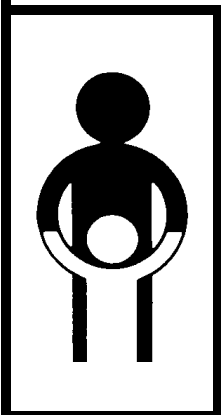


# Immunization in practice

## Trainers' guide



**GLOBAL PROGRAMME FOR VACCINES AND IMMUNIZATION**  
**EXPANDED PROGRAMME ON IMMUNIZATION**



*World Health Organization, Geneva, 1998*

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# Introduction

*Immunization in Practice* is a set of materials intended to be used by and for health workers who give immunizations. The materials can be used for reference purposes in the field and as a tool for training health workers who are entering the work force or whose skills need updating.

The *Immunization in Practice* package consists of modules, learning activities, and a trainers' guide. The modules describe what health workers need to know and what they should be capable of in order to provide immunization services.

Four technical modules deal with:

- EPI target diseases;
- EPI vaccines;
- the cold chain;
- ensuring safe injections.

There are also nine modules of instructions on:

- organizing immunization sessions;
- registering and assessing immunization clients;
- preparing vaccines for use;
- giving immunizations;
- cleaning up after an immunization session;
- communicating with parents and involving communities;
- monitoring immunization coverage;
- monitoring cases (disease surveillance).

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These materials can be used, in whole or in part, for:

- pre-service education in academic institutions;
- basic training for newly appointed health workers;
- refresher training;
- self-instruction;
- on the job reference.

The Trainers' guide provides information on how to plan a training programme using *Immunization in Practice*, how to organize and conduct skill practice, what to look for when reviewing exercises from the learning activities manual, and what supplementary materials are available.

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# Planning a training programme using *Immunization in Practice*

A course planner decides who is to be trained, by whom, when and where. He or she selects the required materials and equipment, makes arrangements for skill practice, and plans how to evaluate the training.

General planning guidelines are given in WHO publications such as *Guidelines for planning training activities for immunization and disease control services*, WHO/EPI/TRAM/95.2.

Special considerations for planning a course using *Immunization in Practice* are discussed below.

## 1. What decisions must be made first?

Before identifying participants, facilitators, facilities and equipment for a training programme, someone must decide on the objectives, the topics to be included, the learning activities, the materials from *Immunization in Practice* and elsewhere to be used, and the most effective sequence of activities. A master trainer is the person best equipped to do this.

## 2. Who is to be trained?

The *Immunization in Practice* materials can be used to meet a variety of training needs. The participants may be:

- health workers who have recently been hired, transferred, or promoted;
- health workers who need to implement new policies, e.g., the opened-vial policy;
- health workers who need to use new equipment, e.g., vaccine vial monitors;
- health workers who are performing poorly, as indicated, for example, by the occurrence of abscesses in clients after injections have been given, failure to submit routine reports, or failure to reach coverage targets;
- students.

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### 3. How many participants should there be?

*Immunization in Practice* can be used by individuals or by groups of various sizes. For training in basic immunization skills, which requires extensive hands-on practice, there should not be more than 20 participants.

### 4. Who is responsible for what?

A training programme needs a course director, a master trainer, facilitators, and administrative and support staff. The functions of course director and master trainer may be performed by the same individual if design work is minimal.

The **course director** organizes the training programme and coordinates activities.

The **master trainer** designs the curriculum. If *Immunization in Practice* is being used for training in basic immunization skills a master trainer will be needed to plan the practice component and integrate it with the other materials.

**Facilitators** provide information, organize learning tasks, supervise skill practice, evaluate the progress of participants and provide feedback.

**Administrative and support staff** provide administrative, secretarial, driving and other services for the training programme.

### 5. How many facilitators are needed and what qualifications should they have?

For a basic immunization skills course the number of participants per facilitator should not exceed six, because demonstration, guidance, and observation by facilitators are so critical during practice. Fewer facilitators are usually needed for a refresher course.

Facilitators should know the content of *Immunization in Practice* and be skilled in the aspects of providing immunization service which they are teaching. They should be versed in teaching others how to perform psychomotor, communication and organizational skills.

### 6. How long should training last?

This depends on the purpose of the course and the experience of the participants. A basic course on immunization skills for personnel who are already working takes approximately two weeks. More time is needed if they have never given injections.

A refresher course takes less time.

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## 7. What facilities are needed?

A large room with tables and chairs is required in which all the participants can meet. Space is also needed where smaller groups of participants can do exercises, hold discussions and practise skills: the large room may be divided, tables may be separated, or smaller rooms nearby may be used for these purposes.

If the programme includes clinical practice the training centre should be near health facilities to which the participants have access.

## 8. What materials and equipment are needed?

### *Training aids*

The room in which the training programme is held should have flip-chart easels (a whiteboard or blackboard may also be used).

If using overheads and other visual aids you will need an operational overhead projector, a film projector or a slide projector, and a projection screen. You will also need a reliable source of power.

### *Consumables*

For most training programmes, participants and facilitators need:

- newsprint for flip-charts;
- marker pens;
- writing pads;
- ballpoint pens;
- pencils.

### *Training equipment*

The practice equipment you need depends on the content of the training programme. It may include:

- cleaning and sterilizing equipment;
- injection equipment;
- disposal equipment;
- vials of vaccine;
- cold-chain equipment, e.g., refrigerators, vaccine carriers and thermometers ;
- immunization cards, patient registers, tally sheets and reporting forms.

See the modules for exact descriptions of what is needed. It is critical to have all the necessary equipment before beginning a session.

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## 9. How can training be evaluated?

Methods for evaluating the effectiveness of a course should be selected before the programme and evaluation forms are prepared. The most commonly used methods include:

- reaction evaluation – to determine the participants' satisfaction with the course;
- learning evaluation – to determine how much the participants have learnt during the course;
- performance evaluation **on the job** when the course has been completed, to determine the extent to which the participants are able to use the skills and knowledge imparted.

The impact of training on the attainment of programme goals can also be evaluated. For this you need baseline data and you must wait for a period after training for the impact to be felt.

For more information see: *Training evaluation: a guide to the evaluation of training courses on immunization and other disease control activities*, WHO/EPI/TRAM/95.03.

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# Suggestions for skill practice

In order to provide immunization services, health workers must have adequate knowledge of the target diseases, vaccines, the cold chain and injection safety, and must possess certain psychomotor, communication and organizational skills.

Health workers can acquire or refresh their **knowledge** by reading the modules and doing the exercises in the learning activities manual, either in group settings or individually.

In order to learn the **skills**, however, they need guidance from experienced people. Master trainers and facilitators must organize skill-building experiences during training, demonstrate correct procedures, and observe and provide feedback to participants as they practise the skills. So that the participants can master the skills without doing harm they must first practise in safe settings where they can make mistakes. When you and they are confident about their skills the participants must practise in a real clinical setting, still, however, closely supervised.

Below are suggestions for skill practice activities that can be incorporated into *Immunization in Practice* modules.

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### **Module 3. The cold chain**

#### *Psychomotor skill practice*

Ask participants to load a refrigerator, of the type found in local health centres, with vaccines, diluent, water bottles and ice packs.

Ask participants to load a vaccine carrier, of the type found in local health centres, with vaccines, diluent and ice packs.

Ask each participant to practise reading the types of thermometers and other monitors used in their health centres. Place the thermometers in various locations in order that different temperatures may be read.

Ask each participant to fill in a temperature chart using data that you provide.

Freeze some DPT, TT and hepatitis B vaccines, thaw them, and ask each participant to use the shake test to compare these vaccines with ones from the same manufacturer which have never been frozen.

### **Module 4. Ensuring safe injections**

#### *Psychomotor skill practice*

Ask each participant to practise flushing, soaking, cleaning and checking syringes and needles before sterilization, using the same equipment as is available in local health centres. Then ask the participants to load syringes and needles into a sterilizer and prepare for and carry out sterilization.

Give disposal equipment to the participants and ask them to follow the steps for disposing of syringes and needles.

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## **Module 5. Organizing immunization sessions**

### ***Organizational skill practice***

Provide the equipment needed for an immunization session and ask the participants to arrange the furniture and equipment in the classroom to represent a fixed or outreach immunization site. They should label the stations and show how to guide the flow of clients.

Alternatively, ask the participants to draw maps indicating the arrangements for immunization sessions in their health centres, to identify problems associated with the arrangements, and to seek solutions.

## **Module 6. During a session: registering and assessing clients**

### ***Record-keeping skill practice***

Ask each participant to enter data that you provide orally on blank immunization cards and patient register pages of the kind used in your immunization programme.

### ***Client assessment skill practice – role play***

Ask a participant to play the role of a health worker who is screening a client for immunization. Ask another participant to play the role of a client or the parent of a client and provide her or him with information about the age, immunization status and health of the client. The «health worker» has to decide what vaccines and doses to give the «client».

Ask each participant to play the role of health worker, and give different client profiles to different «health workers» in order to deal with all the aspects of assessing clients discussed in the module.

### ***Combined client assessment and record-keeping skill practice***

Ask «health workers» in the above role play to complete the immunization card and to register the «client» in the patient register in addition to interviewing her or him.

### ***Clinical practice***

When the assessment and registration skills have been developed, each participant should practise them under supervision with real clients in a health centre.

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## **Module 7. During a session: preparing vaccines**

### *Psychomotor skill practice*

Ask each participant to practise each of the following procedures, initially in the classroom and then in the clinic under careful supervision: washing hands, opening a sterilizer, assembling a sterile syringe and needle, checking vial labels, checking a vaccine vial monitor, cleaning a client's skin, opening a vial and ampoule, drawing vaccine from the vial, and reconstituting BCG, measles and yellow fever vaccines.

## **Module 8. During a session: giving immunizations**

### *Psychomotor skill practice*

Ask each participant to practise positioning a client and administering each vaccine, initially in the classroom and then in the clinic under supervision. Each participant should practise giving every vaccine until he or she has mastered the techniques.

A doll may be used in the classroom in order to practise positioning. Use boiled potatoes to practice intradermal injections and oranges for other injections.

After successfully practising on potatoes and oranges and before practising on clients, participants in some training programmes practise giving injections to each other.

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## **Module 10. Communicating with parents and involving communities**

### ***Communication skill practice - role plays between individual clients and health workers***

These should focus on two topics: dealing with the needs of clients (so that they are ready to hear about immunization) and conveying the five messages on immunization. Each participant should play the role of health worker in a number of situations, building in complexity so that eventually the «health worker» is trying to communicate with nervous «parents» while giving immunizations and carrying out other tasks in a busy, noisy session.

After mastering the injection techniques the participants should practise communication skills with real clients in clinical practice.

### ***Communication skill practice - role plays between groups of people and health workers***

The participants should also practise techniques for providing health education to small groups. Each participant should practise leading discussions as a health worker while others act as members of a community. Then, in clinical practice, the participants should practise their communication skills with groups of real clients.

### ***Communication skill practice - role plays between community leaders and health workers***

In addition to role-playing interactions with clients and community groups, the participants should practise techniques for working with community leaders in order to solve problems, such as those connected with community mobilization and the scheduling of immunization sessions.

### ***Clinical practice***

Under supervision in a health centre the participants should practise the skills and apply the knowledge they have gained during the course.

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## **Module 11. Monitoring immunization coverage**

### ***Record-keeping skill practice***

Ask each participant to enter data provided by you on blank tally sheets, immunization monitoring charts and monthly immunization reports of the kind used in your immunization programme.

### ***Analytical skill practice***

Ask the participants to analyse the data on forms that they or others have filled in. Make sure they can explain what each piece of data means and how they can use the data to make decisions about their services.

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# Notes on exercises in the learning activities manual

## Module 2: EPI vaccines

### *Exercise 1*

1. OPV, measles and yellow fever.
2. Reconstituted vaccines lose their potency quickly. Reconstituted measles vaccine is quickly damaged by heat; reconstituted BCG vaccine is quickly damaged by sunlight.
3. See Module 2, page 12.
4. See Module 2, page 14.
5. See Module 2, page 14.

### *Exercise 2*

1. Cases could have been prevented by immunizing all the eligible children with colds or diarrhoea who had gone to health centres.

The four children who were immunized might have received impotent vaccine. Since they all attended the same health centre there could be a problem with the cold chain.

2. The medical officer should find out what policy on contraindications is being followed by the health workers. He should make sure that the policy is correct and that the health workers apply it.

Thomas should also check the cold chain practices at the health centre attended by the four immunized children.

### *Exercise 3*

1. Ramesh must not reconstitute the vaccine from the window ledge while the diluent is still warm, because warm diluent damages vaccine.
2. Ramesh may put the diluent back in the refrigerator and use it when it has become cold again. He should explain to the parents that the diluent cannot be used until it is cold and ask them either to wait or to come back for the next immunization session.

---

**Module 2** (*continued*)**Exercise 4**

1. The health workers in Ibutown are correct. It is safe to immunize women with tetanus toxoid at any stage of pregnancy.
2. Nurse Celia should discuss the matter with her supervisor and ask for his advice. He could contact the Ministry of Health to find out what the national policy is.

---

## Module 3: The cold chain

### *Exercise 1*

1. Both thermometers show a temperature of approximately +5° C. This is a safe temperature for vaccines because it is between 0° C and +8° C.
2. OPV, yellow fever and measles vaccines should be on the top shelf because this is the coolest part of the refrigerator.  
BCG, DPT, hepatitis B vaccine and TT should be on the middle shelves, away from the freezer. Hepatitis B vaccine, DPT and TT are especially sensitive to cold.
3. a) The line at the top of the safe temperature range is at +8° C. The line at the bottom is at 0° C. Vaccines must be stored between these temperatures.  
b) The temperatures on the morning of day 3 and the evening of day 5 are within the safe range. The temperature on the morning of day 8 is too low; on the evening of day 12 the temperature is too high.
4. Putting ice packs on top of the vaccines in a vaccine carrier helps to protect them from the heat when you open the lid.
5. a) In order to maintain the temperature of the vaccines you are using, put them on the foam pad on top of the vaccine carrier.  
b) In order to keep unopened vaccines cold, leave them in the refrigerator or the vaccine carrier until you are ready to use them.

### *Exercise 2*

1. Omar should not immunize children with DPT that has been frozen. It has lost its potency and cannot make them immune. Melting frozen vaccine in hot water will not make it potent again.
2. The frozen vials should be thrown away. Omar should check the other DPT vials in the refrigerator to see whether any of them are frozen. He should make sure that none of them are being stored on the top shelf. He should also check the temperature of his refrigerator. It is probably too cold, in which case he should adjust the thermostat.
3. Omar should find the children he has immunized with frozen DPT and immunize them again.

---

## **Module 3** *(continued)*

### **Exercise 3**

1. Liza must cancel the immunization session and dispose of all the vaccines in the vaccine carrier. She should explain the situation to the people who are waiting and arrange for a return visit as soon as possible. She could use the time to provide other health services to the people or to talk with them about disease prevention and good health habits.
2. Next time, Liza should put the melted ice packs in the freezer as soon as she returns from outreach. She should have done this on the Tuesday night. The ice packs have not been in the freezer long enough to freeze completely by the time she takes them out on the Thursday morning. It takes 48 hours to freeze an ice pack.

### **Exercise 4**

1. Pak Jacob cancels the immunization session because the vaccines are warm and probably useless and because the syringes are contaminated.
2. Pak Nana should clean and sterilize the equipment and keep it in the steam sterilizer until ready for use. If the vehicle breaks down the vaccine carrier should be taken from the vehicle and put in the shade. Its lid should be closed tightly and should not be removed. The Fanta should not be put in the carrier.

---

## Module 4: Ensuring safe injections

### *Exercise 1*

1. If you use unsterile syringes and needles you may cause an abscess at the injection site. Hepatitis B or HIV may also be passed from one person to another in this way.
2. If you touch the shaft or bevel of a needle you must not use it because it is contaminated. Replace it with a sterile needle and clean and sterilize the contaminated one before use.
3. If you do not clean syringes and needles before you sterilize them, particles that remain on the equipment may cover microorganisms. These microorganisms may not be reached by the steam during sterilization, in which event the equipment will not be sterilized.
4. If you give BCG too deeply because the needle is barbed there may be a severe reaction to the vaccine.
5. Put the forceps on the rack lid so that you can pick them up without touching anything else.
6. Before using syringes and needles that have just been sterilized, allow them to cool. If you use a hot syringe the vaccine you draw into it will probably be damaged. Hot equipment can also cause pain to the health worker and the client.
7. Missing from the list are forceps, stove, matches and fuel.

### *Exercise 2*

1. Nurse Marta cannot use the syringes and needles that fall on the ground. If she has no way of sterilizing them she has to return to the health centre in order to do this. She is also right to destroy the vaccines, because they have probably been exposed to heat during her ride back to the health centre. She also correctly sends a message to the people so that they know she cannot come on this day.
2. Nurse Marta could send another message to make sure that the people in Masu know of her accident, or she could visit the village a few days before her next session. Another possibility might have been for her to ride on to the village in order to tell people what had happened, before returning to the health centre.

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**Module 4** (*continued*)**Exercise 3**

Araba has forgotten to put water in the sterilizer. If there is no water, or not enough, the sterilizer and the things inside it become too hot.

**Exercise 4**

The equipment cannot be used because it has not been sterilized. It must be exposed to steam for 20 minutes in order to be sterilized. Sister Mita explains to Nurse Lanya that she must wait until steam comes out of the pressure valve before setting the timer.

---

## Module 5: Organizing immunization sessions

### Exercise 1

1. Multiply  $4000 \times 0.03$  for annual target = 120 children.  
Divide 120 by 12 for monthly target = 10 children.  
Multiply  $10 \times 4$  for number of contacts/month = 40 contacts.  
You need five 10-dose vials of each vaccine and diluent.
2. Multiply  $2500 \times 0.03$  for annual target = 75 children.  
Divide 75 by 12 for monthly target = 7 children.  
Multiply  $7 \times 4$  for number of contacts/month = 28 contacts.  
  
You need only one session per month at this outreach site, although you may hold two a month if this is more convenient for you and your clients. Remember, you also have to immunize women of childbearing age.
3. **a) For 20 children and 20 women:**

0.1 ml syringes	10
10 mm, 26 gauge needles	10
1.0 ml syringes	55
32 mm, 22 gauge needles	55
5.0 ml syringes	3
76 mm, 18 gauge needles	3

  
**b) For 30 children and 30 women:**

0.1 ml syringes	10
10 mm, 26 gauge needles	10
1.0 ml syringes	80
32 mm, 22 gauge needles	80
5.0 ml syringes	3
76 mm, 18 gauge needles	3

Note : You need two single-rack steam sterilizers or one double-rack steam sterilizer to sterilize all this equipment for one session.

**c) For 12 children and 12 women :**

0.1 ml syringes	10
10 mm, 26 gauge needles	10
1.0 ml syringes	40
32 mm, 22 gauge needles	40
5.0 ml syringes	3
76 mm, 18 gauge needles	3

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## Module 5 (continued)

### d) For 6 children and 6 women :

0.1 ml syringes	5
10 mm, 26 gauge needles	5
1.0 ml syringes	20
32 mm, 22 gauge needles	20
5.0 ml syringes	3
76 mm, 18 gauge needles	3

### Exercise 2

The health workers doing the clerical work have the only tables. Give one to the health workers doing immunizations.

Put a chair at the immunization station so that a parent can sit down and hold a child in the right position for immunization.

Provide more light for the immunization station, for example by moving the station closer to the door, putting a lamp in the dark part of the room, or having a window constructed.

Find a place where parents can sit while waiting, outside the room if it is too crowded inside. If appropriate, give parents a specific time when they should attend.

Assign one of the health workers doing clerical work to another task. One person can handle both registration and communication with clients as they are leaving, since the two functions are performed in the same location.

### Exercise 3

Hassan should estimate how many vials he needs before a session and put them in a vaccine carrier with ice packs until there is a child or woman who needs them.

He should not open or reconstitute any vaccine until there is a child or woman who needs it.

He should use a vaccine carrier foam pad rather than a cup of ice for holding opened vials.

He may refrigerate opened vials of OPV, DPT, TT and hepatitis B vaccine for use in the next session if he has not taken them out of the health centre.

He should consider rescheduling the immunization sessions so that they are held once or twice a month. If he does so he must make sure that everyone knows about the change. On occasions he may have to open a vial for only one child until people become accustomed to the new schedule.

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**Module 5** (*continued*)

**Exercise 4**

1. Ida could have taken the steam sterilizer to the outreach site, borrowed a stove and sterilized the equipment there. Had she done this without taking fuel with her, however, she would have risked not finding any kerosene at the site.
2. In future there should be enough kerosene in the health centre to sterilize equipment for at least two sessions. If the health centre is in a remote area there should be a larger quantity of spare kerosene.

The day before an early start, Ida should check all supplies, including kerosene and fuel for her vehicle if she has one.

Ida could sterilize her equipment the day before an early start, so that, if short of kerosene, she would have more time to find some.

---

## Module 6: During a session: registering and assessing clients

### *Exercise 1*

1. An immunization card may be the only record a child or woman has of previous immunizations. When people move to a new area they can take their cards with them. Patient registers, on the other hand, remain in the health centre.

An immunization card also allows health workers to check quickly on immunization status, and is more reliable than a person's memory.

2. Newborn: BCG and OPV0.

10-month-old child who has had BCG, OPV0-3, DPT1-3, and HB1-3: measles and, where appropriate, yellow fever vaccine.

8-month-old child who has had BCG, OPV0-3, DPT1-3 and HB1-3: none.

6-week-old child who has had BCG and OPV0: OPV1, DPT1 and HB1.

5-week-old child who has never been immunized: BCG and OPV0.

20-year-old woman who has never received a tetanus toxoid immunization: TT1.

4-week-old child who received BCG at birth but has no scar: BCG.

Woman who received TT2 8 months previously: TT3.

3. You can give the following immunizations on the same day to an 11-month-old who has never been immunized: BCG, OPV1, DPT1, HB1, measles and yellow fever.
4. Yes.

### *Exercise 2*

1. The children did not receive measles vaccine, even though their cards said they did. Cato stamps immunization cards before Nina gives immunizations. When parents leave the health centre there is no way of checking whether immunizations have been given.
2. Cato and Nina should rearrange their system so that the person giving immunizations has the date stamp and uses it only after he or she gives an immunization.

### *Exercise 3*

Treat the child for the cold. Recommend to the grandmother that Hilda be immunized with OPV2 and HB2. Do not give DPT2 because the occurrence of shock three days after the earlier immunizations was probably a reaction to DPT.

---

## **Module 7: During a session: preparing vaccines**

### *Exercise 1*

1. On the inside of the sterilizer lid, which is upside down on the table.
2. On the sterilizer rack lid.
3. Do NOT use the vaccine: dispose of it.
4. No more than 6 hours.

### *Exercise 2*

1. Nurse Santana's mistake is to inject something into a person from a vial without a label.
2. She should never give any medicines or vaccines from a vial or bottle that has no label. Even though Nurse Santana feels certain about what the vial contains, she should not use it in the absence of a label.

If your refrigerator is wet, keep vaccines in a plastic bag until it is repaired. This will usually prevent the labels from becoming wet and falling off.

---

## Module 8: During a session: giving immunizations

### Exercise 1

1. A child must be held securely and in the right position by another person so that the health worker can concentrate on giving the immunization properly. If a child is kicking and trying to push the health worker away the needle may touch something and become contaminated or the injection may be given in the wrong place or at the wrong depth. Sometimes, if a child moves too much, the needle breaks off in her or his arm or leg.
2. Intradermal injections with BCG are given into the skin, not under it. Holding the syringe so that the bevel faces upwards makes it easier to do this.
3. a) Opened vials you are using: put them on the foam pad that rests on top of the vaccine carrier.  
b) Unopened vials: whether you are on outreach or in the health centre, put them inside the vaccine carrier and leave them there until you need them.
- 4.

Vaccine	Kind of injection	Immunization site
BCG	Intradermal	Upper left arm
OPV	Oral	Mouth
DPT	Intramuscular	Outer part of thigh
Hepatitis B	Intramuscular	Outer part of thigh
Measles	Subcutaneous	Upper left arm
Yellow fever	Subcutaneous	Upper right arm
Tetanus toxoid	Intramuscular	Upper arm

5. Intradermal: into the skin.  
Intramuscular: in a muscle.  
Subcutaneous: under the skin.

---

## Module 8 (continued)

### Exercise 2

1. A red and tender swelling is an abscess. Abscesses at injection sites are usually caused by unsterile needles or incorrect injection techniques. The needles used to give DPT the previous week may have been:
  - used for more than one injection;
  - improperly sterilized;
  - touched by a health worker;
  - placed on a table top or other unclean surface.

Parents of other children may have heard about the abscesses that occurred following the DPT injections and may have been afraid to bring their children for immunizations.

2. Tema should treat the abscesses with warm compresses and give an antibiotic. If the swellings do not go away in a few days, incision and drainage may be necessary.

He should make sure that injection equipment is sterile, that each needle and syringe is used for only one injection, and that DPT injections are given at the proper depth.

### Exercise 3

1. Yes, it is the health educator's duty to stop the session because Kudzu could harm the children and women he is immunizing. Stopping the session may be embarrassing for Kudzu and may raise concern among the clients, but the health worker's first responsibility is to prevent harm. Imagine the much greater embarrassment and concern if people acquired abscesses or bloodborne diseases after Kudzu's immunization session.
2. Kudzu makes the following mistakes:
  - he arrives late;
  - he smokes while working;
  - he puts the immunization table in a sunny place;
  - he takes two vials of each vaccine out of the vaccine carrier;
  - he reconstitutes two vials of BCG and measles vaccines at the same time;
  - he shakes the vials to mix vaccine and diluent;
  - he picks things up with his fingers (he ought to have spare forceps);
  - he touches the adaptor of the syringe;
  - he puts a loaded syringe on an unsterile surface;
  - he uses the same syringe and needle for more than one injection.

---

## Module 9: After a session

1. As soon as possible after a session.
2.
  - a) Throw out.
  - b) Throw out.
  - c) Keep. It can be used until 17 00.
  - d)
    - i) Throw out.
    - ii) Keep it if it is not damaged in any way.
  - e) Throw everything out.
  - f)
    - i) Throw everything out.
    - ii) Throw everything out.

---

## Module 10: Communicating with parents and involving communities

### *Exercise 1*

The five essential messages:

1. Date and time of next immunization;
2. Place of next immunization;
3. Number of visits the client still needs in order to be fully immunized or protected;
4. What side effects may occur;
5. How side effects can be treated.

### *Exercise 2*

1. Maria has not spent the time needed to find out whether people in the community understand about immunizations. She should have worked with community leaders to plan an information campaign.

She should make sure that the date she picks is convenient. If it is not she should negotiate another one.

She should be explicit about the requirements for an immunization session and should discuss what arrangements the community can make.

2. The team can visit people in the community and talk with them about health issues and immunizations, and should immunize anyone who so desires.

### *Exercise 3*

1. One of the reasons may be that people in the town do not know about immunizations and how they can prevent some diseases. Abu-Bakar seems to miss opportunities to immunize when people come to him for treatment of illnesses. People in the community do not seem to know Abu-Bakar.
2. Abu-Bakar should find out what people in the community know and what health services they need. During each outreach visit he should spend part of the time visiting people's homes, work places and other locations where people assemble, and talking with them about immunization, the services he can provide and the schedule and location of outreach visits.

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## **Module 10** *(continued)*

### ***Exercise 4***

The real reason why people were not going to the health centre was probably that it was not meeting their needs. People felt rushed and were not given time to talk to Claudia about their problems. As a result they left the centre feeling dissatisfied and did not return.

Kassim demonstrates good behaviour not only with clients but also with Claudia. Claudia sees the effect of courtesy and demonstrations of interest. When she adopts Kassim's approach she becomes more interested in her work and less tired.

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## Module 11: Monitoring immunization coverage

### *Health worker*

Records help with:

- keeping track of what the health centre has done;
- calculating needs for vaccines, injection equipment and other supplies;
- monitoring progress toward targets;
- identifying problems.

### *Supervisor*

Records help with:

- keeping track of what the health centres for which he or she is responsible have done;
- calculating needs for vaccines, injection equipment, supplies, transport and staff;
- monitoring progress toward targets;
- identifying problems.

### *Community*

Records help to monitor progress toward targets and can motivate people to work harder or to maintain a successful effort.

2.
  - a) No.
  - b) Yes.
  - c) No.
  
3.
  - a) Monthly target population = 200.
  - b) Approximately 1400 children.
  - c) 800 children.
  - d) Approximately 60%.
  - e) DPT2 = 1400, 560, approximately 40%.  
DPT3 = 1400, 450, approximately 30%.
  - f) DPT1 = 800, 550, approximately 75%.  
DPT2 = 800, 310, approximately 40%.  
DPT3 = 800, 280, approximately 35%.

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# Supplementary materials

*Guidelines for planning training activities for immunization and disease control services, WHO/EPI/TRAM/95.02.*

*Training evaluation: a guide to the evaluation of training courses on immunization and other disease control activities, WHO/EPI/TRAM/95.03.*