccine.

Thoroughly mix the diluent and vaccine by drawing the mixture back but do not shake the ampoule.

**Prepare needle and syringe for BCG injection:**

Fit the sterilized needle firmly to the Omega syringe and



twist it so that the level of the needle tip faces the same way as the scale marked on the barrel of the syringe.

**Load the syringe with vaccine:**

Draw liquid or reconstituted vaccine into the syringe from the ampoule.

For measles, DPT and Tetanus, draw out only the amount of vaccine needed for one injection.

For BCG, if you are using single-dose syringes, either reusable or disposable, draw out enough vaccine for one injection. If you are using the Omega syringe, draw out enough vaccine to fill the syringe. (The same needle can be used to immunize several people if it is properly flamed after each injection).

Check the vaccine in the syringe for air bubbles.

Hold the syringe with needle pointed upwards.

Tap the side of the barrel to expel air bubbles.

Depress the plunger until vaccine appears on the tip of the needle.

If vaccine touches your skin or eyes, wash it off immediately.

Keep the vaccines cold during the session since their strength decreases very quickly when they become warm.

Leave the vaccines in the refrigerator or cold box until you are ready to start immunizing, then take out only one ampoule of the vaccine you need.

After opening the vaccine, place it in a cup which has a mixture of ice and water in it, being careful not to tip the ampoule over or not to let the water rise above the top of the ampoule.

Return the vaccine to the cup each time after you fill the syringe.

As the ice melts during the session, be sure to empty the cup and get fresh ice water.

### 3.7 Administering Vaccines

#### **Administer BCG vaccine (Intra-dermal injection):**

Remove any of the child's clothing which may get in the way. Since a BCG scar is used as an indicator, the programme specifies the arm in which to give vaccinations: BCG in left arm, measles in the other. Since your programme uses BCG scars as markers, be sure to give all BCG vaccinations in the specified arm.

Ask the parent to hold the child firmly.

If the skin is clean, there is no need to disinfect it.

If the skin is dirty, clean it with a cotton swab moistened with water and let it dry.

Hold the middle of the child's upper arm firmly with your left hand, your fingers at the side of the child's body, your thumb towards you.

With the fingers of your right hand, hold the syringe by the barrel with the ml. scale upwards and the needle pointing in the direction of the child's shoulder. (Be sure not to touch the plunger).

Point the needle against the skin about 3 cm. above your thumb. Gently insert its tip into the upper layer of the skin.

Make sure that the needle is in and not under the skin.

If the needle goes under the skin, take it out and inject it again.

If you bend the needle, bend it straight with the forceps, flame and expel a few drops of vaccine, and continue vaccinating the child.

Holding the barrel with your index and middle finger, put your thumb on the plunger.

Holding the syringe flat, i.e., parallel with the surface of the skin, inject the vaccine.

For children older than one year, inject 0.1 ml.

For children younger than one year, inject 0.05 ml.

If the vaccine is injected correctly into the skin, a flat weal, with a surface pitted like an orange peel will begin to appear at the injection site.

An indication that the vaccine has been injected incorrectly is if a small lump forms or the skin remains flat after the injection, which means that the injection went under the skin. Another indication that the vaccine has been injected incorrectly is that the plunger will move much more easily when the needle is injected under the skin than when it is injected in the skin.

If it becomes apparent during the injection that the vaccine is going under the skin, stop at once and correct position of the needle. Administer the remainder of the dose, but no more.

Withdraw the needle gently.

If it becomes apparent after the full dose has been injected that the vaccine went under the skin, do not repeat the injection. Consider the child immunized.

If separate sterile needles are not available for each injection and if you have been trained to do it, you may sterilize the needle after each injection by holding the tip of the needle over the flame until it starts getting red; then expel a few drops of vaccine (keeping the needle pointed down and away from you) to cool the needle and to ensure that it is not obstructed. Administer the next injection.

When the syringe is emptied, flame the entire needle, up to the hub, cool and then refill the syringe.

**Administer measles vaccine (subcutaneous injection):**

Ask the parent to hold the child firmly.

If the skin is clean, there is no need to disinfect it.

If the skin is dirty, clean it with a cotton swab moistened with water or methylated spirit and let it dry.

With the fingers of one hand, pinch up the skin of the outer side of the upper arm.

Without touching the needle, push the needle into the pinched-up skin so that it is not pointing steeply into the arm.

**NOTE:** To make sure that the vaccine is not injected into a vein, slightly pull the plunger back before injection. There should be no blood in the syringe.

Press the plunger gently and inject 0.5 ml. of vaccine.

Withdraw the needle.

Use a separate needle and syringe to vaccinate each child.

**NOTE:** When tetanus vaccine is being given to a women, it

is also given subcutaneously on the outer side of the upper arm.

### **Administer DPT (DT) Vaccine (intramuscular injection)**

Administer the vaccine in the upper outer part of the thigh.

Do not inject a child under 2 years old in the buttocks because of the danger of injuring the sciatic nerve and possibly causing paralysis.

Ask the parent to hold the child across his/her knees so that his/her thigh is facing upwards, also to hold his/her legs.

If the skin is clean, there is no need to disinfect it.

If the skin is dirty, clean it with a cotton swab moistened with water or methylated spirit and let it dry.

Place your thumb and index finger on each side of the place where you intend to inject and stretch the skin slightly.

Quickly push the needle into the space between your fingers, going deep into the muscle.

**NOTE:** To make sure that the vaccine is not injected into a vein, slightly pull the plunger back before injection. There should be no blood in the syringe.

Pushing the plunger slowly, inject 0.5 ml. of vaccine.

Withdraw the needle.

Rub the injection spot quickly with the piece of gauze used for cleaning the skin.

Use a separate needle and syringe to vaccinate the next child.

### **Administer polio vaccine (oral vaccination)**

To administer the vaccine, deposit 2 drops on the tongue of the child, (or follow the manufacturer's instructions if different). If the child will not open his/her mouth, gently squeeze his/her nose between two fingers.

Use the dropper or device supplied with the vaccine.

Do not touch the child's lips or tongue with the dropper. OPV droppers can be removed, washed with soap and water and reused.

### **3.8 Follow-up activities**

Check to be sure that each child has received all the immunizations he was supposed to receive.

Ensure that the parents know that reactions are possible, what they are, and what to do if they occur.

Emphasize the safety of the immunizations.

At the same time, give mild warnings about possible reactions. Explain that if a child has a reaction after the shots, this indicates that the vaccine is working and developing protection in the child's body against the disease. Emphasize that the reactions are much milder than the disease.

Ensure that the parents know when to bring their children for the next vaccinations. Ask the parent if he/she knows when to return. If a parent cannot tell when he/she is supposed to return or tells you the wrong date, repeat the correct date and remind them that it is very important to bring the child back on that date.

### **3.9 Recording vaccine usages**

Once a container of vaccine has been opened it must be

used. If it cannot be used during the vaccination session, IT MUST BE DESTROYED. Pour vaccine from opened vials onto the ground or into a latrine. NEVER KEEP OPENED AMPOULES OF VACCINE.

Record carefully and accurately in the proper place on the Vaccines Control Card the amount of each type of vaccines used.

If disposable syringes were used, collect them, count them, record the number used for each vaccine, and destroy them. Be sure that all used disposable syringes are destroyed so that a child will not be infected by an unsterile disposable syringe.

NOTE: Promptly return unopened ampoules to the cold box (or refrigerator).

### 3.10 Reporting

Once a month, submit to the FSMO (through the MO in charge of BHU) one copy of the following forms:

Immunization sessions schedules

EPI monthly reports

Vaccines and supplies control cards.

**CHAPTER 13 Nutrition and Supplemental  
Feeding Guidelines**

1. REFUGEE NUTRITION
2. FOOD ASSISTANCE
  - 2.1 General Food Assistance
  - 2.2 Supplemental Food Assistance
  - 2.3 Therapeutic Food Assistance
3. HIGH ENERGY FOOD RECIPES



## CHAPTER 13 Nutrition and Supplemental Feeding Guidelines

### 1. Refugee Nutrition

Findings from the 1984 and 1985 GOP/UNHC/CDC surveys of infant and maternal mortality and childhood under-nutrition indicate that there does not appear to be an important problem of acute under-nutrition among the refugees. There does not seem to be a problem with any vitamin or mineral (calcium) deficiencies. Apparently the refugees supplement the rations with food items including meat, vegetables and legumes from the bazaar.

### 2. Food Assistance

Three types of feeding programmes are organized in the camps: general, supplementary and therapeutic.

#### 2.1 General

Every registered refugee is given a certain amount of food. Ration cards are provided by the RV Administration. Food distribution is organized by the RV Administration. The kinds and amounts provided to each registered head of family include:

Basic, per person staples include:

- Wheat — 500 grams/day
- Edible oil — 30 ml./day
- Dried skim milk — 30 grams/day.

In addition to the basic food items, sugar (20 grams/person/day) and tea (1.5 grams/person/day) are provided. The total calories provided equal 2,105 per day. The rations are collected one time per month.