Module 6 HIV Testing in Children

Total Module Time: 185 minutes (3 hours, 5 minutes)

Learning Objectives

After completing this module, participants will be able to:

- Understand the procedure for collecting a blood sample for rapid HIV testing.
- Understand how to conduct the Determine, Uni-Gold and Bioline rapid HIV tests and read the result.
- Demonstrate the proper procedure for collecting, drying and packaging dried blood spot (DBS) specimens for DNA PCR testing.
- Demonstrate how to complete required documentation for DBS specimen testing.
- Identify valid and invalid DBS specimens.

Session 6.1: Collecting Blood Specimens and Conducting Rapid HIV Antibody Tests in Infants and Children

Session 6.2: Collecting, Storing and Transporting DBS Specimens

Session 6.1 Collecting Blood Specimens and Conducting Rapid HIV Antibody Tests in Infants and Children

Session Objectives

After completing this session, participants will be able to:

- Understand the procedure for collecting a blood sample for rapid HIV testing.
- Understand how to conduct the Determine, Uni-Gold and Bioline rapid HIV tests and read the result.

Who can conduct PITC?

To date, testing and counselling is most often conducted by lay counsellors, but some facilities use nurses or nurse counsellors for this service. The use of lay counsellors is an important model because of the severely restricted professional workforce; however, it is critical that lay counsellors are supervised by a healthcare professional. Note that Zambian guidelines allow lay counsellors to conduct HIV testing procedures by finger or heel stick, but lay counsellors cannot obtain venous samples. Since venous samples are not needed for rapid testing or to collect DBS samples, lay counsellors are allowed to collect blood for these tests.

With training, paediatric HIV testing and counselling — including pre- and post-test counselling and the taking of blood samples by finger heel/toe stick — can be conducted by any of the following healthcare workers:

- Nurse Counsellors
- Nurses
- Midwives
- Lab technicians and lab scientists
- Clinical officers
- Medical licentiates
- Physicians
- Counsellors
- Lay counsellors

Regardless of the staffing model used, it is important for all staff members to understand and advocate for paediatric PITC and that professional healthcare workers are prepared to offer these services when lay counsellors are not available. Consistent application of the testing and counselling guidelines within facilities is important to community acceptance and understanding.

Procedures for all HIV tests

For any HIV test, both rapid antibody and DNA PCR testing, it is important that healthcare workers collect samples and provide test results in a private space where confidentiality can be maintained.

It is important to follow all of the steps correctly when collecting a sample for diagnostic testing. Specific steps will vary depending upon the type of test and brand of test kit, but the first two steps of testing are always the same: 1) collect supplies and 2) use universal precautions. These steps are explained in detail along with specific testing procedures for each test in the following sections. Below, a checklist is provided that may be used to guide testing procedures:

- Collect supplies.
- Use universal precautions.
- Check the test kit to ensure it has not expired.
- Choose the puncture site.
- Demonstrate to caregiver how to hold the child for the procedure.
- Prepare the puncture site.
- Collect the specimen.
- For antibody: test the specimen.
- For DNA PCR: dry and package materials for sending to laboratory.
- Read and record results.
- For antibody: if positive, conduct a confirmatory test.

The healthcare worker should remember that the caregiver and child may be nervous about the test and unsure about the specific procedures. As the healthcare worker moves from one step in the process to the next, it is helpful to review with the caregiver what is being done. When the blood has been collected, one should immediately remind the caregiver of the next steps (e.g. "*The results will be ready in 10-15 minutes. I'll call your name when the result is ready and we'll discuss it. Whether the result is positive or negative, I will speak to you about how to care for your child.*")

It is important that healthcare workers follow the algorithms noted in Chapter 4 of the Paediatric PITC guidelines.

How to Conduct Determine HIV-1/2 Rapid Antibody Testing in Infants, Children and Adults[1]

Note: In children 18 months of age and older, as in adults, repeat testing is required if an HIV-antibody test is positive.

Step 1: Collect supplies

Supplies for conducting a finger prick
- Sterile lancets (2 mm long)
- A Pasteur or precision pipette
- Sterile gauze pads or cotton wool
- Alcohol wipes or disinfectant for skin (70% spirit)

Supplies for paperwork
- Pen
- *General Counselling and Testing Register*

Safety supplies
- Gloves (powder-free preferred)
- Rubbish bin
- Sharps container

Testing items
- One Determine HIV- 1/2 test strip
- Chase buffer
- Timer or stopwatch

Step 2: Use universal precautions

Always use universal precautions when collecting blood specimens. These include:
- Treat all blood specimens as if they are infectious.
- Wash hands and dry them thoroughly before performing procedures.
- Put on gloves before coming in contact with blood and other body fluids or items that may be contaminated with blood or body fluids.
- Take precautions to avoid needle injury and handle all sharps with extreme care.
- Wash hands immediately after removing gloves.
- Promptly clean up any spills of infective material with a disinfectant such as a 0.5% dilution of household chlorine bleach[1].
- Dispose of contaminated sharps and waste appropriately.
- In the event of a sharps injury, follow the protocol at the facility for post-exposure prophylaxis.

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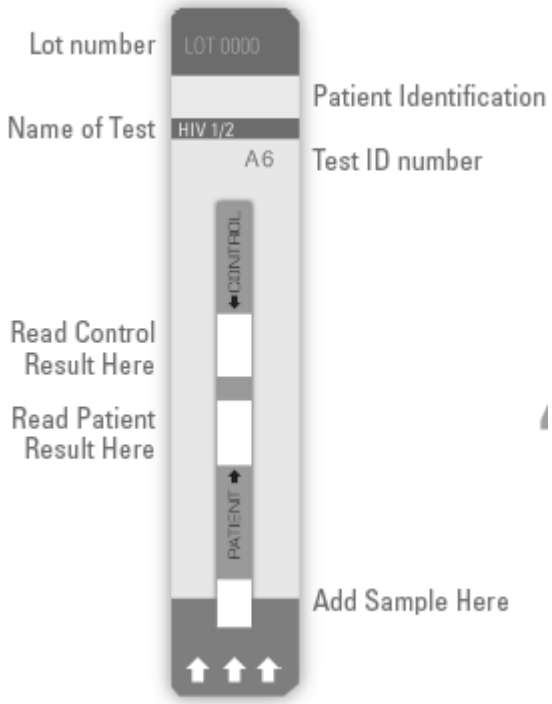
[1] A 0.5% solution of household chlorine bleach can be made by mixing 6 parts water to 1 part 3.5% chlorine bleach. A "part" is any unit of measure (e.g., teaspoon, cup, litre or anything else).

Step 3: Check test kit, label test strip and pull off the protective foil cover

1. Always check the test kit before using to ensure the items have not expired or been damaged. Make sure the kit is at room temperature prior to use. Use one strip per test and be sure to preserve the lot number on the remaining packet of strips.

2. Label the test strip with the client identification number.

3. Pull off the protective foil cover.



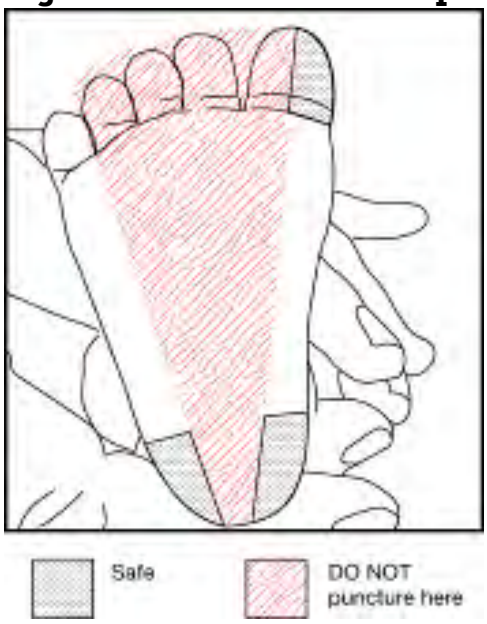
Step 4: Choose the puncture site

Once the test strip has been prepared, the healthcare worker is ready to take the blood sample. The next step is to choose the puncture site.

Infants up to two years old:

- Small infants ≤9 kg: *prick the heel*. The heel is the only suitable puncture site for very young or very small infants because there is a risk of hitting the bone when puncturing fingers or the toes. Heel puncture should be performed on the plantar surface of the heel, beyond the lateral and medial limits of the heel bone. The suitable areas are marked by the shaded areas in Figure 6.1. Choose the lowest point in recommended area. The back of the heel and the Achilles tendon are **not** suitable sites and should not be punctured.
- Larger infants > 9 kg: *prick the heel or lateral aspect of the big toe.* Fingers and small toes should still be avoided because of the risk of hitting bone.

Figure 6.1: Safe and unsafe puncture areas



Children two years old or greater:

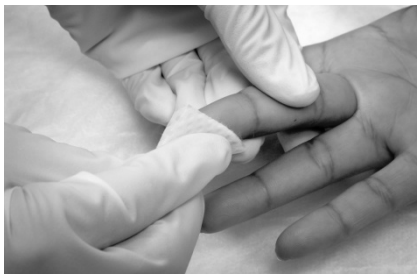
- Position the child's hand palm-side up.
- The best finger to use is the ring (fourth) finger on the left hand as this finger is typically the least used by the infant. The side of the finger is generally less sensitive than the tip of the finger. Do not stick the very end of the finger where the bone is close to the skin. The thumb is not recommended because it is the most painful.

Step 5: Demonstrate to caregiver how to hold the child for the procedure

- Children less than two years of age: ask the caregiver to sit holding the baby in an upright position against her or his chest (as shown in photo to right). Position the infant with her or his foot hanging downward. This will increase venous pressure and will help the blood flow more easily.
- Children two years old or greater: the child may sit on her or his own or on the caregiver's lap. Have the child rest her or his hand on a horizontal surface such as counter, table or desk.
- Ask the caregiver to hold the child securely so that the blood sample can be taken.

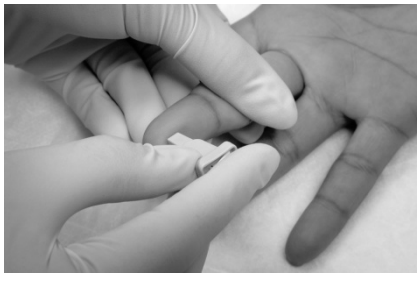
Step 6: Prepare the puncture site

- If the child's finger or foot is not clean it should be washed with soap and clean water.
- Warm the site to increase blood supply. The parent or caregiver can do this by holding the child's hand or foot and rubbing gently.
- Wash hands and put on powder-free gloves. If powdered gloves are being used, rinse glove-covered hands after putting them on to remove the powder.
- Clean the child's fingertip (or foot) with alcohol. Start in the middle and work outward to prevent contaminating the area. Allow the area to dry.



Step 7: Collect the specimen

- Encourage the caregiver to comfort her or his child during the procedure. Comforting reduces distress and makes it easier for the child to remain calm after the procedure.
- Hold the child's finger or foot; firmly puncture the site off-centre with a new sterile 2 mm lancet. A 2 mm lancet is the correct length to puncture safely without damaging bone. **Do not use a needle, scalpel or longer lancet.** The puncture should be with one continuous, deliberate motion at an angle (slightly less than 90 degrees).

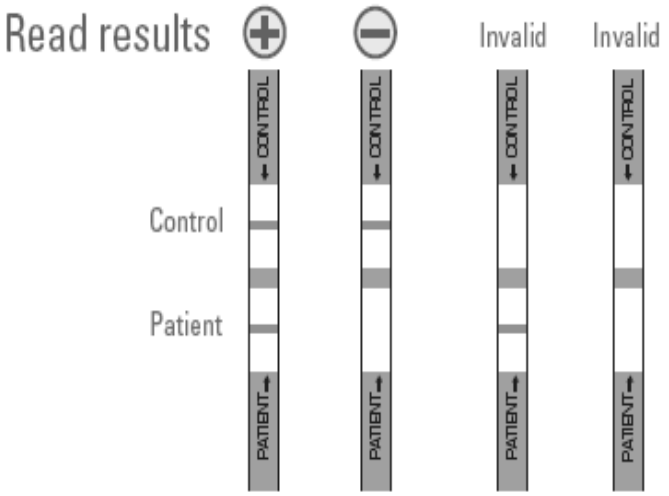


- Allow a large blood drop to form and wipe it away with a dry, sterile gauze pad. The first drop of blood may contain tissue fluids that could contaminate the specimen.
- Allow a second, large blood drop to form. Blood may flow best if the finger is held lower than the elbow or, when collecting from the heel or toe, the child is held upright with the foot hanging down.
- Collect 50 µl of blood using either a Pasteur or precision pipette.
- Apply a gauze pad to the puncture site until the bleeding stops.
- Discard gauze in a bin and lancet in sharps container after use.

Step 8: Test the specimen

- Apply the blood (50 µl) to the sample (absorbent) pad on the test strip.
- Wait one minute.
- Add one drop of chase buffer to the sample pad.
- Discard pipette in sharps container and gloves in bin after use.
- Wait 15 minutes.

Step 9: Read and record the results



- Read the results.
- A positive test result: Two lines of any intensity will appear in both the control and patient areas.
- A negative test result: One line will appear in the control area and no line in the patient area.
- An invalid test result: No line appears in the control area. Do not report invalid results. Repeat the test with a new test strip even if a line appears in the patient area.
- Record the test results and other pertinent information on the appropriate forms.

Session 6.2 Collecting, Storing and Transporting DBS Specimens

Session Objectives

After completing this session, participants will be able to:

- Demonstrate the proper procedure for collecting, drying and packaging dried blood spot (DBS) specimens for DNA PCR testing.
- Demonstrate how to complete required documentation for DBS specimen testing.
- Identify valid and invalid DBS specimens.

Advantages of DBS specimens

DBS specimen collection involves taking small drops of whole blood that are collected on strips of special filter paper card and then dried. The procedure for taking a DBS specimen involves obtaining blood from a child's heel, toe or finger and applying it directly onto filter paper card, bypassing the need for needles, syringes, whole blood collection and separation of blood into plasma.

The amount of blood required is small (usually 100 µL). If properly dried and stored, specimens remain stable for an extended period at room temperature. Even though studies have suggested that specimens are stable for 1–3 months — even as long as one year, depending on the temperature at which they are stored — all specimens should be sent to the laboratory for testing as soon as possible. Dried specimens can be transported with minimal special handling to a central laboratory.

The advantages of using DBS specimens include:

- As a lower volume of blood is required for testing, specimen collection is easier and requires less training.
- The specimens have a longer lifespan, are stable and therefore easier to transport and store than whole blood specimens. This makes it possible to have centralised testing.
- Because specimens are dried, they pose little biohazard risk.

Resources for Collecting DBS Specimens

Step 1: Collect supplies

Supplies for conducting a heel or toe prick:

- Sterile lancets (2 mm long)
- Sterile gauze pads or cotton wool
- Alcohol wipes or disinfectant for skin (70% spirit)

Supplies for paperwork
- Pen
- *DNA PCR Test — Laboratory Requisition Form*
- *Specimen Delivery Checklist*

Safety supplies
- Gloves (powder-free preferred)
- Rubbish bin
- Sharps container

Supplies for collecting, drying and storing specimens
- DBS filter paper blood collection card
- Drying rack
- Glassine paper
- Sealable plastic bags
- Desiccant packs
- Humidity indicator cards
- Permanent marker to label bag
- Large envelope

Because there are many items required for DNA PCR, it is important to have a reliable procurement and supply management system to prevent stock outs.

Step 2: Use universal precautions

Always use universal precautions when collecting blood specimens. These include:
- Treat all blood specimens as if they are infectious.
- Wash hands and dry them thoroughly before performing procedures.
- Put on gloves before coming in contact with blood and other body fluids or items that may be contaminated with blood or body fluids.
- Take precautions to avoid needle injury and handle all sharps with extreme care.
- Wash hands immediately after removing gloves.
- Promptly clean up any spills of infective material with a disinfectant such as a 0.5% dilution of household chlorine bleach[2].
- Dispose of contaminated sharps and waste appropriately.
- In the event of a sharps injury, follow the protocol at the facility for post-exposure prophylaxis.

[2] A 0.5% solution of household chlorine bleach can be made by mixing 6 parts water to 1 part 3.5% chlorine bleach. A "part" is any unit of measure (e.g., teaspoon, cup, litre or anything else).

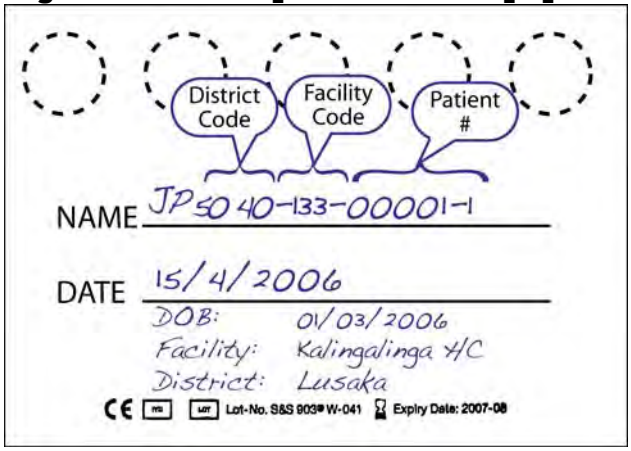
Step 3: Complete the laboratory form and label the sample card

The first step in collecting DBS specimens is to ensure that the test documentation is in stock. **Mislabelling specimens is the most common error in DBS specimen collection.**

Important documentation for DNA PCR tests includes:

- ***DNA PCR Test — Laboratory Requisition Form*:** This form must accompany the specimen to the laboratory. The requisition form requires clinic details, site code, patient details, specimen details, clinical information and information about the requesting clinician.
- ***Specimen Delivery Checklist*:** This is a checklist to verify that the DBS specimen and the *DNA PCR Test — Laboratory Requisition Form* are sent to the laboratory together. One form is used for each batch of specimens sent to the district laboratory. This form is filled in after the blood specimen is taken.
- ***General Counselling and Testing Register*:** This register, in which an entry is made when the DBS specimen is collected, will be completed when the test result is received. This register is for recording testing results and caregiver details to support follow-up. This register should be kept where HIV antibody testing and DBS specimen collection is conducted.
- ***Under-Five Card*:** Complete the infant testing section for all infants and children who are provided with HIV testing.
- ***Filter paper card:*** After filling in the *DNA PCR Test — Laboratory Requisition Form*, the healthcare worker taking the blood specimen should fill in the filter paper card with the infant's name and date of birth and the date of the test (see Figure 6.2: DBS specimen filter paper card). When filling out the filter paper card:
  - Avoid touching the areas within the circles with gloved or ungloved hands. Skin oils, ink, latex and powder may contaminate the specimen, making it unreadable.
  - Use one card per client. Even though there are five circles — only place one client's blood on a card.

Figure 6.2: DBS specimen filter paper card



Step 4: Choose the puncture site

Once basic paperwork has been completed, the healthcare worker is ready to take the blood sample. The next step is to choose the puncture site.

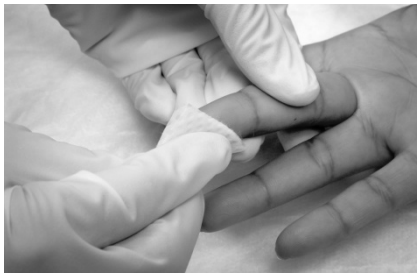
- **Small infants ≤9 kg:** *prick the heel.* The heel is the only suitable puncture site for very young or very small infants because there is a risk of hitting the bone when puncturing fingers or the toes. Heel puncture should be performed on the plantar surface of the heel, beyond the lateral and medial limits of the heel bone as shown in Figure 6.1 and Appendix 6-D). Choose the lowest point in recommended area. The back of the heel and the Achilles tendon are **not** suitable sites and should not be punctured.
- **Larger infants >9 kg:** *prick the heel or lateral aspect of the big toe.* Fingers and small toes should still be avoided because of the risk of hitting bone.

Step 5: Demonstrate to caregiver how to hold the child for the procedure

- Ask the caregiver to sit holding the baby in an upright position against her or his chest (as shown in photo to right and in Appendix 6-D). Position the infant with her or his foot hanging downward. This will increase venous pressure and will help the blood flow more easily.
- Ask the caregiver to hold the child securely so that the blood sample can be taken.

Step 6: Prepare the puncture site

- If the child's finger or foot is not clean it should be washed with soap and clean water.
- Warm the site to increase blood supply. The parent or caregiver can do this by holding the child's foot and rubbing gently. A cloth or clean nappy soaked in warm water (no warmer than 41°C) can also be kept on the puncture site for three minutes.



- Wash hands and put on powder-free gloves. If powdered gloves are being used, rinse glove-covered hands after putting them on to remove the powder.
- Clean the child's foot with alcohol. Start in the middle and work outward to prevent contaminating the area. Allow to air dry for **30**

seconds. It is important to allow the site to dry because residual alcohol may cause haemolysis (haemolysis refers to the breakdown of red blood cells, which can interfere with laboratory testing), which will invalidate the specimen.

Step 7: Collect the specimen

- Encourage the caregiver to comfort her or his baby during the procedure. Comforting reduces distress and makes it easier for the baby to regain calm after the procedure. Ask the caregiver to hold the infant securely so that the blood sample can be taken.
- Hold the child's foot, firmly puncture the site off-centre with a new sterile 2 mm lancet. A 2 mm lancet is the correct length to puncture safely without damaging bone. **Do not use a needle, scalpel or longer lancet.** The puncture should be with one continuous, deliberate motion at an angle (slightly less than 90 degrees).
- Allow a large blood drop to form and wipe it away with a dry sterile gauze pad. The first drop of blood may contain tissue fluids that could contaminate the specimen.
- Allow a second large blood drop to form.
- Holding the filter paper card by its edges, bring the card surface to the drop. **Lightly** touch the one circle on the filter paper card to this drop of blood, allowing the blood to soak through and completely fill the pre-printed circle by natural flow.
- Do not drag the infant's foot down to the filter paper card as this causes them to struggle and you may lose the drop of blood or spoil the card.
- Fill the circle completely but avoid layering blood. The blood should be drawn onto the filter paper card by capillary action, with **no contact** between the infant's foot and the paper. Apply blood to one side of filter paper card only. Each drop should permeate through to the other side of the card.
- Repeat this procedure, filling the remaining circles with successive drops of blood. Fill all circles if possible. If this is not possible collect enough blood to fill at least three circles on the filter paper card.

If blood flow diminishes, wipe away the congealed blood with a sterile gauze pad and gently massage or apply pressure to the whole lower leg and foot. It is important to avoid squeezing or "milking" the area directly around the puncture site. Milking the site may contaminate the blood specimen with tissue fluids, resulting in an invalid specimen. If the puncture is still not bleeding after applying pressure, a second puncture is required. The second puncture can be taken from the other foot or from a different safe part of the same foot (shown in Figure 6.1 and Appendix 6-D).

Filter paper cards are designed to absorb blood uniformly. Blotting or smearing the blood onto the paper, or placing a blood drop on top of another drop, damages the paper's absorption capacity and leads to inaccurate test results. It is therefore crucial that the blood be properly placed on the filter paper card.

Table 6.1: Summary of proper DBS specimen collection

- Apply blood to one side of the filter paper card only. Either side may be used for blood specimen collection.
- Do not press the filter paper card against the puncture site.
- Do not layer drops of blood on one circle or apply blood more than once in the same collection circle.
- Avoid touching the circles or smearing them.
- It is critical that entire circle be uniformly saturated.

Remember: It is better to complete three good circles than five incomplete ones!

Step 8: Apply gauze to puncture site and place filter paper card for drying

When at least three, but preferably five, of the circles have been filled, wipe excess blood from the infant's foot and apply gentle pressure to the wound with gauze pad, discarding gauze in a bin after use. Place the filter paper card in a drying rack or place it flat on a clean dry surface.

Step 9: Complete documentation

After the specimen collection is completed, record the test in the infant's *Under-Five Card* and medical record. Remind caregivers to:

- Return to the clinic to receive their child's test result. Make an appointment for the delivery of the results and post-test counselling. If the child is hospitalised, an appointment should be given upon discharge for children whose test results were not received during the hospital stay.
- Promptly bring the child in for care if there are any signs of illness.

The test result will be recorded in the *General Counselling and Testing Register* when the result is received.

See Appendices 6-E and 6-F for forms on which to document information.

Step 10: Dry the DBS specimens

Filter paper cards with DBS specimens should be put in a drying rack or placed flat on a clean, dry, non-absorbent surface and allowed to air dry for **at least three hours** at room temperature. They should be placed away from direct heat and sunlight.

It is important that the filter paper cards be completely dry before storage and transportation.

- The filter paper card should not be dried near an open window because they need to be kept away from dust and insects, as well as direct sunlight, while drying.
- The filter paper cards should not be heated, stacked or allowed to touch one another or other surfaces during the drying process. Keep *DNA PCR Laboratory Requisition Forms* with drying filter paper cards.

Step 11: Pack the filter paper cards for storage and shipment

Packages used to store filter paper cards must keep the specimens as dry as possible, particularly since humid conditions will accelerate degradation of the specimen. Once filter paper cards are completely dry, they should be stored according to the following steps:

Stack dry DBS cards

- Place a sheet of glassine paper between dry filter paper cards to prevent the specimens touching each other and becoming cross-contaminated.
- Fold the ends of the glassine paper over each of the cards.

Place cards into sealable plastic bags

- The bags used for storage must be made of heavy-duty plastic and sealable to prevent moisture from entering.
- The number of filter paper cards that can fit into a bag will depend on the size of the bag used. Up to five filter paper cards can be put into one of the standard bags supplied by the programme. The bag used should be just the right size to hold the cards. Bags that are too big allow the cards to move around inside risking cross-contamination.

Add desiccant packets and humidity cards to the bag and seal

- Into each bag, put at least one desiccant packet per filter paper card. Desiccant packets are used to keep specimens dry.
- Into each standard-sized bag put one humidity indicator card. Humidity cards are used to monitor the amount of moisture in the bag and let healthcare workers know when desiccant packets need to be replaced. These cards have moisture sensitive spots that change from blue (dry) to pink (damp) depending on the presence of moisture in the air.
- It is important to put at least the equivalent number of desiccant packets as filter paper cards in each bag, e.g., if there are seven filter paper cards in a bag, at least seven desiccant packets should be placed in that bag along with one humidity indicator card.
- Remove air from the bag and seal.

Since the standard bags used for the programme are already packed with desiccant packets and a humidity card, desiccant packets and humidity cards are generally not reused. However, if necessary, desiccant packets and humidity cards can be refreshed:

- If humidity card is pink at the 30% level, recharge card.

- Recharge desiccant packets together with humidity card by placing desiccant packets and humidity card in standard, clean microwave oven and heat on high for bursts of 10 seconds until cards turn blue. Cool for five minutes and return to sealable plastic bag immediately.
- Alternatively, recharge card and desiccant pack by heating at 50-60˚C for 3-4 hours in a drying oven. Cool 10 minutes and then return to a sealable plastic bag immediately.
- If a drying oven is not available, place humidity cards and an excess number of desiccant packets in the sealable bag and return to laboratory.

Complete *Specimen Delivery Checklist*

1. Ensure Patient ID was filled in as samples were collected.
2. Check off boxes under "Specimen sent" when samples are dispatched. Confirm that all specimens are also recorded in the clinic or ward logbook.
3. Sign the bottom of the form once completed.

Store DBS specimens

Packaged filter paper cards should be kept cool and dry until they can be sent to the district laboratory for DNA PCR testing. It is not necessary to refrigerate specimens; if they are refrigerated, care should be taken to avoid placing them in a malfunctioning refrigerator where water may drip on them.

Ship DBS specimens

When filter paper cards are ready to be shipped, use the *Specimen Delivery Checklist* to verify that each specimen has a *DNA PCR Test — Laboratory Requisition Form*.

Place the plastic bag of filter paper cards, the laboratory requisition forms related to each specimen and the *Specimen Delivery Checklist* into a large, strong envelope. The outside of the envelope should be clearly labelled as follows:

- "Infant Specimens"
- Facility name (if laboratory is not on site)
- Date sent to laboratory

Seal the envelope, taking care not to staple the filter paper cards. It is preferable to get specimens to the lab within a day or two of collection. When specimens are being transported by vehicle, ensure they are not left in a vehicle because sun and heat will cause them to deteriorate.

Where to send specimens

Filter paper cards should be sent to laboratories in the same way CD4 specimens are currently sent. Specimens should first be sent to the district

laboratory. The district laboratory will send specimens to the central laboratory. Results will be returned to the district laboratory from where they will be distributed to the facilities.

Valid and Invalid DBS Specimens

Incorrectly collected specimens can result in either erroneous laboratory results or delays due to the need for a new blood specimen.

Characteristics of valid DBS specimens (see Table 6.2 and Appendix 6-D)

- Filter paper card circles have not been contaminated by dirt or other foreign substances.
- Blood spots completely fill all of the pre-printed circles and have been applied evenly on only one side of the filter paper card, without layering or clots.
- All information is readable and accurately recorded on the *DNA PCR Test — Laboratory Requisition Form* and on the filter paper card. REMEMBER — labelling errors are the most frequent source of errors in DNA PCR testing, so take the necessary time and care.
- The specimens have been dried for at least three hours away from direct heat and sunlight on a flat surface that will not absorb the blood.

Table 6.2: Examples of a valid specimen

Picture	Description
	■ Circles are completely filled. ■ The card has been labelled with appropriate identification. ■ Blood is soaked through to the other side of the card.

Characteristics of invalid DBS specimens (see Table 6.3)

The most common practices that invalidate specimens are:

- Filling out filter paper cards and requisition forms improperly or incorrectly.
- Not enough blood for testing.
- Specimen appears scratched or abraded.
- Drying the specimens improperly or placing DBS cards in bags before they are completely dry (specimen appears bright red on the filter paper card).
- Oversaturated specimens.

- Specimen appears clotted or layered (putting multiple drops).
- Applying blood to both sides of filter paper card.
- Specimen is haemolysed, discoloured or contaminated.
- Specimen exhibits serum rings, serum has separated from cells.
- Collecting blood so that it does not go through paper completely.

Table 6.3 depicts the most common types of invalid DBS specimens that healthcare workers should avoid.

Table 6.3: Examples of invalid DBS specimens

Picture	Problem and possible causes
	**Problem** Not enough blood for testing **Possible causes** ▪ Removing filter paper card before blood had completely filled circle or before blood has soaked through to the other side ▪ Applying blood to filter paper card with a capillary tube ▪ The filter paper card coming in contact with gloved or ungloved hands or substances, such as hand lotion or powder
	**Problem** Specimen appears scratched or abraded. **Possible causes** ▪ Applying blood with a capillary tube or other device
	**Problem** Specimen is bright red. ▪ Not drying specimen fully
	**Problem** Specimen is too saturated. **Possible causes** ▪ Soaking both sides of the filter paper card ▪ Applying blood with a syringe
	**Problem** Specimen appears clotted or layered. **Possible causes** ▪ Layering one blood drop on top

Picture	Problem and possible causes
	of another ■ Filling circle on both sides of filter paper card
	**Problem** Specimen is haemolysed, discoloured or contaminated. **Possible causes** ■ Squeezing or "milking" the area surrounding the puncture site ■ Allowing filter paper card to come in contact with glove or ungloved hands ■ Exposing blood spots to direct heat
	**Problem** Specimen exhibits serum rings, serum has separated from cells. **Possible causes** ■ Not allowing alcohol to dry at puncture site before making skin puncture ■ Allowing filter paper card to come in contact with alcohol, hand lotion, etc. ■ Milking or excessive squeezing of the area surrounding puncture site ■ Drying specimen improperly ■ Applying blood to filter paper card with a capillary tube

Exercise 1: DBS specimen collection practice	
Purpose	To practise DBS specimen collection, drying and packing techniques
Introduction	This exercise is a return demonstration. First, the trainers will demonstrate the correct DBS specimen collection, drying and packing technique and then participants will break into pairs to "return" the demonstration. The following procedure will be followed for this exercise: ▪ One person in each pair will play the role of the caregiver with a child and the other the role of the healthcare worker. ▪ The person playing the role of the healthcare worker should go through all of the steps in DBS specimen collection, including filling in the required forms. ▪ Once this process is completed, the participants should switch roles and repeat the process using a second, clean set of supplies. ▪ Once all of the participants have had a chance to practise both roles and all of the materials have been properly disposed of, the large group will reconvene. Refer to Appendix 6-A and 6-D in the Participant Manual for reference.

Receiving DNA PCR results

Receiving HIV test results: When results return from the laboratory, they should be recorded in the *General Counselling and Testing Register* as soon as possible. The DNA PCR test result is always given as part of the HIV post-test counselling session, which also includes information about safer infant feeding (see Module 5).

If the scheduled follow-up date is several weeks away, a healthcare worker should attempt to contact the caregivers of children testing positive by DNA PCR and ask them to come to the clinic at their earliest convenience. Although all children and caregivers must be encouraged to return for results and for post-test counselling, return of those who test DNA PCR-positive should be expedited to facilitate referral into care, treatment and support. Because HIV can progress rapidly in infants and children, delaying ART even a few weeks can make a difference to an infant's chances of survival.

Indeterminate results: If the lab requests another specimen because of an inconclusive test result, find out the reason for the request, i.e., if the test was borderline or if the specimen was collected incorrectly. Contact parents or caregivers and ask them to return with their child for re-testing.

Explain the reason for the repeat test, reassure them of the benefits of early HIV testing and make an appointment for the return visit. CTX should be continued for infants or children with indeterminate results and parents or caregivers should continue to receive counselling on safer infant feeding.

Follow-up care: Children who test DNA PCR-negative should be counselled and encouraged to return to the health facility for all routine immunisation visits and three months after complete cessation of breastfeeding for final determination of infection status.

Update *Under-Five Card* and ***General Counselling*** **and *Testing Register:*** Enter the HIV test result on the infant's *Under-Five Card*. After the session, enter the post-test counselling date in the *General Counselling and Testing Register* and document the result in the medical record.

Also refer to the testing algorithms in Chapter 4 of the National Paediatric PITC Guidelines.

Module 6: Key Points

- When taking a blood sample for any paediatric diagnostic test, in this case HIV antibody or HIV DNA PCR, the location of the puncture site (heel, toe or finger) is determined by the age and weight of the child.
- The first line HIV rapid antibody test is the Determine antibody test. A positive test result will indicate HIV-exposure in children less than 18 months of age. A child in this age group with a positive test requires testing with DNA PCR to determine HIV infection status.
- For children 18 months or older, a positive HIV antibody test result will necessitate confirmatory testing with the Uni-Gold antibody test. The third line test, used as the tie-breaker, is Bioline.
- DNA PCR allows the diagnosis of HIV in infants as young as four weeks of age, making possible the provision of life-saving care and treatment as soon as possible.
- DNA PCR testing is widely available across the country due to a process referred to as DBS testing. The advantages of using DBS include:
  - Specimen collection is easier and requires less training.
  - Specimens have a longer lifespan, are stable and therefore easier to transport and store making possible centralised testing.
  - Because specimens are dried, they pose little biohazard risk.
- Proper collection, documentation, drying, and storage of DBS specimens are key to ensuring that the specimen can be analysed; mislabelling specimens is the most common error reported with DNA PCR testing.
- It is important to track receipt of DNA PCR test results.
- Post-test counselling is required for all test results, whether positive or negative.

Appendix 6-A How to Conduct a Finger-Prick Blood Draw

Always use universal precautions

April 2004

World Health Organization

1. Collect supplies.

2. Position hand palm-side up. Choose whichever finger is least calloused.

3. Apply intermittent pressure to the finger to help the blood to flow.

4. Clean the fingertip with alcohol. Start in the middle and work outward to prevent contaminating the area. Allow the area to dry.

5. Hold the finger and firmly place a new sterile lancet off-centre on the fingertip.

6. Firmly press the lancet to puncture the fingertip.

7. Wipe away the first drop of blood with a sterile gauze pad or cotton ball.

8. Collect the specimen. Blood may flow best if the finger is held lower than the elbow.

9. Apply a gauze pad or cotton ball to the puncture site until the bleeding stops.

10. Properly dispose of all contaminated supplies.

Appendix 6-B How to Conduct Uni-Gold Recombigen® HIV Rapid Antibody Test

Step 1: Collect supplies

Supplies for conducting a finger prick
- Sterile lancets (2 mm long)
- Sterile gauze pads or cotton wool
- Alcohol wipes or disinfectant for skin (70% spirit)

Supplies for paperwork
- Pen
- *General Counselling and Testing Register*, *Under-Five Card*

Safety supplies
- Gloves (powder-free preferred)
- Rubbish bin
- Sharps container

Testing items
- One Uni-Gold™ test device (There are 20 individually pouched test devices per test kit.)
- One disposable pipette (There are 20 pipettes per test kit.)
- Wash solution (5.0 ml)
- Timer or stopwatch

Step 2: Use universal precautions

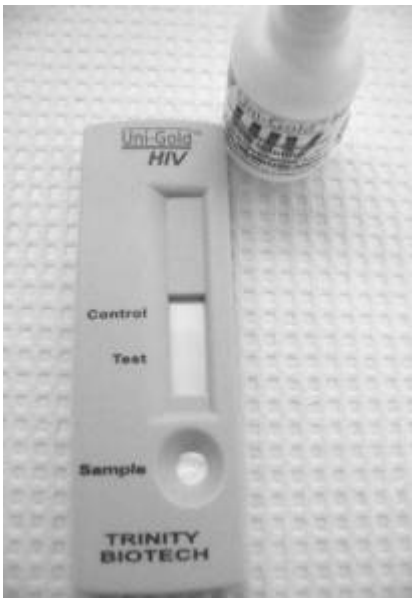
Always use universal precautions when collecting blood specimens. These include:
- Treat all blood specimens as if they are infectious.
- Wash hands and dry them thoroughly before performing procedures.
- Put on gloves before coming in contact with blood and other body fluids or items that may be contaminated with blood or body fluids.
- Take precautions to avoid needle injury and handle all sharps with extreme care.
- Wash hands immediately after removing gloves.
- Promptly clean up any spills of infective material with a disinfectant such as a 0.5% dilution of household chlorine bleach[3].
- Dispose of contaminated sharps and waste appropriately.
- In the event of a sharps injury, follow the protocol at the facility for post-exposure prophylaxis.

[3] A 0.5% solution of household chlorine bleach can be made by mixing 6 parts water to 1 part 3.5% chlorine bleach. A "part" is any unit of measure (e.g., teaspoon, cup, litre or anything else).

Step 3: Check and prepare test items

Always check the test device before using to ensure the items have not expired or been damaged. Allow the test device and wash solution to reach room temperature (15-27°C) for at least 20 minutes before use. Use one test device per test. Label the test device with the client identification number.

Pull off the protective foil cover and lay the device on a clean flat surface.



Step 4: Choose the puncture site

Once the test device is ready, the healthcare worker can take the blood sample. The next step is to choose the puncture site.

The puncture site will depend on the age and weight of the child.

- **Small infants ≤9 kg: *prick the heel*.** The heel is the only suitable puncture site for very young or very small infants because there is a risk of hitting the bone when puncturing fingers or the toes. Heel puncture should be performed on the plantar surface of the heel, beyond the lateral and medial limits of the heel bone. The suitable areas are marked by the grey shaded areas in the Figure 6.1. Choose the lowest point in recommended area. The back of the heel and the Achilles tendon are **not** suitable sites and should not be punctured.
- **Children >9 kg: *prick the big toe*.** Fingers and small toes should still be avoided because of the risk of hitting bone.
- **Children over 2 years old: *prick the finger*.** The best finger is the ring (fourth) finger on the left hand as this finger is typically the least used by the child. Select the lateral side of the fingertip. Do not stick the very end of the finger where the bone is close to the skin. The thumb is not recommended because it is the most painful. Refer to Appendix 6-A.

Step 5: Demonstrate to caregiver how to hold the child for the procedure

- Children less than two years of age: ask the caregiver to sit holding the baby in an upright position against her or his chest (as shown in photo to right and in Appendix 6-D). Position the infant with her or his foot hanging downward. This will increase venous pressure and will help the blood flow more easily.
- Children two years old or greater: the child may sit on her or his own or on the caregiver's lap. Have the child rest her or his hand on a horizontal surface such as counter, table or desk.
- Ask the caregiver to hold the child securely so that the blood sample can be taken.

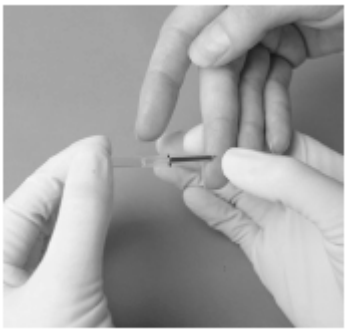
Step 6: Prepare the puncture site

- If the child's finger or foot is not clean it should be washed with soap and clean water.
- Warm the site to increase blood supply. The parent or caregiver can do this by holding the child's hand and rubbing gently.
- Wash hands and put on powder-free gloves. If powdered gloves are being used, rinse glove-covered hands after putting them on to remove the powder.
- Clean the child's fingertip (or foot) with alcohol. Start in the middle and work outward to prevent contaminating the area. Allow the area to dry.

Step 7: Collect the specimen

- Encourage the caregiver to comfort the child during the procedure, if needed. In younger children, comforting reduces distress and makes it easier for the child to be calm. For infants and very young children, ask the caregiver to hold the child securely so that the blood sample can be taken.
- Hold the child's finger, toe or heel; firmly puncture the site off-centre with a new sterile 2 mm lancet. A 2 mm lancet is the correct length to puncture safely without damaging bone. **Do not use a needle, scalpel or longer lancet.** The puncture should be with one continuous, deliberate motion at an angle (slightly less than 90 degrees).

- Allow a large blood drop to form and wipe it away with a dry, sterile gauze pad. The first drop of blood may contain tissue fluids that could contaminate the specimen.
- Allow a second, large blood drop to form. Blood may flow best if the finger is held lower than the elbow.

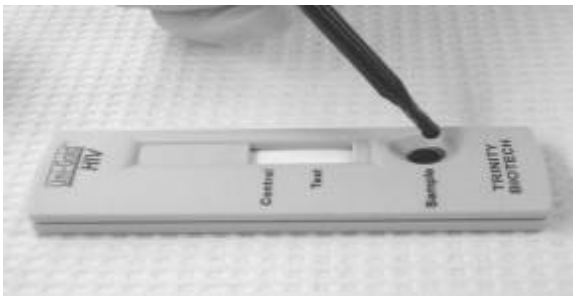


- Hold the disposable pipette provided in the test kit gently in a horizontal position to collect the sample. This is important, as the specimen may not be adequately drawn in the pipette if the pipette is held in a vertical position.
- Place the tip of the pipette into the sample, taking care not to squeeze the bulb. Maintain this position until the flow of sample into the pipette has stopped. The sample should fill to the mark on the pipette.
- If the sample is not collected to the mark, the pipette should be discarded and another specimen should be collected from another finger by repeating the sample collection process.
- Apply a gauze pad to the puncture site until the bleeding stops.
- Discard gauze in a bin and lancet in sharps container after use.

Pipette and mark for sample

Step 8: Transfer specimen to test device

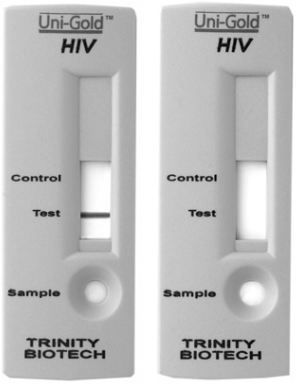
- Squeeze the pipette bulb until the blood sample is fully discharged onto the test device sample port. Should the blood sample not fully discharge from the pipette, cover the small opening at the mark on the pipette with gloved fingers then squeeze the bulb again. Squeeze the bulb until the blood sample is fully discharged.
- Allow the blood sample to absorb into the paper in the sample port.
- Ensure air bubbles are not introduced into the sample port.
- Discard pipette in sharps container and gloves in bin after use.



Step 9: Add wash solution wait for test result

- Add four drops of wash solution to the sample port.
- Wait 10 minutes and then read the test result. Do not wait more than 12 minutes to read the results. If the test is not read between 10-12 minutes repeat the test on new test device.

Step 10: Read the results



- Check if test results are valid. For a test result to be valid the sample port must contain red color AND a control line must also be present. If no red color is seen in the sample port OR there is no control line, repeat the test with a fresh test device.
- The photo to the right shows an invalid result.

- The test is negative if (see photo to right):
  1. A line of any intensity appears in the device window adjacent to the word "Control" AND
  2. A full red colour appears in the sample port, BUT
  3. No line appears in the device window adjacent to the word "Test".

- The test is positive if these three conditions are met (see photo to right):
  1. A line of any intensity appears in the test device window next to the word "Test" AND
  2. A second line of any intensity appears adjacent to the word "Control" AND
  3. A full red colour appears in the sample port.

Step 11: Record the results

- Record the test results and other pertinent information on the child's *Under-Five Card*, the *General Counselling and Testing Register* and in the patient file. If testing the mother, record results on the *Mother's Card,* the *General Counselling and Testing Register* and the medical record (mother and child).
- Discard supplies, following universal precautions.

Appendix 6-C How to Conduct Bioline HIV - 1/2 Rapid Antibody Test for Confirmatory Testing[2]

Step 1: Collect supplies

Supplies for performing finger or heel prick

- Sterile lancets (2 mm long)
- Sterile gauze pads or cotton wool
- Alcohol wipes or disinfectant for skin (70% spirit)

Supplies for paperwork

- Pen
- *General Counselling and Testing Register*

Safety supplies

- Gloves (powder-free preferred)
- Rubbish bin
- Sharps container

Testing items

- One Bioline HIV-1/2 3.0 test device, which contains the following items to conduct the assay (there are 30 devices per test kit):
  - Test device in individual foil pouch with a desiccant
  - Assay diluents
  - 20ml capillary pipettes*
  - Lancets*
  - Package insert

  *Capillary pipettes and lancets will need to be purchased separately if not included.
- Timer or stopwatch

Step 2: Use universal precautions

Always use universal precautions when collecting blood specimens. These include:

- Treat all blood specimens as if they are infectious.
- Wash hands and dry them thoroughly before performing procedures.
- Put on gloves before coming in contact with blood and other body fluids or items that may be contaminated with blood or body fluids.
- Take precautions to avoid needle injury and handle all sharps with extreme care.
- Wash hands immediately after removing gloves.
- Promptly clean up any spills of infective material with a disinfectant such as a 0.5% dilution of household chlorine bleach[4].
- Dispose of contaminated sharps and waste appropriately.
- In the event of a sharps injury, follow the protocol at the facility for post-exposure prophylaxis.

Step 3: Check and prepare test items

- Always check the test device before using to ensure the items have not expired or been damaged.
- Bring assay diluent and test devices to the correct temperature (leave three hours at room temperature (18°-25°C), or for 15 minutes at 37°C). Do not refrigerate or freeze the test kit.
- Use one test device per test.
- Remove the test device from the foil pouch.

Step 4: Choose the puncture site

Once the test device has been prepared, the healthcare worker is ready to take the blood sample. The next step is to choose the puncture site.

Infants up to two years old

- **Small infants ≤9 kg: prick the heel.** The heel is the only suitable puncture site for very young or very small infants because there is a risk of hitting the bone when puncturing fingers or the toes. Heel puncture should be performed on the plantar surface of the heel, beyond the lateral and medial limits of the heel bone (See Figure 6.1 and Appendix 6-D). Choose the lowest point in recommended area. The back of the heel and the Achilles tendon are **not** suitable sites and should not be punctured.
- **Larger infants >9 kg: prick the heel or lateral aspect of the big toe.** Fingers and small toes should still be avoided because of the risk of hitting bone.

Children two years old or greater

- Position the child's hand palm-side up.
- The best finger to use is the ring (fourth) finger on the left hand as this finger is typically the least used by the infant. The side of the finger is

[4] A 0.5% solution of household chlorine bleach can be made by mixing 6 parts water to 1 part 3.5% chlorine bleach. A "part" is any unit of measure (e.g., teaspoon, cup, litre or anything else).

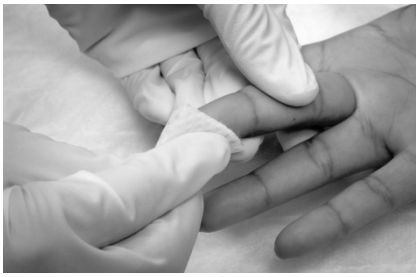
generally less sensitive than the tip of the finger. Do not stick the very end of the finger where the bone is close to the skin. The thumb is not recommended because it is the most painful. Refer to Appendix 6-A.

Step 5: Demonstrate to caregiver how to hold the child for the procedure

- Children less than two years of age: ask the caregiver to sit holding the baby in an upright position against her or his chest (as shown in photo to right and in Appendix 6-D). Position the infant with her or his foot hanging downward. This will increase venous pressure and will help the blood flow more easily.
- Children two years old or greater: the child may sit on her or his own or on the caregiver's lap. Have the child rest her or his hand on a horizontal surface such as counter, table or desk.
- Ask the caregiver to hold the child securely so that the blood sample can be taken.

Step 6: Prepare the puncture site

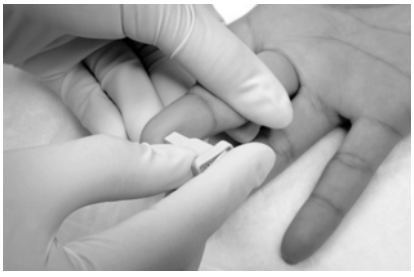
- If the child's finger or foot is not clean it should be washed with soap and clean water.
- Warm the site to increase blood supply. The parent or caregiver can do this by holding the child's hand or foot and rubbing gently.



- Wash hands and put on powder-free gloves. If powdered gloves are being used, rinse glove-covered hands after putting them on to remove the powder.
- Clean the child's fingertip (or foot) with alcohol. Start in the middle and work outward to prevent contaminating the area. Allow the area to dry.

Step 7: Collect the specimen

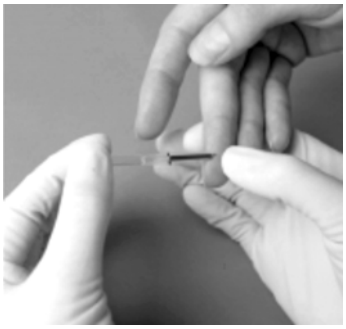
- Encourage the caregiver to comfort her or his child during the procedure. Comforting reduces distress and makes it easier for the child to remain calm after the procedure. Ask the caregiver to hold the child securely so that the blood sample can be taken.



- Hold the child's finger or foot; firmly puncture the site off-centre with a new sterile 2 mm lancet. A 2 mm lancet is the

correct length to puncture safely without damaging bone. **Do not use a needle, scalpel or longer lancet.** The puncture should be with one continuous, deliberate motion at an angle (slightly less than 90 degrees).

- Allow a large blood drop to form and wipe it away with dry, sterile gauze. The first drop of blood may contain tissue fluids that could contaminate the specimen.
- Allow a second, large blood drop to form. Blood may flow best if the finger is held lower than the elbow or, if collecting from the heel or toe, the child should be held upright with the foot hanging down.



- Hold the disposable pipette gently in a horizontal position to collect the sample. This is important as the specimen may not be adequately drawn in the pipette if the pipette is held in a vertical position.
- Place the tip of the pipette into the sample, taking care not to squeeze the bulb. Maintain this position until the flow of sample into the pipette has stopped. The sample should fill to the mark on the pipette, 20ml. If the sample is not collected to the mark, the pipette should be discarded and another specimen should be collected from another finger by repeating the sample collection process.
- Apply a gauze pad to the puncture site until the bleeding stops.
- Discard gauze in a bin and lancet in sharps container after use.

Step 8: Conduct the test

Conducting the test procedure involves five steps.

- Using the pipette, add 20ml of drawn blood specimen into the sample well.
- Add EXACTLY **FOUR** drops of assay diluent into sample well.

- As the test begins to work, you will see purple colour move across the result window in the centre of the test device.
- Interpret results in 5-20 minutes.
- Negative results should be finally interpreted at 20 minutes. Do NOT read results after 20 minutes, as reading too late can give false results.

Pipette and mark for sample

Step 9: Read and record the results

Check if test results are valid:

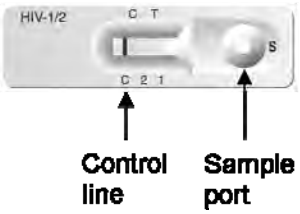
- For a test result to be valid an internal control line (the line furthest to the left) should appear on the device.

Invalid result

- The absence of the control line (C) within the result window indicates an invalid result. The directions may not have been properly followed or the test may have deteriorated. It is recommended that the specimen be re-tested using a new test device.
- The photo to the right shows an invalid result.

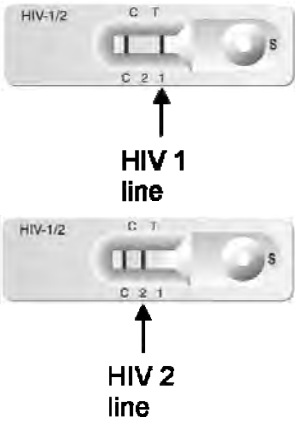
Negative result (see photo to right)

- The presence of only the control line (C) within the result window indicates a negative result.



Positive result (see photo to right)

- The presence of two lines — control line (C) and the test line 1 — within the result window indicates a positive result for HIV-1.
- The presence of two lines — control line (C) and test line 2 — within the result window indicates a positive result for HIV-2.
- The presence of three lines — control line (C), test line 1and test line 2 — within the result window indicates a positive result for HIV-1 and/or HIV-2.
  - If the colour intensity of the test line 1 is darker than one of test line 2 in the result window, you can interpret the result as HIV-1 positive.
  - If the colour intensity of the test line 2 is darker than the one of test line1 in the result window, you can interpret the result as HIV-2 positive.



Record test results:

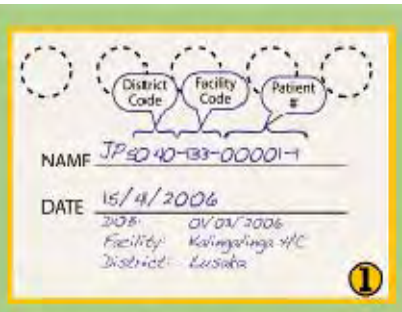
- Record the test results and other pertinent information in the *General Counselling and Testing Register, Under-Five Card* and all other appropriate forms.

Appendix 6-D DBS Collection, Storing, Drying and Packaging

Steps 1–4 (Panel 1 of Dried Blood Spot Collection Poster*)

1. Fill out appropriate forms.

- Fill out DNA PCR Laboratory Requisition Form. Keep a copy for your records.



- Fill out the filter paper card as shown.
- Do not touch or spill anything on the filter paper.

2. Choose the puncture site; warm the site.

- In small infants (≤ 9 kg) use the heel.
- In larger infants (>9 kg) use the heel or use the lateral aspect of the big toe.
- Warm the puncture site with your hand.

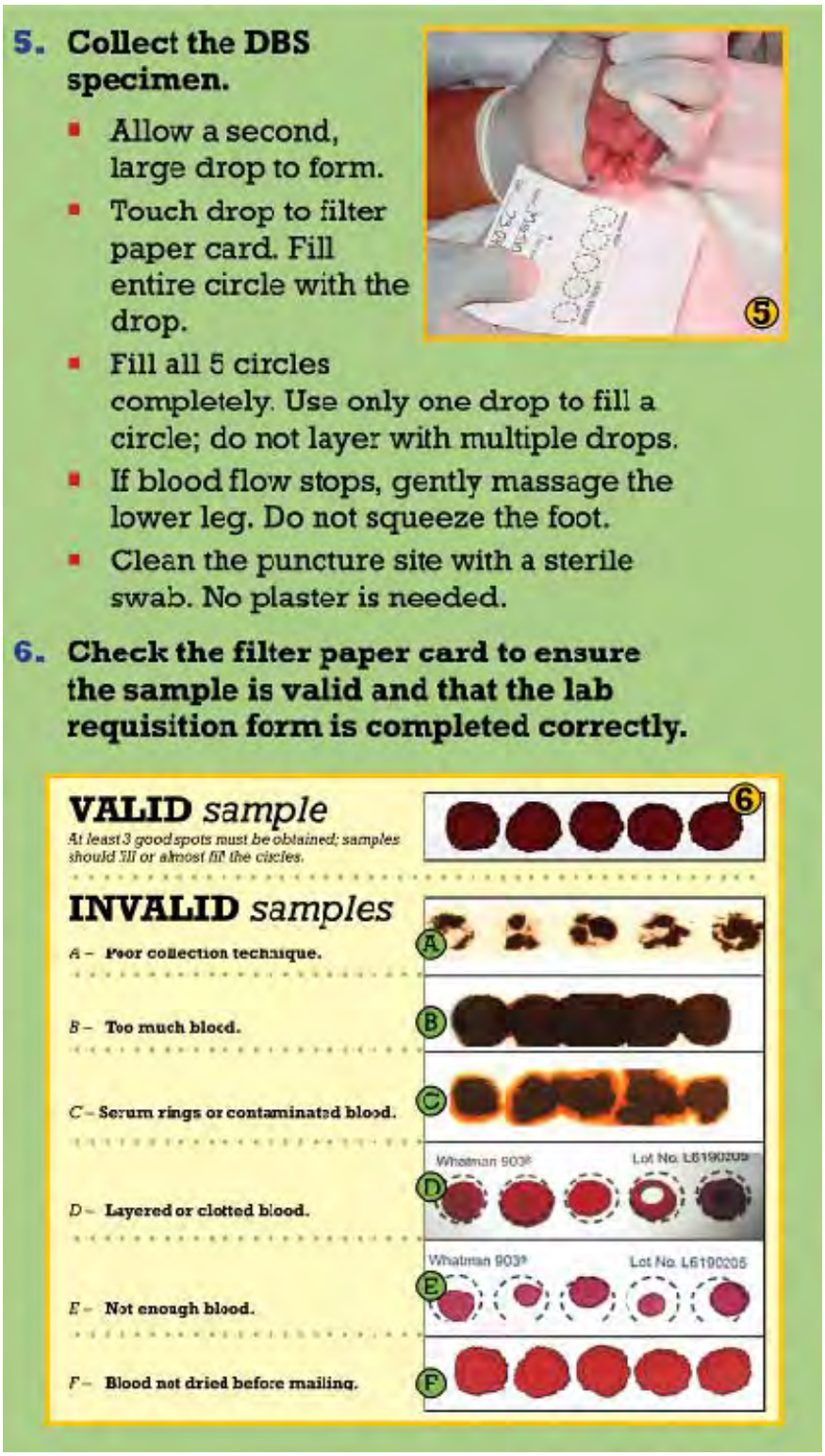
3. Have the caregiver hold the child with the foot down and the heel outward.

4. Puncture the site.

- Use Universal Precautions.
- Clean the puncture site with alcohol swab. Let dry for 30 seconds.
- Press lancet to prick the skin.
- Wipe away the first drop of blood.

* Please note that steps on the poster are a summary of the steps detailed in this module and therefore step numbers may not be the same.

Steps 5–6 (Panel 2 of Dried Blood Spot Collection Poster*)



* Please note that steps on the poster are a summary of the steps detailed in this module and therefore step numbers may not be the same.

Steps 7–9 (Panel 3 of Dried Blood Spot Collection Poster*)

7. Air dry the specimen for at least 3 hours.

- Keep away from direct sunlight, dust and insects.
- Do not heat, stack or allow DBS specimen to touch anything while drying.
- Keep the lab requisition form near the filter paper card.
- Dry completely before packaging.

8. Stack dry filter paper cards between sheets of glassine paper and insert into sealable plastic bag.

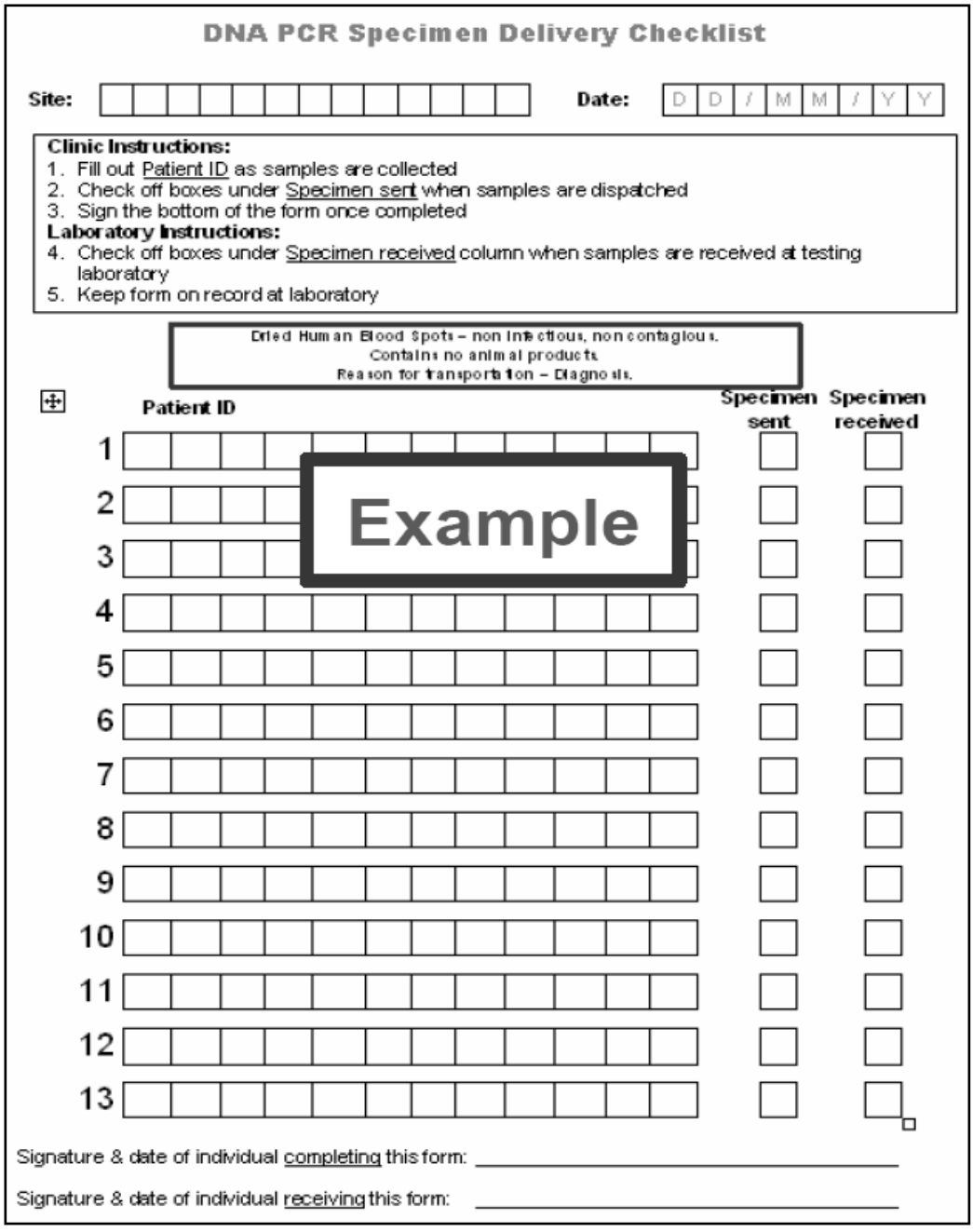
- Add at least one desiccant packet for each card.
- Add humidity indicator card.
- Remove air and seal plastic bag.

9. Prepare samples and documentation for transport.

- Fill in Specimen Delivery Checklist. Keep a copy for your records.
- Confirm that all specimens are recorded in the clinic or ward logbook.
- Insert plastic bag and lab requisition form into envelope.
- Insert Specimen Delivery Checklist.
- Seal envelope.
- Clearly label envelope "Infant Specimens".
- Send to designated laboratory.

* Please note that steps on the poster are a summary of the steps detailed in this module and therefore step numbers may not be the same.

Appendix 6-E DNA PCR Specimen Delivery Checklist and DNA PCR Laboratory Requisition Form



DNA PCR Specimen Delivery Checklist

Site: | | | | | | | | | | | | | | Date: D D / M M / Y Y

Clinic Instructions:
1. Fill out Patient ID as samples are collected
2. Check off boxes under Specimen sent when samples are dispatched
3. Sign the bottom of the form once completed

Laboratory Instructions:
4. Check off boxes under Specimen received column when samples are received at testing laboratory
5. Keep form on record at laboratory

Dried Human Blood Spots – non infectious, non contagious.
Contains no animal products.
Reason for transportation – Diagnosis.

	Patient ID	Specimen sent	Specimen received
1	Example		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

Signature & date of individual completing this form: _____

Signature & date of individual receiving this form: _____

White Copy and Blue Copy – to the referral laboratory
Pink Copy – to be retained by the requesting site

Republic of Zambia
Ministry of Health

DNA PCR Test - Laboratory Requisition Form

Province _____ District _____

Facility _____ Ward _____

Patient ID No. _____ Patient Name _____ Age _____ Sex _____

Mother's ID No. _____ Patient Caretaker's Phone No. _____

Patient Caretaker's Address _____

Requesting Officer _____

Referral Lab for Sample *(Tick one)* ☐ Arthur Davison ☐ Kalingalinga ☐ UTH ☐ Other_____

Please also provide the information requested below (Tick as appropriate)

1	Child's HIV Rapid Test Result	☐ Reactive	☐ Non Reactive	☐ Indeterminate	☐ Unknown
	Mother's HIV Status	☐ Positive	☐ Negative	☐ Unknown	
2	PMTCT Intervention Given to Mother	☐ Yes	☐ No		
3	PMTCT Intervention Given to Child	☐ Yes	☐ No		
4	Infant Still Breastfeeding	☐ Yes	☐ No	*If no, weeks since cessation* ____	☐ Never breastfed
5	PCR Test Performed on Child Before	☐ Yes	☐ No	*If yes, date PCR test done* _____	

Sample Collected By:

Name _____ Designation _____

Signature _____ Date Collected ____ / ____ / ____

FOR LABORATORY USE ONLY

Patient Laboratory No. _____ Date Test Received at Lab ____ / ____ / ____

Date Test Performed ____ / ____ / ____

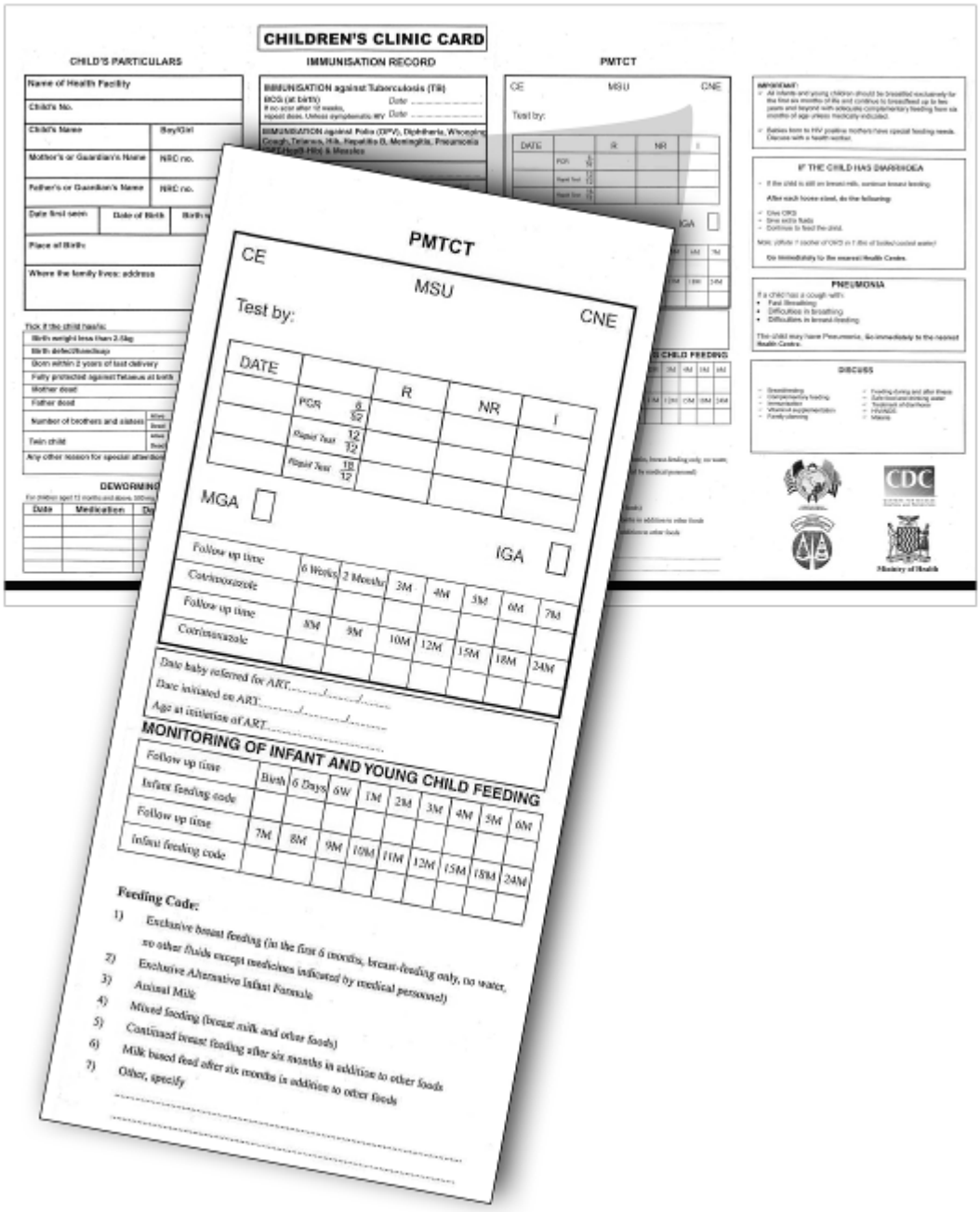
PCR LABORATORY RESULTS *(Tick as appropriate)* ☐ Detected ☐ Not Detected ☐ Sample Rejected

Signed _____ Counter Signed _____

Comments *(including reason for rejection, if applicable)* _____

Note: The form must be completely filled in and data on this form must tally with that on the DBS sample card in order for the sample to be worked on.

Appendix 6-F Documentation of Rapid Testing in the Under-Five Card



References and Resources

Republic of Zambia Ministry of Health. (2009). Dried Blood Spot Collection Technique (Poster).

Republic of Zambia Ministry of Health. (2007). Dried Blood Spot for DNA PCR Testing Health Facility Handbook, 1st edition.

Republic of Zambia Ministry of Health. (2009). National Guidelines for Paediatric Provider-initiated HIV Testing and Counselling.

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1 Inverness Medical. Determine HIV-1/2. Package Insert available at: http://www.determinetest.com/downloads.aspx

2 Standard Diagnostic, Inc. 2008. "SD BIOLINE HIV-1/2 3.0" Package insert. http://standardia.com/default/product_en/download.asp?idx=15&strCategory1=01&strCategory2=01&strFileName=03FK10_HIV(D)%20CE%20Inser.pdf&strProductName=Anti-HIV-1/2%20&strFile=PackageInsert

Module 7 Ongoing Care, Treatment and Supportive Counselling for the Child and Family

Total Module Time: 180 minutes (3 hours)

Learning Objectives

After completing this module, participants will be able to:

- Understand the importance of linking mothers, caregivers and their children to HIV-related care, treatment and support.
- Understand the range of clinical care services needed for HIV-exposed and HIV-infected children, including ART, and provide referrals for these services.
- Understand the importance of ongoing psychosocial support, particularly in reference to adherence and disclosure.

Session 7.1: Clinical Care for HIV-exposed and HIV-infected Children

Session 7.2: Psychosocial Support and Counselling for Mothers, Caregivers and Children

Session 7.1 Clinical Care for HIV-exposed and HIV-infected Children

Session Objectives

After completing this session, participants will be able to:

- Understand the importance of linking mothers, caregivers and their children to HIV-related care, treatment and support.
- Understand the range of clinical care services needed for HIV-exposed and HIV-infected children, including ART, and provide referrals for these services.

Linking Caregivers, Children and Families to Comprehensive HIV Care and Treatment

Paediatric PITC does NOT end with the delivery of HIV test results. Post-test counselling and follow-up include guidance on the next steps and provision of, or referrals to, needed services, especially for children living with HIV and their caregivers. To consider paediatric testing programmes successful, HIV-exposed and HIV-infected children and their mothers must be linked to and enrolled in lifesaving care and treatment. The health of the child is closely linked to the health of the mother, on whom the child depends. Providing additional family members access to testing and care is also a priority. Without these linkages, paediatric PITC is incomplete.

Maximising Family Health and Well-being

Family-centred care ensures that the child, as well as her or his family, receives appropriate services that help preserve the integrity of the family. A family-centred approach will benefit families when there is open and honest exchange of information about the child's health status. Although the focus of paediatric PITC is on identifying children for care and treatment, healthcare workers should be alert to signs that the caregiver and other members of the family are also in need of healthcare services.

When linking families to comprehensive care and treatment, remember the importance of providing family-centred care:

- Family-centred care is the assessment of a child as a part of a family. Family members include those identified by the parent or other caregiver and may include blood relations, in-laws or friends or other household members.
- As the primary relationship, the mother-child bond is critical to the child's health. It is especially critical that the mother, upon whom the child is dependent for care, is enrolled into care and receiving the care and treatment she needs to maintain good health. If the mother (or other caregiver) is not well, the child's health will suffer.

- Family-centred care also refers to including family members in decisions about treatment, care and support — where this is the wish of the caregiver(s).

Services for the family might include providing testing and counselling services, referrals to care and treatment for HIV-infected family members, adherence preparation and support, preventive counselling, infant feeding counselling, psychosocial support and coordination of services and support interventions for the family. If appropriate services are not available at the facility, referrals should be made. If working within a multidisciplinary team, communicate with the other members of the team for a well-rounded perspective of the needs and care of the child.

Using Referral Forms

Referrals and follow-up are a critical component of ensuring that children and their families receive appropriate care. The healthcare worker should assess the patient's needs, plan the referral, assist patients to access services (for example, by helping the patient make the appointment and resolving transportation or other possible barriers to attendance), document the referral and follow up to ensure that the patient attends the appointment. If the patient does not attend appointments, barriers to access should be re-evaluated and support offered. Forms to assist with referral, follow-up and discontinuation of care are shown in Appendices 7-A through 7-C, respectively.

Healthcare workers should use a tracking form to check if children and families attend appointments to which they were referred. An example can be seen in Appendix 7-D: Sample Patient Tracking Log.

12 Key Components to Paediatric HIV Care

There are 12 key components to the comprehensive care of HIV-exposed and HIV-infected children. Some of the guidance will be relevant only for children living with HIV; however, the general management issues and provision of services will be applicable for both.

1. Monitor (and record) the child's growth
2. Monitor the child's development
3. Ensure that immunisations are started and completed according to the recommended schedule
4. Confirm HIV status as early as possible
5. Provide prophylaxis for opportunistic infections
6. Treat infections and other HIV-related conditions
7. Conduct disease staging
8. Initiate treatment with ART (if eligible)
9. Monitor ART and support adherence to care and treatment
10. Refer HIV-infected child (and caregiver/family) for needed services
11. Counsel the caregiver and family
12. Provide psychological and psychosocial support

Clinical Care for HIV-infected and HIV-exposed Children

The goals of care for the HIV-infected child are to promote health and prevent disease progression. This is best accomplished by integrating HIV services and primary healthcare, addressing the ordinary threats to the health and well-being of children while at the same time attending to the special circumstances of HIV exposure or infection. A multidisciplinary, family-centred model of care has been shown to be effective for engaging children and their families in the long-term care and management of HIV disease.

Care for HIV-infected and HIV-exposed children is centred around the three objectives listed below[i]:

1. *Identifying the HIV-infected child:* Virological testing will help distinguish which HIV-exposed children are HIV-infected.
2. *Preventing opportunistic infections:* All HIV-exposed children should receive prophylactic CTX to prevent Pneumocystis pneumonia (PCP); isoniazid preventive therapy can reduce the risk of tuberculosis.
3. *Maximising family health and well-being*: Enhanced healthcare services for children born to women living with HIV and their families can lead to improved health outcomes for both HIV-infected and HIV-exposed, as well as uninfected children.

Regular follow-up is the backbone to caring for HIV-exposed and HIV-infected children and ensures optimal healthcare and psychosocial support to the family. Children should be seen at the clinic monthly during the first 12 months of life. Because HIV disease progression can be very rapid during this time, a baby who appears well at two months may have many abnormal findings when examined a month later. Each visit should include a history, physical examination, the provision of CTX prophylaxis and an assessment and plan.

Key component areas:

1. Monitor (and Record) the Child's Growth

An adequate rate of growth is the hallmark of good nutritional status and good health in children; growth problems may be indicative of acute and/or chronic health problems. Growth faltering in the HIV-exposed child may indicate the child is HIV-infected. Growth faltering in a child known to be HIV-infected may indicate the need to initiate ART or failure of the regimen if the child is already on treatment. Nutritional interventions should be an integral part of the care of an HIV-exposed or -infected child. Children whose growth is faltering should also be targeted for nutritional assessment and appropriate interventions based on the growth monitoring information.

To ensure that any signs of growth faltering are caught at an early stage, children should be weighed at each visit. The weight should then be

plotted on the child's *Under-Five Card* which will allow healthcare workers to know if a child is growing normally or not. When evaluating a child's growth, it is important to look at the trend of the growth line over a period of months and years. Refer to Appendix 7-E for more information on growth monitoring.

For HIV-exposed infants, assess and counsel for safer infant feeding, as discussed in Module 3. Counselling about infant and young child feeding in this context is important not only to ensure the nutritional needs of the child are met and that food preparation is sanitary and safe, but also to minimise the risk of mother-to-child transmission of HIV. All women, whether HIV-negative or HIV-infected, should be encouraged to exclusively breastfeed for the first six months of life. After six months, complementary foods should be introduced. HIV-infected children should continue breastfeeding to the age of 24 months or beyond. Children who are HIV-uninfected (or who are HIV-exposed and their HIV-status has not yet been confirmed) should continue breastfeeding up to the age of 12 months and then weaned gradually (over a period of one month).

2. Monitor the Child's Development

Children with HIV are at greater risk of developmental abnormalities. Failure to reach developmental milestones or the loss of developmental milestones may be a first sign that a child is HIV-infected. In children known to be HIV-infected, developmental abnormalities may signal advancing HIV disease or an opportunistic infection. Early attention to developmental abnormalities is critical to avoiding permanent disability. Conduct standard developmental assessments regularly to recognise changes and problems early; children living with HIV who have developmental problems generally need immediate HIV treatment and evaluation for OIs. Refer to Appendix 7-F for more information.

3. Ensure that Immunisations are Started and Completed According to the Recommended Schedule

All HIV-exposed or -infected children should undergo the recommended immunisations according to the national EPI programme (see Appendix 7-G) with the following modifications:

- In cases where the child has not received BCG at birth, for example if the child was born with signs or symptoms of HIV infection, if the child's mother has sputum-positive TB at delivery, or if the baby was born at home, then BCG may be given as a catch-up vaccination. When considering BCG vaccination at a later age (re-vaccination for no scar or missed earlier vaccination), exclude those children with symptomatic HIV infection.
- Because of the increased risk of early and severe measles infection, HIV-exposed children who are not severely immunocompromised should receive a dose of standard measles vaccine at 6 months of age with a second dose as soon after the age of 9 months as possible.

However, children who are severely immunosuppressed (based on age-specific CD4 lymphocyte) due to HIV infection should not receive measles vaccine until immunological improvement is observed.

4. Confirm HIV Status as Early as Possible

As described throughout this training, children presenting for health services should be routinely offered an HIV test. This is also an opportunity to offer testing to mothers, caregivers and other family members including children. The earlier HIV exposure and HIV infection can be identified, the sooner healthcare workers can begin life-saving care and treatment. It should also be noted that for HIV-exposed children, HIV testing may be an ongoing process because of the continuing risk of MTCT through breastfeeding or the lack of access to DNA PCR testing.

5. Opportunistic Infection Prophylaxis

CTX prophylaxis has been shown to prevent *Pneumocystis* pneumonia (PCP), toxoplasmosis, possibly malaria and some causes of diarrhoea as well as other infections. PCP is a leading cause of death in HIV-infected children. PCP often strikes children between the ages of three and six months.

HIV-infected children and those whose HIV status have not yet been determined should be given CTX according to the guidelines in Appendix 7-H. Dapsone can be dispensed to children (older than one month of age) who are intolerant to CTX.

CTX prophylaxis should be initiated in:

- All HIV-exposed children starting at six weeks (or as soon as possible thereafter) until the child has been determined to not have HIV.
- All HIV-infected children less than 12 months old, regardless of CD4% or clinical status.
- All children between 12 months and four years old in WHO clinical stage 2, 3 or 4 regardless of CD4%.
- All children who have had an episode of PCP.

See Appendix 7-H for more information on CTX eligibility and dosing.

6. Treat Infections and other HIV-Related Conditions

HIV-infected children are susceptible to common infections and OIs. HIV may alter the presentation and response to conventional therapy. In some cases more aggressive and longer treatment courses may be necessary, as treatment failures are more frequent. For comprehensive guidance concerning childhood infections and opportunistic infections refer to the Integrated Management of Childhood Illnesses (IMCI), originally published by the WHO, which has been adapted for use in Zambia.

7. Conduct Disease Staging

Initial history A comprehensive initial history will facilitate the development of a clinical profile for children entering the programme. See Appendix 7-I. The initial history should include a review of:

- The birth history and the use of drugs, including ARVs, for prophylaxis.
- The medical history, including HIV-related hospitalisations, illnesses and medication, including previous and/or current ART or ARV prophylaxis, exposure to TB vaccines (i.e., BCG), tuberculosis treatment or prophylaxis and prophylaxis or treatment of opportunistic infections.
- As previously noted, developmental history is also important to a full evaluation.

Interim history: An interim history should be obtained at each follow-up visit. The interim history focuses on new symptoms, pain, adherence, psychosocial and social assessment. The interim history will help the clinician to determine whether there have been changes in the child's health status or changes in the home setting that may affect the child's health.

Physical examination: Each visit should include an assessment of growth. Weight, length and head circumference for children younger than two years of age should be measured at each visit and plotted on age-appropriate growth curves. The height and weight of older children should be recorded and charted regularly. Weight loss or inadequate weight gain can be the first indication of HIV disease progression.

Clinical staging: The initial physical examination should be comprehensive and subsequent exams can be guided by findings on the symptom checklist. Stage according to WHO criteria, as seen in Appendix 7-J. Clinical staging should be done at every clinical visit and will help clinical monitoring of paediatric HIV disease.

Laboratory evaluation and immunologic staging: Once the diagnosis of HIV infection has been confirmed, a complete blood count and CD4 and lymphocyte subsets (count and percent) should be obtained. CD4 cell count and percentage will provide an assessment of the child's level of immune suppression. CD4 cell number and percent should be measured at regular intervals for all children living with HIV.

8. Initiate treatment with ART (if eligible)

- National paediatric ART guidelines are in Appendix 7-K.
- Assess readiness and provide appropriate adherence and psychosocial counselling and support.

9. Monitor ART and Support Adherence to Care and Treatment

- Follow national guidelines for routine follow-up schedule.

- Counsel the caregiver on seeking care when problems or symptoms develop.
- Arrange more frequent follow up, phone support or home visits as needed.
- Assess adherence and provide adherence support at every encounter.

10. Refer HIV-infected Child (and caregiver/family) for Needed Services

- Information, education, counselling and skills development for caregivers
- Psychosocial and community-based support for child and family
- Refer infected child for specialised care as needed
- HIV counselling, testing, care and treatment for parents and siblings

HIV-infected children who are 12 months of age and younger are eligible for immediate ART. Referrals for HIV treatment in infants are urgent.

A well-informed caregiver will help to ensure that the care schedule is followed, so it is critical that this information be clear and understandable. The paediatric ART programme supports the coordination of HIV-specific and routine paediatric care in line with the EPI programme.

11. Counsel the Caregiver and Family

Provide counselling on:

- HIV care and treatment, visit schedule, seeking care in emergencies
- Adherence to treatment
- Managing symptoms and side effects
- Child development/anticipatory guidance
- Optimal and safe feeding and nutrition
- Disclosure
- HIV testing, care and treatment for mother and other family members (as needed)

12. Provide Psychological and Psychosocial Support

- Assess child's needs, including quality of care and support, access to school and recreational/play activities, psychological conditions, disclosure issues, risks of discrimination and stigma.
- Assess caregiver and family needs, including health care, coping, support and guidance, stability of housing and adequacy of income, disclosure and issues related to stigma/discrimination.

Paediatric ART

The goals of ART for children are similar to those of adults:

- To improve quality of life
- To prolong survival

In children an important third goal of ART is promote or restore normal growth and development.

It is important to start a child of 12 months or younger on ART as soon as HIV infection is identified — HIV disease progression is rapid in infants. Even infants who appear well can become ill quickly and die without early ART. HIV-infected children should be assessed at each visit to see if they meet treatment eligibility criteria.

ART initiation in children over 12 months of age should be guided by clinical and laboratory parameters. In children less than five years of age, use CD4% (rather than absolute CD4) to guide eligibility for ART. For age-specific guidance on when to start treatment in children less than five years of age, see Appendix 7-K.

ART eligibility also depends on the caregiver's understanding and readiness to give ART to the child. Healthcare workers should provide ongoing counselling and education to caregivers (more than one if possible), and ensure that time is always allowed for questions. Healthcare workers can also help link caregivers with appropriate social support to encourage adherence to paediatric ART and also help prepare caregivers for disclosure — to the child, to other family members and community members as appropriate.

General principles for prescribing in children:
ARVs, like all drugs, are prescribed differently in children compared to adults. Because children's bodies are growing, they absorb, break down and excrete drugs at different rates and may need different doses than adults for the same medicines. Dosing for children can be based on either weight or body surface area. As the child grows quickly, the doses must be checked and changed to avoid under-dosing, which may allow early development of resistance.

The underlying principles of ART in children are largely the same as in adults:

- ART is one component of comprehensive HIV care and it works best when the other components are also maximised (prophylaxis, nutrition, etc.).
- Use a combination of ARVs (minimum of three) because combinations have been demonstrated to have durable treatment success. Single-drug or two-drug treatment regimens do not work in the long term and can cause the development of drug resistant strains of HIV.

- Concomitant use of drugs with overlapping toxicities and drug interactions is not recommended.
- Prior to initiation of ART, it is important to address and stabilise co-morbidities (e.g. TB, liver disease, malaria, pneumonia, severe anaemia, etc.).
- Since treatment is life long, it is important to preserve future treatment options.
- Patient and caregiver preparation is critical and maximum adherence is essential for successful ART. Starting ART is usually not so urgent that time for caregiver preparation cannot be allowed.

The best chance of success with ART is the choice of the first-line regimen; the choice of drugs should take into account efficacy, tolerability, dosing schedule, affordability and availability. Regular follow-up and monitoring is essential. ARV drugs are associated with adverse events and drug-drug interactions; treatment should be stopped or changed when necessary. It is also very important to provide continued support to the child, caregivers and other family members.

For a complete guide to ART treatment and clinical follow-up for children, please refer to *Zambia National Guidelines for Antiretroviral Therapy of HIV Infection in Infants and Children.*

Regular Clinical and Laboratory Follow-Up

The follow-up schedule will be determined by the child's age, clinical stage, ART regimen (if any) and immune status. The table below shows a sample follow-up schedule for children, but healthcare workers should refer to the current *Zambia National Guidelines for Antiretroviral Therapy of HIV Infection in Infants and Children* and the child's individual clinical and immunological status.

Table 7.1: Sample follow-up schedule for HIV-infected children

Age	Visit Interval — clinical	Visit interval — labs	Other concurrent services
0-12 months	Monthly	**Baseline** – CD4, FBC, LFT, RFT **Every 3 months** – CD4 (FBC, LFT and RFT, as clinically indicated)	■ Start CTX at 6 weeks ■ Immunisation according to national guidelines ■ IYCF counselling and support ■ Growth and developmental monitoring ■ Neuro-developmental assessment
12-24 months	Every 3 months (more if needed)	**Baseline** – CD4, FBC, LFT, RFT **Every 3 months** – CD4 (FBC, LFT and RFT, as clinically indicated)	■ CTX ■ Nutrition counselling ■ Growth and developmental monitoring ■ Neuro-developmental assessment

> 24 months; symptomatic but not yet eligible for ART	Every 3 months (more if needed)	**Baseline** – CD4, FBC, LFT, RFT **Every 6 months** – CD4 (FBC, LFT and RFT, as clinically indicated)	▪ CTX ▪ Nutrition counselling ▪ Growth and developmental monitoring ▪ Neuro-developmental assessment
> 24 months; asymptomatic	Every 6 months	Twice a year	
FBC: full blood count; LFT: liver function test; RFT: renal function test			

Caregivers must have a way to contact a member of the healthcare team if the child falls ill between visits. This will allow them to seek advice and arrange to bring the child in for evaluation if needed. Enabling families to obtain both routine and urgent care within the same programme will enhance the overall management of the child's disease.

ART for Adults and Adolescents

When adults meet clinical criteria to start ART, healthcare workers should ensure that they are provided with medications or given referrals, as needed. As previously highlighted, the care and needs of the family members will directly influence the ability of the family to take care of the child:

- Eligibility for ART should be assessed using CD4 count and clinical criteria, as described in the *Zambia National Guidelines for Antiretroviral Therapy*.
- As with children, adherence issues should be discussed, as inconsistent adherence will lead to treatment failure.
- Treatment for adults should also include linkages to other treatment services, such as psychosocial support, as needed.

Exercise 1: Making referrals for ongoing care	
Purpose	▪ To practise providing information and referrals for ongoing clinical care to HIV-exposed and HIV-infected children and their family members
Introduction	This is a small group exercise to practise providing information and referrals for ongoing clinical care. After breaking into groups of four, participants will be assigned one of the case studies that appears below. Working in their small groups, participants should take about 15 minutes to discuss and prepare key points for their case studies, focusing on what information and referrals should be given to the families. The small groups will then be asked to reconvene as a large group to present a summary of their dicussion.

Exercise 1: Making referrals for ongoing care, Case studies
Case study 1: Theresa learns that the results of her three-month-old baby's DNA PCR test is positive. You provide post-test counselling, including a discussion of the next steps and referrals for three-month-old Vincent's care.
Case study 2: Taonga is the caregiver of five-year-old Lesiana. Lesiana was admitted to the hospital with severe diarrhoea and malnutrition. The results of Lesiana's rapid HIV test are positive. As part of post-test counselling, you discuss the next steps for Lesiana's care and provide referrals.
Case study 3: Mana is the mother of Mumba, an eight-month-old baby. Mumba's rapid test was positive, but his DNA PCR test was negative. Mana is still breastfeeding her baby. As part of post-test counselling, you discuss the next steps for Mana and Mumba and provide referrals.

Session 7.2 Psychosocial Support and Counselling for Mothers, Caregivers and Children

Session Objective

After completing this session, participants will be able to:

- Understand the importance of ongoing psychosocial support, particularly in reference to adherence and disclosure.

Providing Counselling and Psychosocial Support to Families

Counselling and psychosocial support are integral components of the holistic approach to caring for children and their families affected by HIV. Counselling is a continuous process that usually begins at the first point of contact in the health system and continues through non-health sector support services. Psychosocial issues must be addressed from the perspectives of the child, the caregiver and the healthcare worker. Support for a child and her or his family allows them to build on their strengths and adopt a positive outlook.

Healthcare workers should use their "**Listening and Learning" skills** (see Module 3) when undertaking psychosocial assessments, providing adherence and disclosure counselling.

Psychosocial assessments that identify each family's strengths and vulnerabilities are an essential component of the comprehensive care of a child living with HIV. Such assessments help the healthcare team plan appropriate psychological interventions. Psychological stresses are heightened at the time of initial diagnosis, during episodes of illness and during terminal illness.

While the healthcare worker engaged in paediatric PITC may not see the psychosocial assessment as a primary responsibility — particularly if she or he works within a care team — she or he should expect to take a role in ensuring all clients have needed psychosocial support. In the absence of a care team, the healthcare worker may be called upon to assist with psychosocial support. Having knowledge of these skills may improve relationships with the family, increase the likelihood that they will access care more frequently and possibly lead to better health outcomes.

Areas of potential need/intervention:

- Psychosocial assessment of anticipated family adaptation
- Coping ability during previous crises, current coping mechanisms
- Child and family's knowledge and reactions to the disease
- Beliefs, attitudes and expectations regarding treatment and outcome
- History of depression and/or alcohol and non-prescribed drug use

- Nature and stability of residential and occupational arrangements
- Sources of emotional support, including the quality of relationships between family members and other sources of support
- Disclosure issues
- Child care responsibilities, including responsibility for health care visits, medication administration, and feeding
- Socioeconomic status of the family, sources of financial support
- Sociocultural factors or religious beliefs that might affect treatment decisions and adaptation
- History of previous losses
- Health status of family members

In addition, all healthcare workers should expect to conduct or support adherence counselling.

Paediatric Adherence

Key points about paediatric adherence:

- Adherence requires both the commitment of a responsible adult and the involvement of the child.
- The child's developmental stage will influence the extent to which she or he can or will cooperate with taking medications, as will the caregiver-child relationship.
- Paediatric formulations are not always suited for administration to children and young children; they may taste bad or be difficult to swallow.
- Paediatric ART regimens are frequently complex, requiring caregivers to measure liquid formulations, crush pills, open capsules or dissolve tablets in water; doses may increase as the child gains weight. Appendix 7-L notes recommended regimens.
- If more than one caregiver (relatives, nannies, teachers, etc.) looks after the child, this may complicate both administration and assessment of adherence, and lead to issues or challenges with disclosure.
- Special attention to paediatric adherence is an essential component of HIV care.
- Adherence changes over time, especially as children grow and develop. It is critical to make time for ongoing adherence assessment and counselling at each clinic visit.

Strategies to promote paediatric adherence:

Provide Adherence Education

- Work with the parent and all caregivers to understand what is meant by adherence, including:
  - Understanding the diagnosis and the care and treatment plan
  - Coming to the clinic for appointments
  - Never missing a dose

- Taking medicines the "right" way
- Not taking any breaks

- Explain the importance of adherence to the child's health.
  - With good adherence, children with HIV can live long, healthy and productive lives.
  - Acknowledge the difficulty in caring for children with HIV.
- Talk about the need for open, honest communication with the healthcare team.

Help Address the WHO, WHAT, WHEN and HOW of the medications

- **WHO** will give the medications? Every day? Mornings? Evenings? Weekdays? Weekends?
- **WHAT** medications will be given? Help caregivers become familiar with each medication.
- **WHEN** will the medications be given? Establish specific times and consider daily routines of caregivers and child (work, school, going to the market, etc.).
- **HOW** will the medications be given? Use of syringes, cutting and crushing tablets, with or without food, mixed with liquid, sequence.
  - Include demonstration and practise for caregivers.
  - Discuss a reward system to use when the child takes her or his medicines the right way.

See Appendix 7-M for practical tips on giving medication to children.

Exercise 2: Clarification of values — HIV disclosure to children	
Purpose	▪ Encourage participants to recognise and articulate the values they hold around child HIV and disclosure
Introduction	This exercise provides an opportunity to identify personal opinions and beliefs that might influence approaches to work. Participants should read the six statements in the box below, and take four to five minutes to rank on a scale of 1–3 the degree to which they agree or disagree with each statement. All participants will then be asked to stand up in front of the room and then move around the front of the room as directed by the trainer.

Statement	Strongly Disagree	Neither Disagree nor Agree	Strongly Agree
1. Communicating with children is difficult.	1	2	3
2. A child must know their HIV status by the age of eight years.	1	2	3
3. A caregiver is the best person to tell a child about their HIV status.	1	2	3
4. The best place to tell a child about her or his HIV status is at home.	1	2	3
5. A child does not need to know how they got HIV.	1	2	3
6. Healthcare workers should encourage caregivers to disclose to the child soon after learning the child's HIV status.	1	2	3

Paediatric Disclosure

Disclosure is an ongoing process between the child and caregiver; the role of the healthcare worker is to assist and support the caregiver in this process. Discussions about a child's general health may begin at an early age, for example talking about going to the clinic and taking medicines to feel better. When to inform a child about her or his HIV status will depend on if the caregiver feels it is appropriate, the child's developmental level and cultural factors. **If possible, disclosure should not occur in the context of a crisis.**

Many caregivers may want to keep the diagnosis of HIV from the child; it is therefore often necessary to counsel the caregivers first, to help them understand the importance of starting the process of disclosure so that the child can participate in her or his own care and, eventually, know her or his status. Carrying out discussions with children in the presence of parents or guardians ensures that the messages the children receive from healthcare workers and caregivers are consistent. Take the caregivers' viewpoints into account, even when they do not necessarily match those of the healthcare worker or child.

Ideally, caregivers should be the ones to disclose HIV results to their children. Caregivers need practical support to understand how to explain the results to their child.

Strategies to Assist Families with Disclosure

Prepare families:

If the caregiver is not ready to disclose, the process cannot be forced. Because disclosure is an ongoing process, the healthcare worker should remind the caregiver that she or he is available to discuss or assist with communication about disclosure between the caregiver and child. Asking and discussing the questions below, can help determine what kind of support the caregiver needs.

- *What do you think is important to communicate to the child?*
- *What do you think will be the hardest part of the disclosure process?*
- *What do you think will be the hardest questions to answer?*

Educate families:

- Acknowledge that disclosure can be very difficult.
- Affirm the person's commitment to disclosing to the child.
- Answer any questions about paediatric HIV the family may have.
- Help families anticipate questions from and responses to the child.
- Remind the family that the child's need for information will change as the child develops, and that initially talking with the child about simple topics, such as their health status and the need for medications to keep well, may be enough.
- Plan how the child will receive support when they learn more about their HIV status.

Community Linkages

Healthcare facilities cannot meet all of the complex needs of families living with HIV. To offer truly comprehensive care, health facilities must partner with non-governmental and community-based organisations, home-based care workers, and other agencies that provide treatment, care and support services for mothers, children living with HIV and their families.

Linkages to community-based organisations can provide the resources, such as support groups, housing, transportation, food and legal assistance, to help families cope with the isolation, social stigma, financial and emotional pressures that often accompany a diagnosis of HIV. Linkages are key to addressing barriers to paediatric care and treatment on the community level. Non-governmental organisations, including community-based organisations, can address psychosocial needs and may be useful resources for supporting adherence, tracking patients lost to follow-up and providing home-based care and adherence support.

Healthcare workers should be familiar with the range of community-based services available and make referrals as appropriate. HIV service organisations in the community may provide social support through peer group counselling, clubs or referrals to other services.

Providing or referring for supportive services

Regular assessment, monitoring and support for mental health and psychosocial needs are critical at all stages of HIV infection. Often this requires a discussion or review of the barriers that inhibit care and treatment, such as appointment attendance, adherence and/or self-care. Based on patient assessment, the following services may be offered directly or by referral to improve care and address barriers:

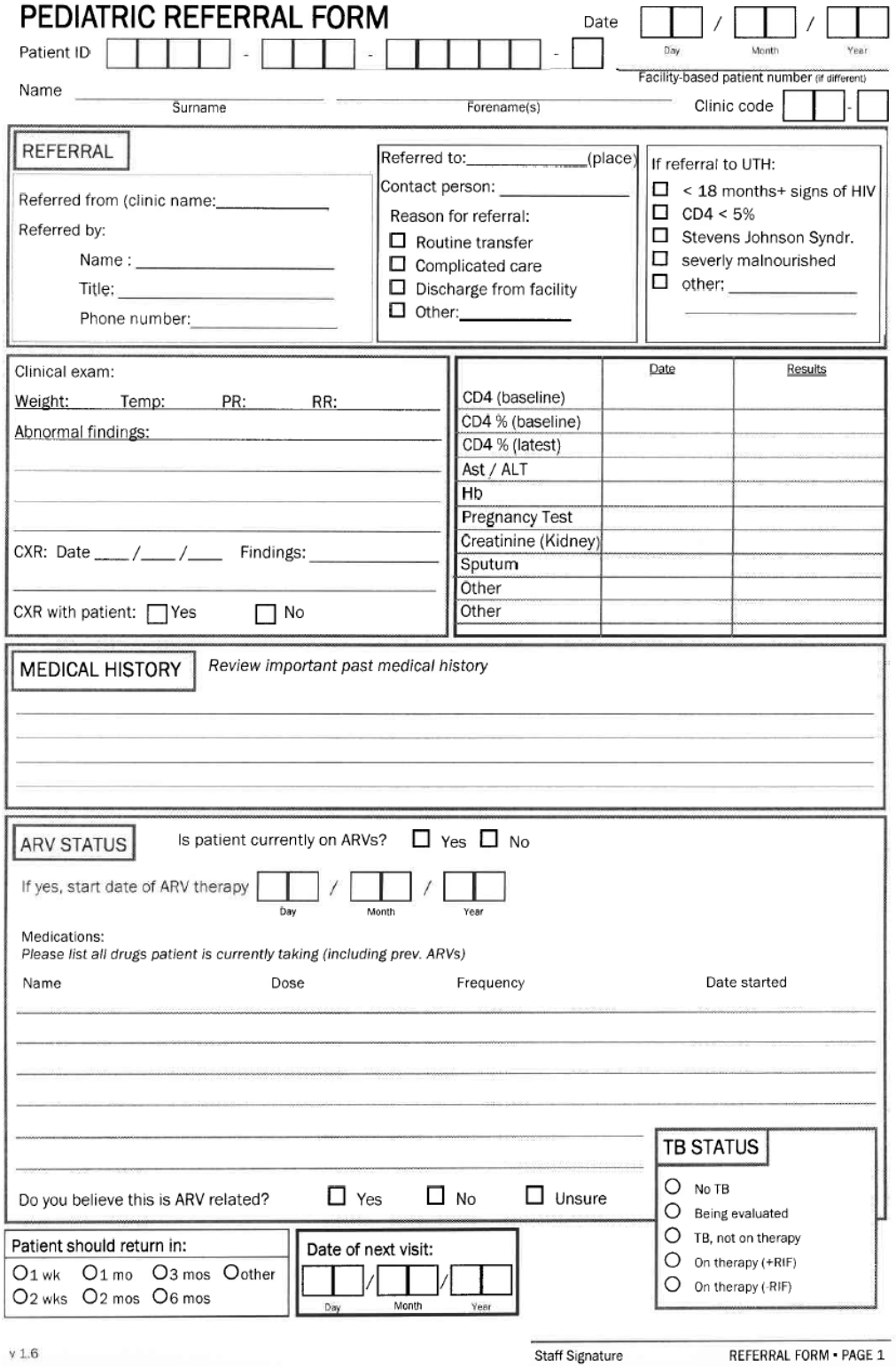
- Support to help the mother or other family members come to terms with their diagnoses
- Psychosocial support for families with an HIV-exposed child while waiting for a diagnosis
- Psychosocial support for families when a child or other family member is diagnosed with HIV
- Referrals to faith-based organisations and other spiritual support
- Peer or group counselling and support from health agencies or other community-based agencies, such as support groups and PLWHA associations
- Adherence support for adults and children on ART
- Linkages to food and nutrition support
- Support and counselling to assist families with disclosure issues
- Home-based care for practical, emotional, psychosocial, adherence, infant feeding support and palliative care
- Linkages to income-generating activities and micro-credit, as well as legal assistance and non-formal trainings/schooling

Module 7: Key Points

- Making informed and timely referrals for HIV care and treatment is a critical part of post-test counselling and follow-up for children, caregivers and their families.
- The goals of caring for children living with HIV are to promote health and prevent disease progression.
- The goals of caring for HIV-exposed children include early identification of HIV infection, preventing opportunistic infections and maximising family health and well-being.
- History taking, physical examination, staging and laboratory evaluation are critical components in planning the appropriate care for children living with HIV.
- When children or adults meet clinical criteria to start ART, healthcare workers should ensure that they are provided with medications or given referrals, as needed.
- Healthcare workers involved in paediatric PITC may not be engaged in long-term counselling relationships with families, however, they should have some of the basic skills to better interact and provide guidance for their patients, particularly around adherence support and disclosure counselling.

- Appropriate care and support to children, caregivers and other family members requires addressing barriers to paediatric care and treatment, including adherence, in both the community and at home.
- Healthcare workers who are providing paediatric HIV testing and counselling services can help families access care through careful explanation of the next steps, making referrals and planning for follow-up.
- A key component of paediatric HIV services is strong linkages among health facilities and the community. Healthcare workers should be familiar with the range of community-based services available and make referrals as appropriate.

Appendix 7-A Paediatric Referral Form



PEDIATRIC REFERRAL FORM

Date ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Patient ID ☐☐☐☐ - ☐☐☐ - ☐☐☐☐☐ - ☐

Facility-based patient number (if different)

Name _____ (Surname) _____ (Forename(s))

Clinic code ☐☐ - ☐

REFERRAL

Referred from (clinic name):_____

Referred by:

Name : _____

Title: _____

Phone number:_____

Referred to:_____(place)

Contact person: _____

Reason for referral:

- ☐ Routine transfer
- ☐ Complicated care
- ☐ Discharge from facility
- ☐ Other:_____

If referral to UTH:

- ☐ < 18 months+ signs of HIV
- ☐ CD4 < 5%
- ☐ Stevens Johnson Syndr.
- ☐ severly malnourished
- ☐ other: _____

Clinical exam:

Weight: Temp: PR: RR:

Abnormal findings:

CXR: Date ____ /____ /____ Findings: _____

CXR with patient: ☐ Yes ☐ No

	Date	Results
CD4 (baseline)		
CD4 % (baseline)		
CD4 % (latest)		
Ast / ALT		
Hb		
Pregnancy Test		
Creatinine (Kidney)		
Sputum		
Other		
Other		

MEDICAL HISTORY *Review important past medical history*

ARV STATUS Is patient currently on ARVs? ☐ Yes ☐ No

If yes, start date of ARV therapy ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Medications:

Please list all drugs patient is currently taking (including prev. ARVs)

Name	Dose	Frequency	Date started

Do you believe this is ARV related? ☐ Yes ☐ No ☐ Unsure

TB STATUS

- ○ No TB
- ○ Being evaluated
- ○ TB, not on therapy
- ○ On therapy (+RIF)
- ○ On therapy (-RIF)

Patient should return in:

○1 wk ○1 mo ○3 mos ○other

○2 wks ○2 mos ○6 mos

Date of next visit: ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

v 1.6

Staff Signature

REFERRAL FORM • PAGE 1

Appendix 7-B Paediatric Clinical Follow Up

PAEDIATRIC CLINICAL FOLLOW UP

Date ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Patient ID ☐☐☐ - ☐☐☐ - ☐☐☐☐☐ - ☐ (District - Facility - Serial no.)

Facility ID (if different)

Patient Last Name

Patient First Name

Clinic code ☐☐☐-☐☐☐

PRESENTING COMPLAINT

Tick at left if patient mentions any complaints listed. Note duration, recurrence below.

- ☐ Routine visit
- ☐ No complaint
- ☐ Weight loss
- ☐ Fever
- ☐ Lethargic
- ☐ Swelling of feet
- ☐ Rash
- ☐ Convulsions
- ☐ Vomiting
- ☐ Cough < 2 weeks
- ☐ Cough > 2 weeks
- ☐ Shortness of breath
- ☐ Acute diarrhoea
- ☐ Chronic diarrhoea
- ☐ Difficulty drinking
- ☐ Sores in mouth
- ☐ Swellings/lymph nodes
- ☐ Eye/ear pain/discharge

Age ☐☐ years ☐☐ months

Same guardian as last visit ◯Yes ◯No

Child knows his/her status ◯Yes ◯No

Is patient on ART? ◯Yes ◯No

If on ART, how long?_____

Is patient pregnant? ◯Yes ◯No

Estimated date of delivery:

☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

CURRENT MEDICATIONS

NRTIs
- ☐ Zidovudine (AZT)
- ☐ Stavudine (D4T)
- ☐ Lamivudine (3TC)
- ☐ Abacavir (ABC)
- ☐ Tenofovir (TDF)
- ☐ Didanosine (ddI)
- ☐ Emtricitabine (FTC)

NNRTIs
- ◯ Nevirapine (NVP)
- ◯ Efavirenz (EFV)

PIs
- ◯ Lopinavir/ritonavir (LPV/r)
- ◯ Indinavir (IDV)
- ◯ Nelfinavir (NFV)

Non-ARVs
- ☐ Septrin
- ☐ Fluconazole
- ☐ Anti-malarials
- ☐ TB medication_____
- ☐ Traditional medicines and herbs
- ☐ Other_____
- ☐ Other_____
- ☐ Other_____
- ☐ Other_____

Please review under-five card for immunisations

Immunisations are up-to-date ◯Yes ◯No *If No, order as needed in Plan*

Follow up test: ◯DNA PCR ◯RNA PCR ◯ELISA/Rapid test ◯Other_____ ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Result ◯Positive ◯Negative ◯Not available Place:

REVIEW OF SYSTEMS *Within the past month, has the patient experienced any of the following symptoms:*

CONSTITUTIONAL

Irritability	◯Yes ◯No
Inconsolable crying	◯Yes ◯No
Fatigue (tired)	◯Yes ◯No
* Fever	◯Yes ◯No
* Night sweats	◯Yes ◯No
Appetite loss	◯Yes ◯No
* Weight loss	◯Yes ◯No

GASTROINTESTINAL

Diarrhoea	◯Yes ◯No
Nausea and/or vomiting	◯Yes ◯No
Oral lesions	◯Yes ◯No
Pain/difficulty swallowing	◯Yes ◯No
Abdominal pain	◯Yes ◯No

CARDIO-RESPIRATORY

*Productive cough	◯Yes ◯No
*Non-productive cough	◯Yes ◯No
*Haemoptysis	◯Yes ◯No
*Difficulty breathing/SOB	◯Yes ◯No
Dizziness	◯Yes ◯No
Palpitations	◯Yes ◯No
Swelling of legs	◯Yes ◯No

NEUROLOGICAL

Delayed milestones	◯Yes ◯No
Encephalopathy	◯Yes ◯No
Changes in developmental milestones	◯Yes ◯No
Headache	◯Yes ◯No

Memory problems	◯Yes ◯No
Visual problems	◯Yes ◯No
Confusion	◯Yes ◯No
Numbness/pain/burning in legs/feet	◯Yes ◯No
Weakness in limbs	◯Yes ◯No
Seizures	◯Yes ◯No

GENITAL-URINARY

Dysuria	◯Yes ◯No
Haematuria	◯Yes ◯No

OTHER

Napkin dermatitis	◯Yes ◯No
Rash	◯Yes ◯No
Joint pain/swelling	◯Yes ◯No

Last recorded weight: Date weight taken (mo/yr):

** If symptom present, screen for TB using TB Diagnostic Worksheet (where in use)*

If yes, describe:

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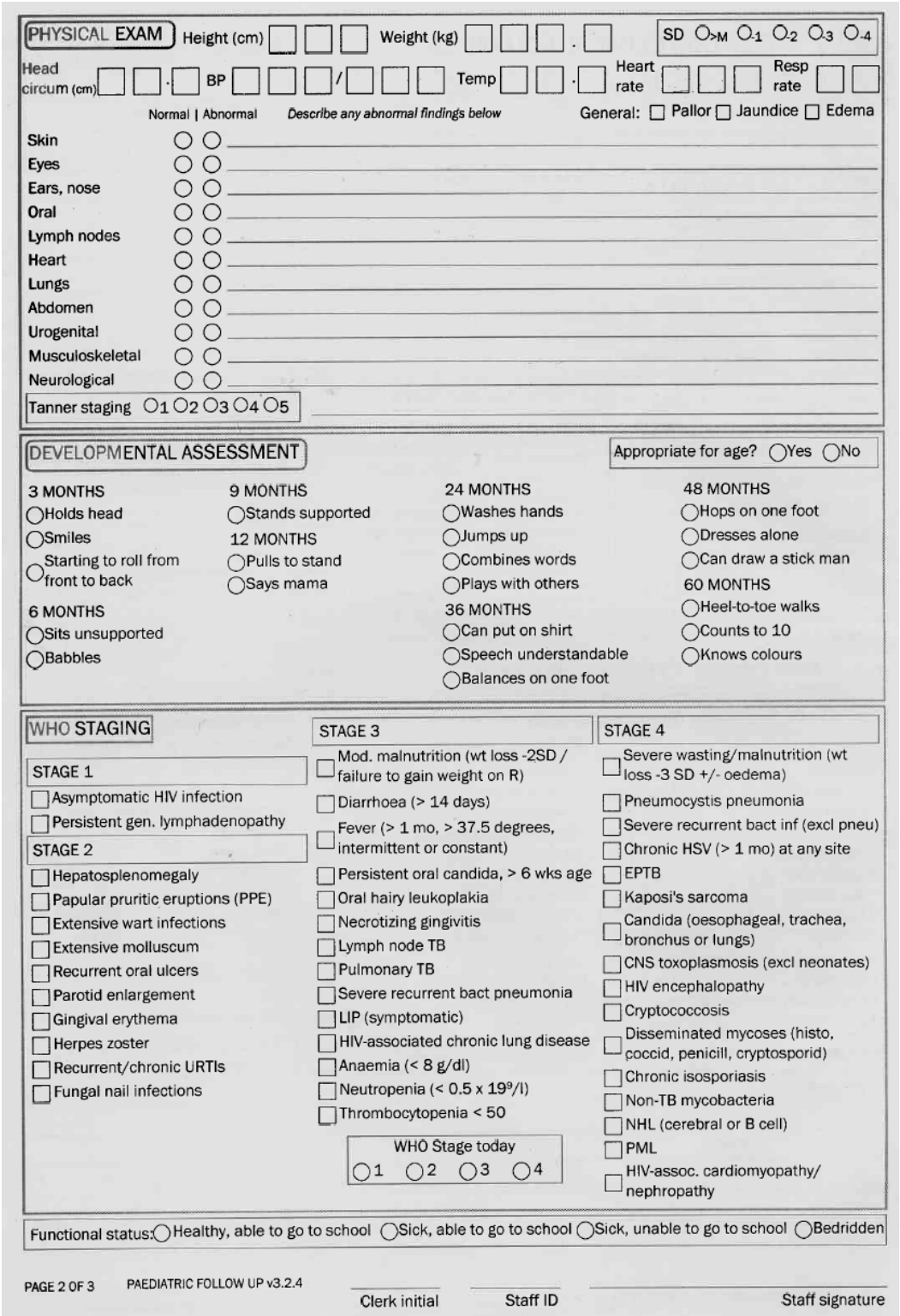
PAGE 1 OF 3 PAEDIATRIC FOLLOW UP v3.2.4

Clerk initial Staff ID Staff signature



PHYSICAL EXAM Height (cm) ☐☐☐ Weight (kg) ☐☐☐.☐ SD ○>M ○-1 ○-2 ○-3 ○-4

Head circum (cm) ☐☐.☐ BP ☐☐☐/☐☐☐ Temp ☐☐.☐ Heart rate ☐☐☐ Resp rate ☐☐

Normal | Abnormal — Describe any abnormal findings below — General: ☐ Pallor ☐ Jaundice ☐ Edema

Skin	○	○
Eyes	○	○
Ears, nose	○	○
Oral	○	○
Lymph nodes	○	○
Heart	○	○
Lungs	○	○
Abdomen	○	○
Urogenital	○	○
Musculoskeletal	○	○
Neurological	○	○

Tanner staging ○1 ○2 ○3 ○4 ○5

DEVELOPMENTAL ASSESSMENT — Appropriate for age? ○Yes ○No

3 MONTHS
○Holds head
○Smiles
○Starting to roll from front to back

6 MONTHS
○Sits unsupported
○Babbles

9 MONTHS
○Stands supported

12 MONTHS
○Pulls to stand
○Says mama

24 MONTHS
○Washes hands
○Jumps up
○Combines words
○Plays with others

36 MONTHS
○Can put on shirt
○Speech understandable
○Balances on one foot

48 MONTHS
○Hops on one foot
○Dresses alone
○Can draw a stick man

60 MONTHS
○Heel-to-toe walks
○Counts to 10
○Knows colours

WHO STAGING

STAGE 1
☐Asymptomatic HIV infection
☐Persistent gen. lymphadenopathy

STAGE 2
☐Hepatosplenomegaly
☐Papular pruritic eruptions (PPE)
☐Extensive wart infections
☐Extensive molluscum
☐Recurrent oral ulcers
☐Parotid enlargement
☐Gingival erythema
☐Herpes zoster
☐Recurrent/chronic URTIs
☐Fungal nail infections

STAGE 3
☐Mod. malnutrition (wt loss -2SD / failure to gain weight on R)
☐Diarrhoea (> 14 days)
☐Fever (> 1 mo, > 37.5 degrees, intermittent or constant)
☐Persistent oral candida, > 6 wks age
☐Oral hairy leukoplakia
☐Necrotizing gingivitis
☐Lymph node TB
☐Pulmonary TB
☐Severe recurrent bact pneumonia
☐LIP (symptomatic)
☐HIV-associated chronic lung disease
☐Anaemia (< 8 g/dl)
☐Neutropenia (< 0.5 x 19^9/l)
☐Thrombocytopenia < 50

WHO Stage today ○1 ○2 ○3 ○4

STAGE 4
☐Severe wasting/malnutrition (wt loss -3 SD +/- oedema)
☐Pneumocystis pneumonia
☐Severe recurrent bact inf (excl pneu)
☐Chronic HSV (> 1 mo) at any site
☐EPTB
☐Kaposi's sarcoma
☐Candida (oesophageal, trachea, bronchus or lungs)
☐CNS toxoplasmosis (excl neonates)
☐HIV encephalopathy
☐Cryptococcosis
☐Disseminated mycoses (histo, coccid, penicill, cryptosporid)
☐Chronic isosporiasis
☐Non-TB mycobacteria
☐NHL (cerebral or B cell)
☐PML
☐HIV-assoc. cardiomyopathy/ nephropathy

Functional status: ○Healthy, able to go to school ○Sick, able to go to school ○Sick, unable to go to school ○Bedridden

PAGE 2 OF 3 PAEDIATRIC FOLLOW UP v3.2.4 Clerk initial Staff ID Staff signature

ASSESSMENT *Opportunistic infections should be ticked above under WHO Staging.*

New clinical findings ◯ Yes ◯ No _____

Any acute illnesses? ◯ Yes ◯ No _____

Does the child need any blood tests today? ◯ Yes ◯ No *If yes, complete below*

Counseling needs assessment of child:

- ☐ The child is aware that he/she is sick with a chronic disease
- ☐ The child is aware of the name of the disease
- ☐ The child can swallow pills/tablets/capsules
- ☐ An immediate family member has recently died of HIV/AIDS at home
- ☐ The child has recently had a disruption of routine life (school, play, friends)

Does the child require any counselling today? ◯ Yes ◯ No

If yes: ◯ Disclosure counselling ◯ Adherence counselling ◯ Bereavement counselling ◯ Other_____

Does the child require any other referrals? ◯ Yes ◯ No *If yes, indicate below*

_____

_____

_____

_____

PLAN *Use the ARV Eligibility form to initiate / continue / modify treatment.*

◯ Assess for ART Eligibility
◯ Continue ART
◯ Modify ART
◯ Stop ART

Vaccinations due:
☐ BCG
☐ DPT/HBV/HIB
☐ OPV
☐ Measles
☐ Other_____

ARV PRESCRIPTION

FIRST LINE. Specify dose and frequency.

- ☐ AZT _____ + 3TC _____ + NVP _____
- ☐ AZT _____ + 3TC _____ + EFV _____
- ☐ D4T _____ + 3TC _____ + NVP _____
- ☐ D4T _____ + 3TC _____ + EFV _____
- ☐ ABC _____ + 3TC _____ + NVP _____
- ☐ ABC _____ + 3TC _____ + EFV _____

SECOND LINE. Only in consultation with Medical Officer.

- ☐ AZT _____ + ddI _____ + LPV/r _____
- ☐ D4T _____ + ABC _____ + LPV/r _____
- ☐ ddI _____ + ABC _____ + LPV/r _____
- ☐ Other:_____ + _____ + _____ + _____

PRESCRIPTIONS Pregnant? ◯ Yes ◯ No

- ☐ Septrin prophylaxis ___ ml od ◯ Start ◯ Continue ◯ Stop
- ☐ Septrin treatment_____ml_____X_____days
- ☐ Fluconazole maint. ___ mg od ◯ Start ◯ Continue ◯ Stop
- ☐ Fluconazole treat._____mg_____X_____days
- ☐ Other_____:_____mg_____X_____days
- ☐ Other_____:_____mg_____X_____days
- ☐ Fansidar_____
- ☐ Coartem_____
- ☐ Other_____
- ☐ Multivit _____
- ☐ Iron _____
- ☐ Folate _____

TB DRUGS

- ◯ RHZ _____tabs od x____mo
- ◯ SRHZ _____tabs od x____mo
- ◯ RH _____tabs od x____mo

INVESTIGATIONS

☐ None	☐ Hb/HCT	☐ Pregnancy
☐ HIV: PCR	☐ Full blood count	☐ RPR
☐ HIV: ELISA/Rapid	☐ ALT/AST	☐ TLC
☐ CD4 count	☐ Creatinine	☐ Amylase/lipase
☐ CD4 percent	☐ *Sputum AFB	☐ Viral load
	☐ Chest X-ray	☐ Other_____

REFERRALS ☐ None

☐ Family planning	☐ Adherence counseling
☐ Nutritional support	☐ Treatment preparation
☐ Inpatient care (this facility)	☐ Psychosocial support
☐ Inpatient care:_____	☐ Community health worker
☐ *TB treatment/DOT program	☐ Consented to HBC
	☐ Other_____

Do at next visit:

*If suspect TB, complete TB Diagnostic Worksheet (where in use)

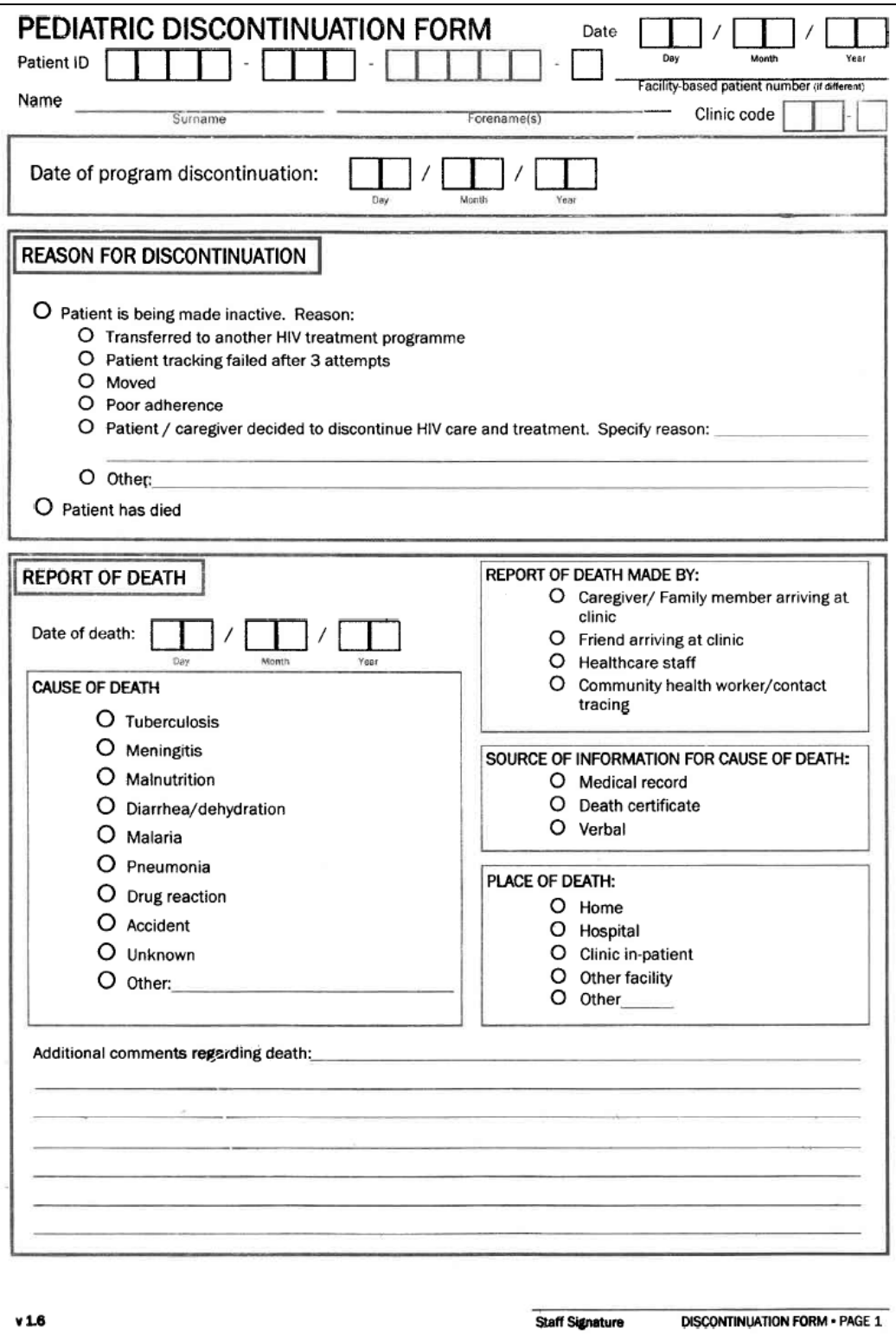
Next clinical appointment should be in:
◯ 1 wk ◯ 2 wks ◯ 3 wks ◯ 1 mo ◯ 3 mos ◯ 6 mos ◯ Other:_____

Date of next visit: ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

PAGE 3 OF 3 PAEDIATRIC FOLLOW UP v3.2.4

Clerk initial _____ Staff ID _____ Staff signature _____

Appendix 7-C Paediatric Discontinuation Form



PEDIATRIC DISCONTINUATION FORM

Date ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Patient ID ☐☐☐ - ☐☐☐ - ☐☐☐☐☐ - ☐

Facility-based patient number (if different)

Name _____ (Surname) _____ (Forename(s))

Clinic code ☐☐ - ☐

Date of program discontinuation: ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

REASON FOR DISCONTINUATION

- O Patient is being made inactive. Reason:
  - O Transferred to another HIV treatment programme
  - O Patient tracking failed after 3 attempts
  - O Moved
  - O Poor adherence
  - O Patient / caregiver decided to discontinue HIV care and treatment. Specify reason: _____
  - O Other: _____
- O Patient has died

REPORT OF DEATH

Date of death: ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

CAUSE OF DEATH

- O Tuberculosis
- O Meningitis
- O Malnutrition
- O Diarrhea/dehydration
- O Malaria
- O Pneumonia
- O Drug reaction
- O Accident
- O Unknown
- O Other: _____

REPORT OF DEATH MADE BY:

- O Caregiver/ Family member arriving at clinic
- O Friend arriving at clinic
- O Healthcare staff
- O Community health worker/contact tracing

SOURCE OF INFORMATION FOR CAUSE OF DEATH:

- O Medical record
- O Death certificate
- O Verbal

PLACE OF DEATH:

- O Home
- O Hospital
- O Clinic in-patient
- O Other facility
- O Other_____

Additional comments regarding death: _____

v 1.6 Staff Signature DISCONTINUATION FORM • PAGE 1

Appendix 7-D: Sample Patient Tracking Log

How to Use this Tracking Log

Appointment and tracking systems are an important part of quality PITC services. The log can help clinic staff manage patient flow, plan for each day, and identify patients who have missed appointments so they can be followed up and brought back into care. **It is best if one person at the clinic is designated as responsible for tracking daily appointments and follow-up to make sure that no one is missed.**

Daily Activities
Making appointments:

- Before each patient leaves the clinic, they should schedule a follow-up appointment.
- Use the yearly calendar at the start of the appointment book to determine which day the person should return (for example, in six months for a CD4 test and follow-up, in one week for lab results, or in two weeks for a follow-up with the doctor). You can "X" national holidays in the yearly calendar, and on the daily calendar pages to avoid scheduling appointments on these days.
- Find the daily appointment sheet for the return date. Each day, Monday-Friday, has its own page (front and back).
- When you find the correct daily appointment sheet, and confirm that this date is convenient for the patient, write the *Patient's Name, Patient Clinic Number* (and the *Phone Number* where the person can be reached).
- Using the codes given, write the *Reason for Visit*.
- Make sure to tell the patient when to return to the clinic and why they need to return.
- Give the patient instructions on what to do if they will not be able to come back to the clinic on this date (for example, if there is a phone, make sure they have the number so they can call and inform the clinic that they cannot come).

Keeping track of daily clinic attendance:

- Each morning, pull the patient files for all of the people with an appointment and put them in a convenient location.
- Each morning, draw a thick line on the daily appointment sheet under the last person with a scheduled appointment.
- When a patient arrives at the clinic, check to see if she or he is scheduled for an appointment that day.
  - If you see the name on the daily appointment sheet, tick Yes under the column that says Attended?
  - If you do not see their name, DO NOT SEND THEM AWAY! Record the name under the line on the daily appointment sheet and fill in their information as above. It is important to record each person that

comes to the clinic everyday, whether or not they have an appointment. Make sure the patient understands why it is important to have an appointment.
    - Try to prioritize patients who have scheduled appointments to decrease their waiting time and reinforce the importance of appointments.
- At the end of each day, go through each entry above the line you drew on the daily appointment sheet. For each person that had a scheduled appointment for that day (above the line you drew), make sure *Yes* or *No* is ticked in the *Attend?* column.
- Then, in the *Total* row at the bottom of each day, add how many people attended the clinic for scheduled appointments and how many did not attend scheduled appointments.

Weekly Activities

- Every Monday morning, review the daily attendance of the previous week (five working days).
- Implement the standard clinic protocol for following-up with patients who miss appointments each week (this will depend on the site). Patients need to give specific consent to get an SMS, a phone call, or a home visit. This should be noted on their individual patient record.
- For each person that missed an appointment in the previous week, tick the appropriate *Action Taken*. This could be more than one action and could include sending an SMS, calling the person, conducting a home visit, or linking with a community health worker to conduct a home visit. Remember, this can only be done if the patient has given consent.
- Record the *Outcome* of follow-up activities. If the patient comes back to the clinic within two weeks of their missed appointment, tick *Came back*. If they do not return, tick *Did not come back*.
- Write any *Comments* about attempts to contact specific patients or the outcomes of these contacts. For example, record when a patient has died, moved away, transferred to another health facility, or other information. You can also record when you were unable to reach the person or have a wrong phone number on file.

Day of the week **Date**

	PATIENT NAME *(list all patients scheduled for the day)*	**Pt CLINIC No**	**PHONE # or other contact information**	**REASON FOR VISIT** **Pre-C** = Pre-test counselling **Post-C=**Post test counselling **AB**= HIV-antibody test **DBS**=dried blood spot collection for DNA PCR **LR**= lab results **O**=Other (describe)	**ATTEND ?**		**IF NO, ACTION TAKEN**			**OUTCOME**		**COMMENTS** (patient died, moved, transferred, wrong phone # on file, etc.)
					YES	**NO**	**SMS**	**Call**	**Home visit**	**Came back**	**Did not come back**	
1												
2												
3												
4												
5												
6												
7												
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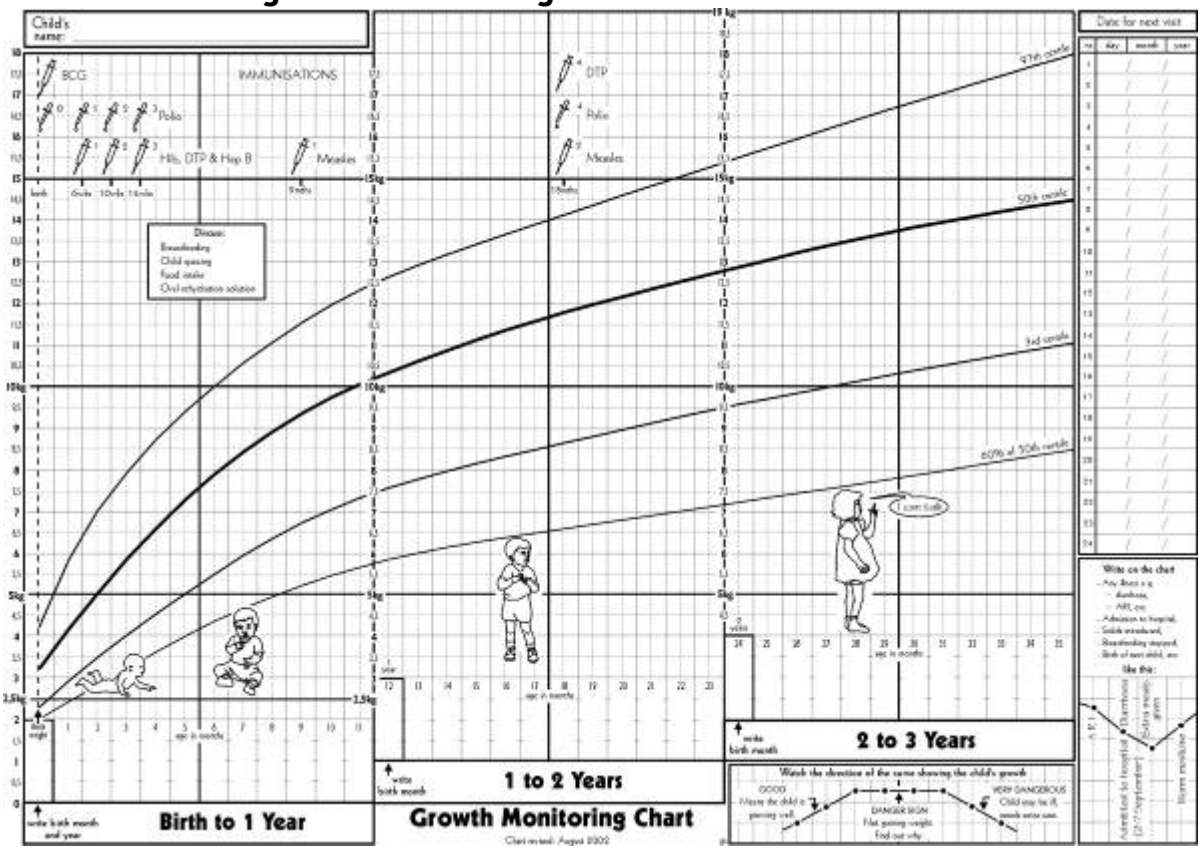
Appendix 7-E Growth Monitoring

Growth is a sensitive indicator of health and nutritional status. Plotting a child's measurements over time on growth charts will show whether a child is growing normally or not. When evaluating children's growth it is important to look at the trend of the growth line over a period of months and years.

The "*Under-Five Card*" includes a graph for plotting a child's weight at each visit, as shown in Figure 7.1. The graph includes information about normal growth, expressed as "percentiles".

- Vertical axis: This is the weight axis. It is represented in kilograms both on the left and right margin of each year, starting at 0 kg. The vertical axis is marked at 0,5 kg intervals (dotted lines) with the 1 kg intervals (solid lines) exactly 1cm apart.
- Horizontal-axis: This is the age axis. The age scale has one space per month. In the first column (from the left) the birth month and year should be written and the child's weight plotted with a small dot.
- A centile represents an average weight of most children in the same age group.
- A weight at the 97th centile means that 97% of children at this age weigh less than this amount. A weight at the 3rd centile means that 97% of children at this age weight more than this amount.

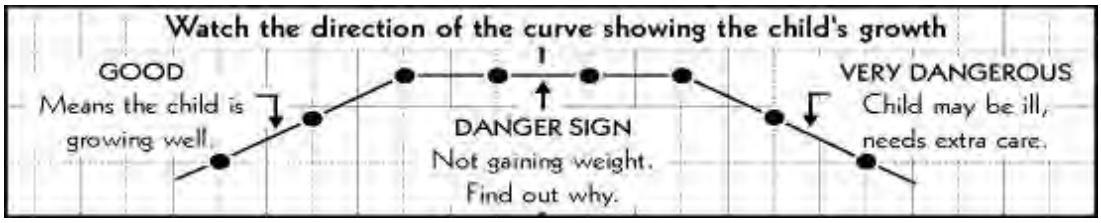
***Under-Five Card* growth monitoring chart**



How to Plot Weight

- Obtain accurate weight
  - Children two years old and younger should ideally be weighed nude.
  - Children over two years old should be weighed with light clothing, without shoes.
  - If only an adult scale is available, the child and caregiver can be weighed together, then the caregiver's weight (separately measured) can be subtracted from the total weight of the child and caregiver.
  - Note: whichever type of scale is being used should be calibrated daily.
- Record the measurement on the health record, along with the date and the child's age (in months if under one year) and to the nearest ¼ year if between two years and five years.
- Plot the weight measurements on the growth chart. Find the child's age on the horizontal axis. Draw a vertical line up from that point. Find the weight on the vertical axis. Draw a horizontal line across from that point until it intersects the vertical line. Make a small dot where the two lines intersect.
- Compare the measurement with the measurements from previous visits to identify any major shifts in the child's growth pattern and the need for further assessment.
- Interpret the plotted measurements. A fall from the child's own upward curve or a downward trajectory from the baseline weight centile across major weight centile lines (for example, a child who falls from the 50th percentile to just above the 3rd percentile) indicates a problem.
- The growth curve of a normally growing child will usually follow a track that is roughly parallel (i.e., is basically the same shape) to the average curve (bolded curve, 50th percentile line) on the Under-Five card. The track may be above or below the median. A flat line indicates that the child is not growing. This is called stagnation and should be investigated. When weight "falters" or the growth curve "flattens" and is no longer parallel to the percentile line, there is a need for further assessment and intervention. Below, Figure 7.2 illustrates growth curve indicators and Figure 7.4 shows four weight curves: the first is adequate, and the remaining three illustrate growth faltering.

Growth curve indicators



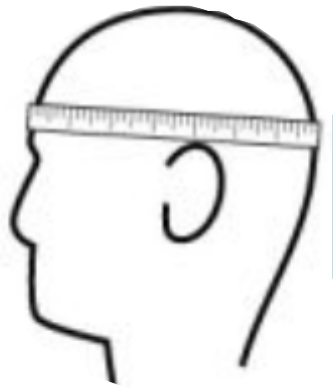
Measuring head circumference

Measure head circumference at every visit until 24 months of age. Head circumference is the last measurement to be affected in a malnourished infant. This measure reflects brain size and is used to screen for potential developmental and health problems — including encephalopathy. Refer for assessment of health or developmental risk if head circumference measurements suggest growth faltering or if a child measures above the 3 line or below the -3.

Procedure

- Use a paper measuring tape to avoid stretching as can happen with cloth tape.
- Remove any braids, barrettes or other hair decorations that will interfere with the measurement.
- Have the child to sit comfortably in the arms or lap of a caregiver.
- Position the tape just above the eyebrows, above the ears, and around the biggest part of the back of the head, as in Figure 7.3. The goal is to locate the maximum circumference of the head.
- Pull tape snugly to compress the hair and underlying soft tissues.
- Read measurement to the nearest 0.1 cm and record.
- Reposition tape and re-measure head circumference. If measurements do not agree within 0.2 cm, then reposition tape and re-measure a third time. Record the average of the two measures in closest agreement.

Measuring head circumference[2]

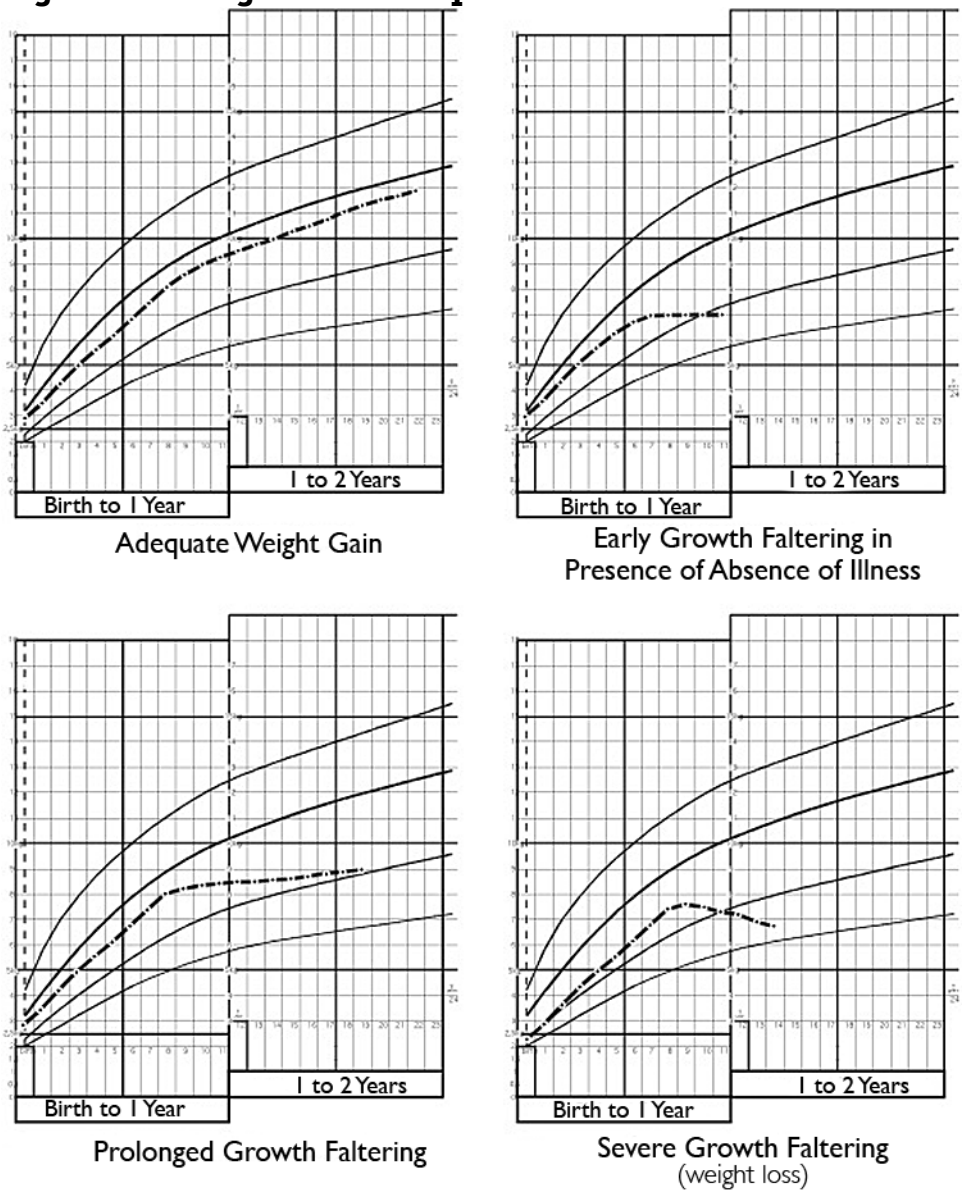


How is Growth Failure Defined?

Growth failure may be the first sign that an HIV-exposed child is infected or that an infected child requires ART. If the child is already receiving ART, growth failure may be a sign of poor treatment adherence or of treatment failure; in such cases, the child's treatment regimen should be reassessed. Growth failure is defined as:

- Weight less than the 3rd percentile for more than two months; or
- A downward crossing of two major weight percentile lines (e.g., a patient who falls from the 25th percentile to below the 3rd percentile); or
- Failure to follow along his or her own curve.

Figure 7.1: Diagrams of Adequate Growth and Growth Faltering



Role of the Healthcare Worker

- Weigh and measure child; plot results on a national growth curve and/or WHO Growth Curves.
- Measure head circumference for children two years and under.
- Provide health education on the importance of growth monitoring and good nutrition.
- Ask mother about her child's eating habits and potential constraints in providing food.
- Counsel and educate mother about the child's nutritional needs.
- If child is stunted or wasted, explore with the mother possible causes of growth failure:
  - *What did your child eat/drink today?*

- *How about yesterday?*
- *Do you normally have enough food to prepare regular meals for your family?*

- Discuss nutrition management or refer appropriately.
- Educate mother on hygienic food preparation and the need for safe water.
- Discuss the child's developmental needs: see table in Appendix 7-F for specific milestones. If a problem is suspected, refer for developmental testing according to national policy and availability.

Role of the Caregivers

- With HCW at each visit, review the child's growth.
- Discuss your child's nutritional habits and needs: what your child eats — how much and how often.
- Breastfeed or prepare nutritious foods and replacement feeds as recommended.
- Alert HCW of any concerns about the growth or development of a child.

Adapted from:
WHO. (2006). Child Growth Standards. Available at: http://www.who.int/hiv/pub/guidelines/en/
National Center for Education in Maternal and Child Health. Bright Futures, Guidelines for Health Supervision of Children, Children, and Adolescents (2nd ed. rev.) Pocket Guide. (2001). Available at: http://www.brightfutures.org/pocket/index.html

Appendix 7-F Developmental Assessment

Impact of HIV on Child Development

- Delayed acquisition of normal developmental milestones or loss of previously acquired skills may be the first sign of HIV in a child whose HIV status is unknown.
- Children living with HIV who are not receiving ART (or children with HIV treatment failure) often experience developmental and neurological disabilities and may be slow to reach expected milestones in motor skills and mental development such as crawling, walking and speaking.
- Prompt treatment with ART may halt progression of neurological damage, improve symptoms and avoid permanent disability. Therefore, it is critical to respond to suspected or confirmed developmental problems.

HIV and suspected or confirmed developmental delay
▪ If the child's HIV status is unknown: Recommend immediate HIV-testing and counselling. ▪ If the child is living with HIV but not yet on ART: Conduct immediate re-evaluation of treatment eligibility. ▪ If the child is HIV-infected and on ART: Conduct immediate evaluation for treatment failure (including assessment of adherence).

Developmental Surveillance

Developmental surveillance is a continuous process where professionals conduct skilled observations of children during their healthcare visits. It includes eliciting and attending to parental concerns, obtaining a relevant developmental history and making accurate and informative observations of children. The aims of developmental surveillance and screening are to identify children at risk of developmental delays or disabilities and to provide them with further evaluation and appropriate interventions.

Early identification of children with developmental delays or disabilities can lead to treatment and/or interventions that lessen its impact on the functioning of the child and family. Children who are identified with developmental challenges and receive intervention early have a greater chance of improving their capabilities.

Monitoring child development should be part of routine care and treatment, especially in the context of HIV because neurological symptoms can occur prior to significant immune suppression. Neurodevelopmental delays or regressions can be a sign of HIV infection, progression and/or treatment failure. In particular, the presence of HIV in the central nervous system can result in HIV encephalopathy, a disease process characterised

by impaired cognitive and motor function paresis or pathological reflexes and failure to attain age appropriate milestones (or the loss of those previously attained).

Improving skills in observing the development of patients and tracking their progress at routine visits is an integral part of quality paediatric healthcare. The table below summarises normal developmental milestones.

Developmental milestones		
	Milestones	**Red flags**
3 months	▪ Turns head toward sound ▪ Smiles ▪ Raises head when on stomach ▪ Brings hand to mouth ▪ Watches faces intently ▪ Recognises familiar people ▪ Follows moving objects with eyes ▪ Vocalises	▪ Does not seem to respond to loud noises ▪ Floppy or excessively stiff ▪ Poor sucking or swallowing ▪ No visual fixation or following ▪ Asymmetry of tone or movement ▪ Excessive head lag ▪ Does not smile
6 months	▪ Sits unsupported or with minimal support ▪ Babbles ▪ Turns to caregiver's voice ▪ Reaches for familiar persons ▪ Reaches for objects ▪ Shows likes and dislikes ▪ Plays with feet when prone ▪ Rolls over	▪ Floppiness or excessive stiffness ▪ Failure to use both hands ▪ No response to sound ▪ Squinting or inability to move both eyes ▪ Does not roll over
9 months	▪ Sits without support ▪ Rolls over ▪ Babbles and imitates sounds ▪ Understands a few words, e.g. "bye-bye" or "no" ▪ Able to drink from a cup and hold a bottle ▪ Points at objects or people ▪ Pulls to stand	▪ Floppiness or excessive stiffness ▪ Unable to sit ▪ No response to sound ▪ Squinting or inability to move both eyes, follow object or face ▪ Persistence of primitive reflexes
12 months	▪ May walk alone or "creep" around furniture ▪ Imitates actions ▪ Looks for toys or objects that are out of sight ▪ Responds to own name ▪ Understands simple	▪ Unable to bear weight on legs ▪ No single words ▪ Does not point to objects ▪ Does not use gestures, such as waving or shaking head

	commands, e.g. "Close the door" ▪ Feeds self finger foods	▪ No response to sound ▪ Unable to grasp objects
18 months	▪ Runs ▪ Scribbles ▪ Throws a ball ▪ Climbs onto chair ▪ Obvious hand preference ▪ Can say 6-20 words ▪ Spoon feeds ▪ Imitates actions ▪ Walks backward	▪ Failure to walk ▪ Unable to understand simple commands ▪ Cannot say any words ▪ Unable to grasp small objects
2 years	▪ Combines words ▪ Asks for food, drink, and toilet ▪ Handles spoon well; spoon feeds without mess ▪ Pretend play ▪ Looks at pictures	▪ Does not develop mature heel-toe walking pattern after several months of walking, or walks only on toes ▪ Does not use a 2-word sentence ▪ Does not understand simple instruction ▪ Poor coordination
3 years	▪ Climbs ▪ Goes up and down stairs ▪ Knows name and sex ▪ Balances on one foot ▪ Puts on a shirt ▪ Speech is understandable	▪ Unstable walk ▪ Few words, no sentences ▪ No involvement in "pretend" play ▪ No interest in other children
4 years	▪ Hops ▪ Knows full name and age ▪ Recognises colours ▪ Dresses and undresses ▪ Make-believe play	▪ Speech difficult to understand because of poor articulation, omission, or substitutions of consonants ▪ No interest in interactive games ▪ No interest in other children ▪ Does not use sentences
*Note that a loss of skills from one visit to the next is always cause for concern.		

Appendix 7-G Zambia EPI Schedule

Zambia Immunisation Recommendations for Children Living with HIV[1]

Age of Child	Vaccine
Birth[2]	OPV-0
6 weeks	DPT-1[3], OPV-1[4], Hib-1[5], PCV-1[6], HepB-1[7]
10 weeks	DPT-2, OPV-2, Hib-2, PCV-2, HepB-2
14 weeks	DPT-3, OPV-3, Hib-3, PCV-3, HepB-3
6 months	Measles[8] or MMR
9 months	Measles or MMR
Key:	
▪ BCG = bacille Calmette-Guérin ▪ OPV = oral polio ▪ DPT = diphtheria, pertussis, tetanus	▪ Hib = haemophilus influenzae type b ▪ PCV = pneumococcal conjugate ▪ HepB = Hepatitis B

[1] Additional immunisations may be included in national recommendations that account for local disease prevalence.

[2] **BCG**. WHO recommends (2007) that children who are known to be HIV-infected, even if asymptomatic, should not be immunised with BCG vaccine. Recent evidence shows that children who were HIV-infected when vaccinated with BCG at birth and who later developed AIDS, were at increased risk of developing disseminated BCG disease. Among these children, the benefits of potentially preventing severe TB are outweighed by the risks associated with the use of BCG vaccine. However, because of the difficulties in identifying children infected with HIV at birth, BCG vaccination may need to be given at birth to all children regardless of HIV exposure, in areas with high endemicity of tuberculosis and populations with high HIV prevalence.

[3] **DTP**. Children who have either recurrent convulsions or active central nervous system disease or who have had shock or convulsions within 3 days of receiving a DPT vaccination should not receive subsequent DPT vaccinations. For those children, substitute the DT (diphtheria–tetanus) formulation. All subsequent DT immunisations may be given.

[4] **OPV**. If the child has diarrhoea and is scheduled to receive OPV, the dose should be given as scheduled. However, the dose should not be counted in the schedule, and an additional dose of OPV should be given after the diarrhoea has resolved.

[5] **Hib**. The first dose of *Haemophilus influenzae* type b vaccine can be given at six weeks of age or older. Give three doses at 4-8 week intervals. Some countries recommend a booster dose at 12-18 months of age. Hib should be delayed if the child is severely immunocompromised.

[6] **PCV**. The first dose of PCV can be given at 6 weeks of age or older, and then at intervals of at least 4 weeks. The vaccine may be administered along with other vaccines provided that a separate syringe and injection site are used.

[7] **HepB**. There are multiple Hepatitis B vaccinations schedules depending on local epidemiology. Provide 3 doses of the vaccine at least four weeks apart (minimum four week intervals). Doses may be given as noted above or first dose can be given at birth, followed by a second and third dose at the time of the first and third diphtheria–tetanus–pertussis (DTP) vaccination. Alternatively, a four-dose schedule may be used where the dose at birth is followed by three additional doses, following the schedules commonly used for DTP or Hib.

[8] **MMR**. Because of the increased risk of early and severe measles infection, HIV-exposed children who are not severely immunocompromised should receive a dose of standard measles vaccine (or where measles-mumps-rubella (MMR) combined vaccine is given, combined MMR vaccine is recommended whenever one or more of the individual components are indicated) at 6 months of age with a second dose as soon after the age of 9 months as possible. Children who are severely immunosuppressed (based on age-specific CD4 lymphocyte) due to HIV infection should not receive measles vaccine until immunological improvement is observed.

All children who have been exposed to HIV should be fully immunised according to age. Because most children who are HIV-infected do not have severe immune suppression during the first year of life, immunisation should occur as early as possible after the recommended age to optimise the immune response.

BCG and live attenuated vaccines (including influenza, Japanese encephalitis, measles, mumps, rubella, typhoid, varicella and yellow fever) should not be given to children with signs or symptoms of HIV infection.

Appendix 7-H Cotrimoxazole Dosing in Infants and Children

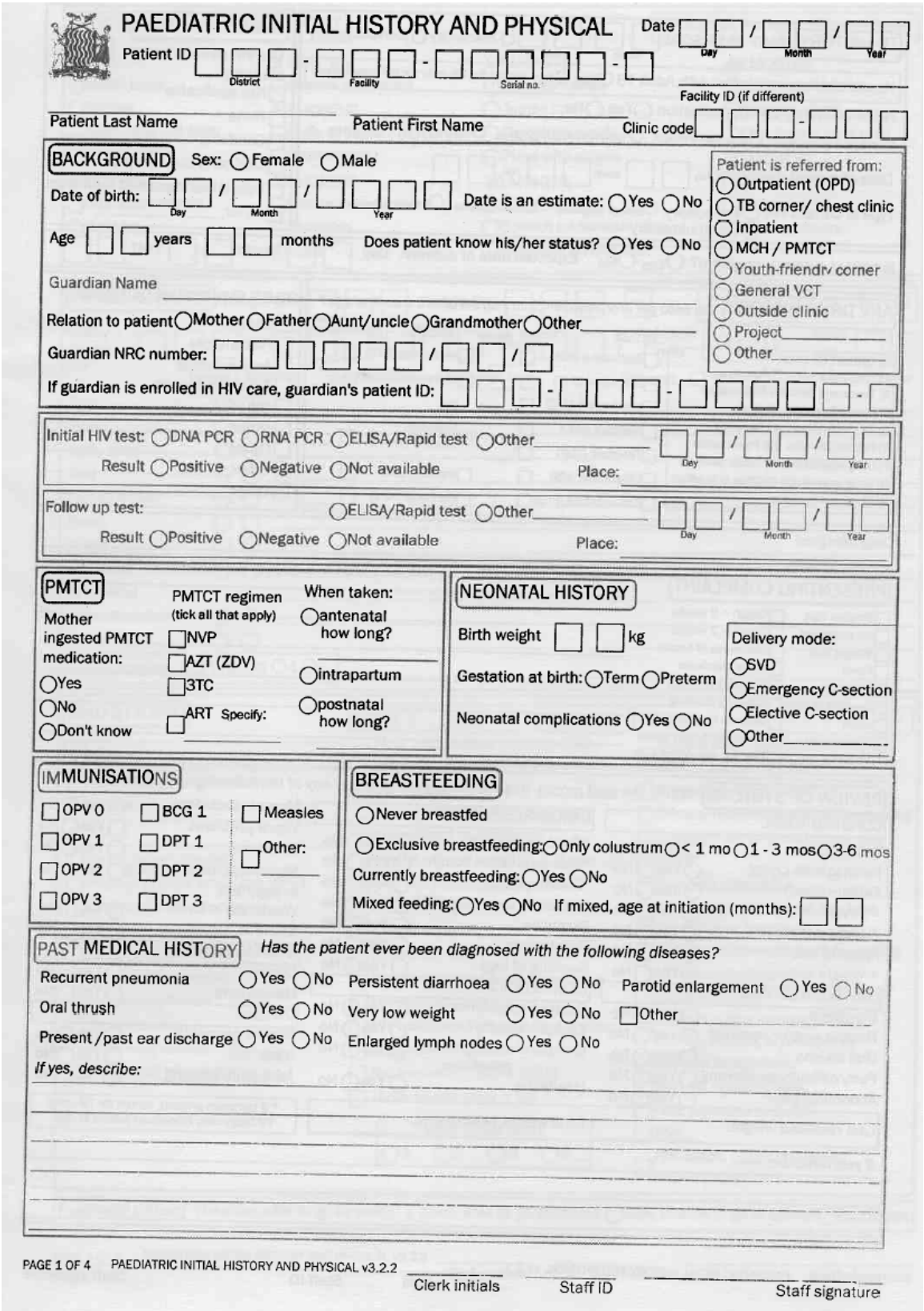
Cotrimoxazole Prophylaxis for Children Dosing Recommendations		
Trimethoprim/Sulfamethoxazole, CTX/SMZ, Cotrimoxazole, Septrim®, Bactrim®		
Age	**Suspension 40 mg TMP/200 mg SMZ per 5 ml**	**Single-Strength Tablet 80 mg TMP/400 mg SMZ**
< 6 months	2.5 ml daily	1/4 tablet daily
6 months–5 years	5 ml daily	1/2 tablet daily
6 years–14 years	10 ml daily	1 tablet daily
>14 years	—	2 single-strength or 1 double-strength tablet daily

Paediatric CTX prophylaxis is recommended for:

- All HIV-exposed children (i.e. all children whose mothers are known to have HIV) from 4–6 weeks of age until the child is no longer breastfeeding and is determined to be uninfected
- All HIV-infected children under 12 months
- All HIV-infected children 1–4 years with:
  - Clinical stage 2, 3 or 4 disease
  - CD4 < 25 %
- All HIV-infected children under 5 years with:
  - Clinical stage 3 or 4 disease
  - CD4 < 350
- All HIV-infected children with prior Pneumocystis pneumonia

Adapted from: Republic of Zambia Ministry of Health. (2007). Zambian Guidelines for Antiretroviral Therapy of HIV Infection in Infants and Children

Appendix 7-I Paediatric Initial History and Physical Form



PAEDIATRIC INITIAL HISTORY AND PHYSICAL

Date ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Patient ID ☐☐☐ - ☐☐☐ - ☐☐☐☐☐ - ☐ (District - Facility - Serial no.)

Facility ID (if different) _____

Patient Last Name _____ Patient First Name _____ Clinic code ☐☐☐ - ☐☐☐

BACKGROUND

Sex: ◯ Female ◯ Male

Date of birth: ☐☐ / ☐☐ / ☐☐☐☐ (Day / Month / Year) Date is an estimate: ◯ Yes ◯ No

Age ☐☐ years ☐☐ months Does patient know his/her status? ◯ Yes ◯ No

Guardian Name _____

Relation to patient ◯ Mother ◯ Father ◯ Aunt/uncle ◯ Grandmother ◯ Other _____

Guardian NRC number: ☐☐☐☐☐☐ / ☐☐ / ☐

If guardian is enrolled in HIV care, guardian's patient ID: ☐☐☐ - ☐☐☐ - ☐☐☐☐ - ☐

Patient is referred from:
- ◯ Outpatient (OPD)
- ◯ TB corner/ chest clinic
- ◯ Inpatient
- ◯ MCH / PMTCT
- ◯ Youth-friendly corner
- ◯ General VCT
- ◯ Outside clinic
- ◯ Project _____
- ◯ Other _____

Initial HIV test: ◯ DNA PCR ◯ RNA PCR ◯ ELISA/Rapid test ◯ Other _____ ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Result ◯ Positive ◯ Negative ◯ Not available Place: _____

Follow up test: ◯ ELISA/Rapid test ◯ Other _____ ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Result ◯ Positive ◯ Negative ◯ Not available Place: _____

PMTCT

Mother ingested PMTCT medication:
- ◯ Yes
- ◯ No
- ◯ Don't know

PMTCT regimen (tick all that apply)
- ☐ NVP
- ☐ AZT (ZDV)
- ☐ 3TC
- ☐ ART Specify: _____

When taken:
- ◯ antenatal how long? _____
- ◯ intrapartum
- ◯ postnatal how long? _____

NEONATAL HISTORY

Birth weight ☐☐ kg

Gestation at birth: ◯ Term ◯ Preterm

Neonatal complications ◯ Yes ◯ No

Delivery mode:
- ◯ SVD
- ◯ Emergency C-section
- ◯ Elective C-section
- ◯ Other _____

IMMUNISATIONS

☐ OPV 0	☐ BCG 1	☐ Measles
☐ OPV 1	☐ DPT 1	☐ Other: _____
☐ OPV 2	☐ DPT 2	
☐ OPV 3	☐ DPT 3	

BREASTFEEDING

◯ Never breastfed

◯ Exclusive breastfeeding: ◯ Only colustrum ◯ < 1 mo ◯ 1 - 3 mos ◯ 3-6 mos

Currently breastfeeding: ◯ Yes ◯ No

Mixed feeding: ◯ Yes ◯ No If mixed, age at initiation (months): ☐☐

PAST MEDICAL HISTORY *Has the patient ever been diagnosed with the following diseases?*

Recurrent pneumonia	◯ Yes ◯ No	Persistent diarrhoea	◯ Yes ◯ No	Parotid enlargement	◯ Yes ◯ No
Oral thrush	◯ Yes ◯ No	Very low weight	◯ Yes ◯ No	☐ Other	_____
Present /past ear discharge	◯ Yes ◯ No	Enlarged lymph nodes	◯ Yes ◯ No		

If yes, describe: _____

PAGE 1 OF 4 PAEDIATRIC INITIAL HISTORY AND PHYSICAL v3.2.2 Clerk initials _____ Staff ID _____ Staff signature _____

TB HISTORY PAST TB EPISODE ☐☐/☐☐ (Month/Year) ○ Pulmonary ○ Extrapulmonary

Household/known contact with Adult TB ○Yes ○No *Screen for TB; refer for INH prophylaxis*

Patient currently on TB medication ○Yes ○No

Current TB drugs: ○INH/RIF/ETH/PZ ○INH/RIF/ETH/PZ/Strep ○INH/RIF/ETH ○ETH/INH

Date of current diagnosis: Day ☐☐ Month ☐☐ Year ☐☐

Type of current TB: ○Pulmonary: ○Smear negative ○Smear positive ○Smear unknown ○Extrapulmonary

FAMILY PLANNING

Current patient/partner family planning:

- ☐Not applicable
- ☐None
- ☐Condoms
- ☐Oral contraceptive pills
- ☐Injectable/implanted hormones
- ☐Other_____

Is patient currently pregnant? ○Yes ○No Expected date of delivery: Day ☐☐ Month ☐☐ Year ☐☐

ARV DRUG HISTORY *Did child get ARV treatment (not PMTCT) after 1 month of age?*

REASONS FOR STOP
A) Pregnancy I) Anaemia
B) Treatment failure J) Neuropathy
C) Poor adherence K) Rash
D) TB medication L) Hepatitis
E) Patient decision M) Pancreatitis
F) Drug interaction N) Lactic acidosis
G) Drug unavailable O) Other side effect
H) Physician decision

NRTIs	Current?	Reason stopped	NNRTIs	Current?	Reason stopped
☐Zidovudine (AZT)	☐	___	☐Nevirapine (NVP)	☐	___
☐Stavudine (D4T)	☐	___	☐Efavirenz (EFV)	☐	___
☐Lamivudine (3TC)	☐	___	PIs		
☐Abacavir (ABC)	☐	___	☐Lopinavir/ritonavir (LPV/r)	☐	___
☐Tenofovir (TDF)	☐	___			
☐Didanosine (ddI)	☐	___	☐Indinavir (IDV)	☐	___
☐Emtricitabine (FTC)	☐	___	☐Nelfinavir (NFV)	☐	___

OTHER CURRENT MEDICATIONS

- ☐Septrin
- ☐Fluconazole
- ☐Anti-malarials
- ☐Traditional meds
- ☐Other_____
- ☐Other_____
- ☐Other_____
- ☐Other_____
- ☐Other_____

Drug allergies:

PRESENTING COMPLAINT *Tick at left if patient mentions any complaints listed. Note duration, recurrence below.*

☐Routine visit	☐Cough < 2 weeks
☐No complaint	☐Cough > 2 weeks
☐Weight loss	☐Shortness of breath
☐Fever	☐Acute diarrhoea
☐Lethargic	☐Chronic diarrhoea
☐Swelling of feet	☐Difficulty drinking
☐Rash	☐Sores in mouth
☐Convulsions	☐Swellings/lymph nodes
☐Vomiting	☐Eye/ear pain/discharge

REVIEW OF SYSTEMS *Within the past month, has the patient experienced any of the following symptoms:*

CONSTITUTIONAL

Irritability	○Yes ○No
Inconsolable crying	○Yes ○No
Fatigue (tired)	○Yes ○No
* Fever	○Yes ○No
* Night sweats	○Yes ○No
Appetite loss	○Yes ○No
* Weight loss	○Yes ○No

GASTROINTESTINAL

Diarrhoea	○Yes ○No
Nausea and/or vomiting	○Yes ○No
Oral lesions	○Yes ○No
Pain/difficulty swallowing	○Yes ○No
Abdominal pain	○Yes ○No

CARDIO-RESPIRATORY

*Productive cough	○Yes ○No
*Non-productive cough	○Yes ○No
*Haemoptysis	○Yes ○No
*Difficulty breathing/SOB	○Yes ○No
Dizziness	○Yes ○No
Palpitations	○Yes ○No
Swelling of legs	○Yes ○No

NEUROLOGICAL

Delayed milestones	○Yes ○No
Encephalopathy	○Yes ○No
Changes in developmental milestones	○Yes ○No
Headache	○Yes ○No
Memory problems	○Yes ○No
Visual problems	○Yes ○No
Confusion	○Yes ○No
Numbness/pain/burning in legs/feet	○Yes ○No
Weakness in limbs	○Yes ○No
Seizures	○Yes ○No

GENITAL-URINARY

Dysuria	○Yes ○No
Haematuria	○Yes ○No

OTHER

Napkin dermatitis	○Yes ○No
Rash	○Yes ○No
Joint pain/swelling	○Yes ○No

Last recorded weight: _____ Date weight taken (mo/yr): _____

** If symptom present, screen for TB using TB Diagnostic Worksheet (where in use)*

If yes, describe:

DEVELOPMENTAL ASSESSMENT

Appropriate for age? ◯Yes ◯No

3 MONTHS
- ◯Holds head
- ◯Smiles
- ◯Starting to roll from front to back

6 MONTHS
- ◯Sits unsupported
- ◯Babbles

9 MONTHS
- ◯Stands supported

12 MONTHS
- ◯Pulls to stand
- ◯Says mama

18 MONTHS
- ◯Can remove clothing
- ◯Scribbles
- ◯Runs

24 MONTHS
- ◯Washes hands
- ◯Jumps up
- ◯Combines words
- ◯Plays with others

36 MONTHS
- ◯Can put on shirt
- ◯Speech understandable
- ◯Balances on one foot

48 MONTHS
- ◯Hops on one foot
- ◯Dresses alone
- ◯Can draw a stick man

60 MONTHS
- ◯Heel-to-toe walks
- ◯Counts to 10
- ◯Knows colours

PHYSICAL EXAM

Height (cm) ☐☐☐ Weight (kg) ☐☐☐.☐ SD ◯>M ◯-1 ◯-2 ◯-3 ◯-4

Head circum (cm) ☐☐☐ BP ☐☐☐/☐☐☐ Temp ☐☐.☐ Heart rate ☐☐☐ Resp rate ☐☐

	Normal	Abnormal	*Describe any abnormal findings below*
Skin	◯	◯	
Eyes	◯	◯	
Ears, nose	◯	◯	
Oral	◯	◯	
Lymph nodes	◯	◯	
Heart	◯	◯	
Lungs	◯	◯	
Abdomen	◯	◯	
Urogenital	◯	◯	
Musculoskeletal	◯	◯	
Neurological	◯	◯	

General: ☐ Pallor ☐ Jaundice ☐ Edema

Tanner staging ◯1 ◯2 ◯3 ◯4 ◯5

WHO STAGING

STAGE 1
- ☐ Asymptomatic HIV infection
- ☐ Persistent gen. lymphadenopathy

STAGE 2
- ☐ Hepatosplenomegaly
- ☐ Papular pruritic eruptions (PPE)
- ☐ Extensive wart infections
- ☐ Extensive molluscum
- ☐ Recurrent oral ulcers
- ☐ Parotid enlargement
- ☐ Gingival erythema
- ☐ Herpes zoster
- ☐ Recurrent/chronic URTIs
- ☐ Fungal nail infections

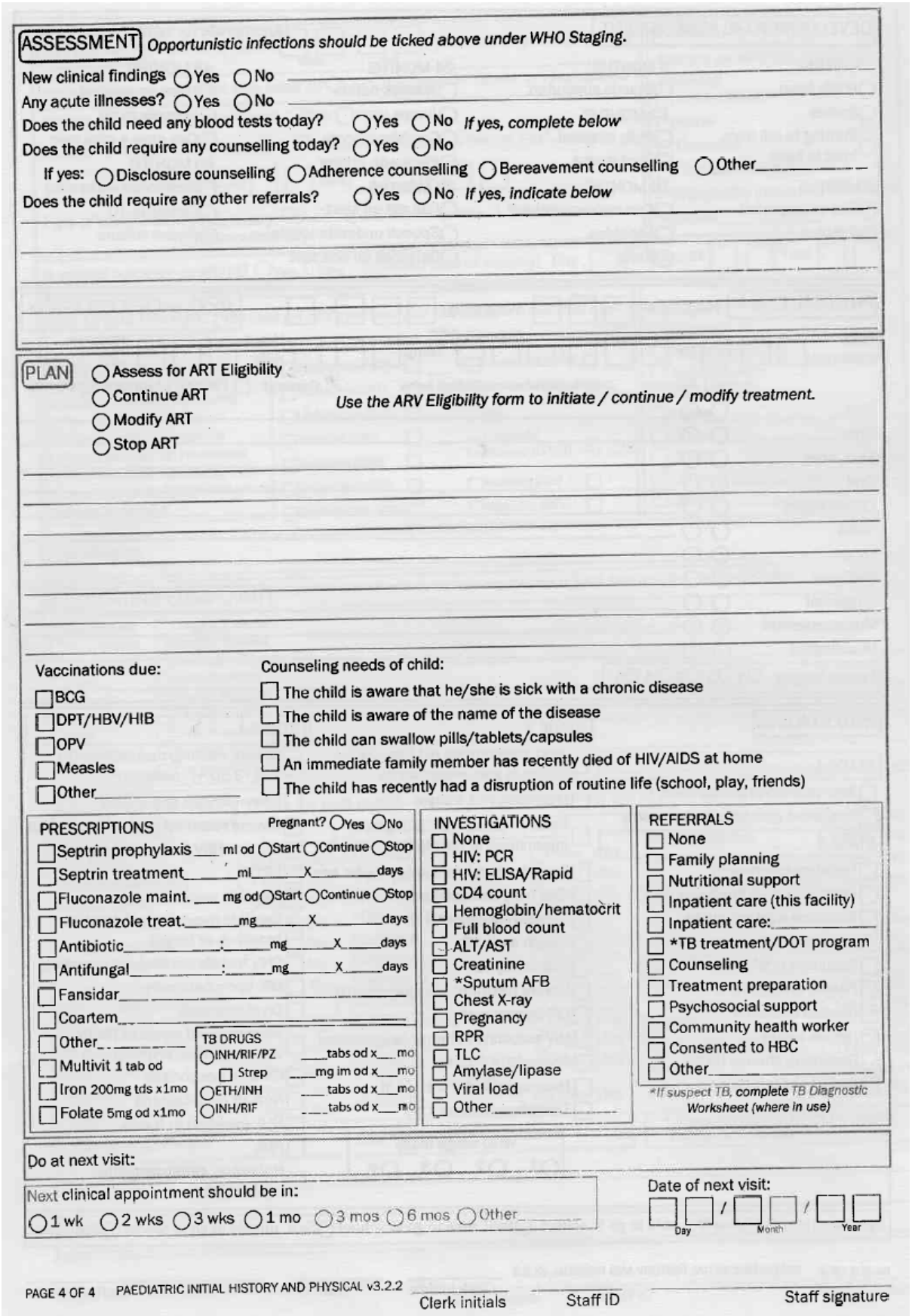
STAGE 3
- ☐ Mod. malnutrition (wt loss -2SD / failure to gain weight on R)
- ☐ Diarrhoea (> 14 days)
- ☐ Fever (> 1 mo, > 37.5 degrees, intermittent or constant)
- ☐ Persistent oral candida, > 6 wks age
- ☐ Oral hairy leukoplakia
- ☐ Necrotizing gingivitis
- ☐ Lymph node TB
- ☐ Pulmonary TB
- ☐ Severe recurrent bact pneumonia
- ☐ LIP (symptomatic)
- ☐ HIV-associated chronic lung disease
- ☐ Anaemia (< 8 g/dl)
- ☐ Neutropenia (< 0.5 x 10^9/l)
- ☐ Thrombocytopenia < 50

WHO Stage today ◯1 ◯2 ◯3 ◯4

STAGE 4
- ☐ Severe wasting/malnutrition (wt loss -3 SD +/- oedema)
- ☐ Pneumocystis pneumonia
- ☐ Severe recurrent bact inf (excl pneu)
- ☐ Chronic HSV (> 1 mo) at any site
- ☐ EPTB
- ☐ Kaposi's sarcoma
- ☐ Candida (oesophageal, trachea, bronchus or lungs)
- ☐ CNS toxoplasmosis (excl neonates)
- ☐ HIV encephalopathy
- ☐ Cryptococcosis
- ☐ Disseminated mycoses (histo, coccid, penicill, cryptosporid)
- ☐ Chronic isosporiasis
- ☐ Non-TB mycobacteria
- ☐ NHL (cerebral or B cell)
- ☐ PML
- ☐ HIV-assoc. cardiomyopathy/ nephropathy

Functional status: ◯Healthy, able to go to school ◯Sick, able to go to school ◯Sick, unable to go to school ◯Bedridden

Clerk initials _____ Staff ID _____ Staff signature _____



ASSESSMENT *Opportunistic infections should be ticked above under WHO Staging.*

New clinical findings ◯Yes ◯No _____

Any acute illnesses? ◯Yes ◯No _____

Does the child need any blood tests today? ◯Yes ◯No *If yes, complete below*

Does the child require any counselling today? ◯Yes ◯No

If yes: ◯Disclosure counselling ◯Adherence counselling ◯Bereavement counselling ◯Other_____

Does the child require any other referrals? ◯Yes ◯No *If yes, indicate below*

PLAN

◯Assess for ART Eligibility
◯Continue ART
◯Modify ART
◯Stop ART

Use the ARV Eligibility form to initiate / continue / modify treatment.

Vaccinations due:

☐BCG
☐DPT/HBV/HIB
☐OPV
☐Measles
☐Other_____

Counseling needs of child:

☐The child is aware that he/she is sick with a chronic disease
☐The child is aware of the name of the disease
☐The child can swallow pills/tablets/capsules
☐An immediate family member has recently died of HIV/AIDS at home
☐The child has recently had a disruption of routine life (school, play, friends)

PRESCRIPTIONS Pregnant? ◯Yes ◯No

☐Septrin prophylaxis ___ ml od ◯Start ◯Continue ◯Stop
☐Septrin treatment_____ml_____X_____days
☐Fluconazole maint. ___ mg od ◯Start ◯Continue ◯Stop
☐Fluconazole treat._____mg_____X_____days
☐Antibiotic_____:_____mg_____X_____days
☐Antifungal_____:_____mg_____X_____days
☐Fansidar_____
☐Coartem_____
☐Other_____
☐Multivit 1 tab od
☐Iron 200mg tds x1mo
☐Folate 5mg od x1mo

TB DRUGS
◯INH/RIF/PZ ____tabs od x___mo
☐Strep ____mg im od x___mo
◯ETH/INH ____tabs od x___mo
◯INH/RIF ____tabs od x___mo

INVESTIGATIONS
☐None
☐HIV: PCR
☐HIV: ELISA/Rapid
☐CD4 count
☐Hemoglobin/hematocrit
☐Full blood count
☐ALT/AST
☐Creatinine
☐*Sputum AFB
☐Chest X-ray
☐Pregnancy
☐RPR
☐TLC
☐Amylase/lipase
☐Viral load
☐Other_____

REFERRALS
☐None
☐Family planning
☐Nutritional support
☐Inpatient care (this facility)
☐Inpatient care:_____
☐*TB treatment/DOT program
☐Counseling
☐Treatment preparation
☐Psychosocial support
☐Community health worker
☐Consented to HBC
☐Other_____

If suspect TB, complete TB Diagnostic Worksheet (where in use)

Do at next visit:

Next clinical appointment should be in:
◯1 wk ◯2 wks ◯3 wks ◯1 mo ◯3 mos ◯6 mos ◯Other_____

Date of next visit: ☐☐/☐☐/☐☐ Day / Month / Year

PAGE 4 OF 4 PAEDIATRIC INITIAL HISTORY AND PHYSICAL v3.2.2 Clerk initials Staff ID Staff signature

Source: Republic of Zambia Ministry of Health. (2007). Zambian Guidelines for Antiretroviral Therapy of HIV Infection in Infants and Children

Appendix 7-J WHO Staging for Children

WHO Staging for Children with Established HIV Infection

Clinical Stages	
Clinical Stage 1	
▪ Asymptomatic	▪ Persistent generalised lymphadenopathy
Clinical Stage 2	
▪ Unexplained persistent hepatosplenomegaly ▪ Papular pruritic eruptions ▪ Extensive wart virus infection ▪ Extensive molluscum contagiosum ▪ Recurrent oral ulcerations ▪ Unexplained persistent parotid enlargement	▪ Lineal gingival erythema ▪ Herpes zoster ▪ Recurrent or chronic upper respiratory tract infection (otitis media, otorrhea, sinusitis, tonsillitis) ▪ Fungal nail infections
Clinical Stage 3	
▪ Unexplained moderate malnutrition not adequately responding to standard therapy ▪ Unexplained persistent diarrhoea (14 days or more) ▪ Unexplained persistent fever (above 37.5°C intermittent or constant, for longer than 1 month) ▪ Persistent oral Candida (outside first 6–8 weeks of life) ▪ Oral hairyleukoplakia ▪ Acute necrotizing ulcerative gingivitis/periodontitis	▪ Lymph node TB ▪ Pulmonary TB ▪ Severe recurrent presumed bacterial pneumonia ▪ Symptomatic lymphoid interstitial pneumonitis ▪ Chronic HIV-associated lung disease including bronchiectasis ▪ Unexplained anaemia (<8g/dl), neutropenia (<05 x 109) or chronic thrombocytopenia (<50 x 109/13)
Clinical Stage 4	
▪ Unexplained severe wasting, stunting or severe malnutrition not responding to standard therapy ▪ Pneumocystis pneumonia ▪ Recurrent severe bacterial infections (e.g. empyema, pyomyositis, bone or joint infection, meningitis, but excluding pneumonia) ▪ Chronic herpes simplex	▪ Cytomegalovirus (CMV) infection; retinitis or CMV infection affecting another organ, with onset at age >1 month. ▪ Extra pulmonary cryptococcosis including meningitis ▪ Disseminated endemic mycosis (extra pulmonary histoplasmosis, coccidiomycosis, penicilliosis) ▪ Chronic Cryptosporidiosis ▪ Chronic Isosporiasis

infection; (orolabial or cutaneous > 1 month' s duration or visceral at any site) ■ Extra pulmonary tuberculosis ■ Kaposi sarcoma ■ Esophageal candidacies (or Candida of trachea, bronchi or lungs) ■ Central nervous system toxoplasmosis (outside the neonatal period) ■ HIV encephalopathy	■ Disseminated non-tuberculous mycobacteria infection ■ Acquired HIV-associated rectal fistula ■ Cerebral or B cell non-Hodgkin lymphoma ■ Progressive multifocal leukoencephalopathy ■ HIV-associated cardiomyopathy or HIV-associated nephropathy

Adapted from: Republic of Zambia Ministry of Health. (2007): Zambian Guidelines for Antiretroviral Therapy of HIV Infection in Infants and Children

Appendix 7-K Paediatric ART Eligibility

WHO Recommendations on When to Start ART in Children, According to Age, Clinical Stage and Laboratory Measures

Treatment Based on WHO Staging

WHO Paediatric Stage	Availability of CD4 cell measurements	WHO Age Specific Treatment Recommendation	
		<12 months	>12 months
4[a]	CD4	Treat all	
	No CD4[b]		
3[a]	CD4	Treat all	Treat all; CD4 guided in those children with TB[c], LIP, OHL, thrombocytopenia
	No CD4[b]		Treat all[c]
2	CD4	Treat all	CD4-guided
	No CD4[b]	Treat all	TLC-guided
1	CD4	Treat all	CD4-guided
	No CD4[b]	Treat all	Do not treat

LIP-lymphocytic interstitial pneumonia; OHL-Oral hairy leukoplakia; TB-tuberculosis

[a] Stabilise any opportunistic infection prior to initiation of ART.

[b] Baseline CD4 is useful to monitor ART even if it is not required to initiate ART.

[c] In children with pulmonary or lymph node TB, the CD4 level and clinical status should be used to determine the need for and timing of initiation of ART in relation to TB treatment.

Summary of WHO recommendations for ART initiation in children

- **Children with established HIV infection should start ART if they**:
  - Are twelve months of age and younger (irrespective of CD4 or clinical stage) OR
- **Children with established HIV infection classified as:**
  - WHO Paediatric Clinical Stage 4 disease (irrespective of CD4)
  - WHO Paediatric Clinical Stage 3 disease (irrespective of CD4 although it may add guidance); for children aged older than 12 months with tuberculosis or lymphocytic interstitial pneumonia or oral hairy leukoplakia or thrombocytopenia; if CD4 is available, ART initiation may be delayed; if CD4 is below threshold of 350, initiate ART
  - WHO Paediatric Clinical Stage 2 disease and CD4 or TLC[b] value at or below threshold of 350

- WHO Paediatric Clinical Stage 1 disease and CD4 value at or below threshold of 350.

- Where virological testing is not available to confirm HIV infection, HIV antibody positive children less than 18 months of age should be considered for ART if they have clinically diagnosed Presumed Severe HIV disease.

Adapted from: Republic of Zambia Ministry of Health. (2007). Zambian Guidelines for Antiretroviral Therapy of HIV Infection in Infants and Children.

Appendix 7-L Paediatric ART Regimens in Zambia

Summary of recommended preferred first-line ARV regimens for children
Regimen of 2 NRTI plus 1 NNRTI[a]: [A (II)]*
AZT[b] +3TC[c] +NVP[d]/ EFV[e]
d4T[b] +3TC[c] +NVP[d]/ EFV[e]
ABC +3TC[c] +NVP[d]/ EFV[e]
Notes: * Strength of recommendation/level of evidence a. The use of AZT, d4T, ABC with 3TC results in several possible dual nucleoside combinations including AZT +3TC; d4T +3TC; ABC +3TC. b. AZT should not be given in combination with d4T. c. Where available, FTC can be used instead of 3TC in children older than 3 months of age. d. NVP should be avoided in post pubertal adolescent girls (considered as adults for treatment purposes) with baseline CD4 absolute cell counts >250/mm^3. e. EFV is not currently recommended for children under 3 years of age or under 10kg, and should be avoided in post pubertal adolescent girls who are either in 1st trimester of pregnancy or are sexually active and not receiving adequate contraception.

Recommended alternative ARV regimen for children to simplify management of toxicity, co-morbidity and drug-drug interaction
Regimen of Triple NRTI: [C (III)]*
AZT/d4T[a] +3TC[b] +ABC
Notes: * Strength of recommendation/level of evidence a. AZT should not be given in combination with d4T b. Where available, FTC can be used instead of 3TC.

Appendix 7-M Practical Tips on Giving Paediatric ART

Measurement of daily doses:

Paediatric dosing must be precise to ensure adequate therapeutic levels. When possible, caregivers should use syringes to measure and administer liquid medication. Caregivers should be discouraged from using household spoons as they may vary in size, which can lead to inaccurate dosing.

- Use brightly coloured tape or permanent marker to mark the correct volume of syringes.
- Use a different syringe for each medication. Consider labelling each type of syringe and its appropriate bottle with the same colour tape.
- Syringes can be reused until the markings or tape begins to wear off or the plunger becomes difficult to manipulate. Syringes should be gently washed with warm soapy water, rinsed well and allowed to air dry.
- Have the caregiver practise drawing up medication while at the clinic. Discuss common problems and solutions with measuring liquids, e.g., what if the medicine is too sticky? What if it spills?

Medication storage:

It is best to avoid high temperatures for all medication. Medication should not be stored in direct sunlight or in other spots likely to become very hot. Most drugs should be kept in a cool place. In particular, Lopinavir/Ritonavir (Kaletra®) needs to be stored in a cool place. If refrigeration is available, caregivers should be informed to keep this medication in the refrigerator. If not, ask where in the home cool items are stored — is there a cool pot, extra water jug or cooler?

Lopinavir/Ritonavir liquid must be stored in a glass container, as the liquid may corrode plastic. The pharmacist will dispense this medication in a glass container, and patients should be advised to draw medication into the syringes only at the time of administration. A filled syringe should not be used to store or transport doses.

Masking the taste of medication:

- For liquid medication, first draw up the medicine in a syringe to measure the proper volume. Combine with 5–10 cc of tasty liquid such as juice, milk or non-alcoholic beverage. Do not combine with large volumes. Mix vigorously. Be sure that the caregiver is aware the child must drink the full amount.

- Alternatively, dip the syringe tip into something sweet to mask the initial taste or give small amounts of beverage pre- and post-medication administration.
- For pills, crush with a mortar and pestle until fine. For capsules, open the capsule into a small bowl. Add 1–2 teaspoons of food (jelly, jam, crushed banana, cereal) and combine vigorously. Feed child all of the food to ensure that all medication is consumed.
- Review which medication in tablet form can be broken in half and swallowed for older children. Hard tablets may be dipped and coated with sauce or any other viscous food product to help the older children swallow pills.
- Immediately after administering medication, offer child a sweet-tasting food to mask the taste of the medication. Administration of sweet or tangy substance prior to giving medication may also be helpful.
- Remember to give lots of praise after each dose!

Avoiding or minimising nausea:

- It is important to ask if the medication causes nausea, since this will be a powerful barrier to adherence. If the medication does make children nauseated, the following interventions may be helpful.
- Offer the child a small meal of bland food (cereal, crackers and bread). Shortly thereafter, administer medication.
- Administer tablets and capsules with only enough water or beverage needed to swallow. Children have a tendency to drink much more water than necessary, which often leads to vomiting due to the large volume of liquid.
- Reassure the caregiver that the nausea is usually temporary until the child's body gets used to the medicine. Stress the importance of giving meds in a calm, unhurried manner, especially during the first few weeks.

Behavioural suggestions:

- When caregivers make taking medications into a routine, it will be easier for the child and caregiver stick to the medication schedule and avoid missing doses.
- For medications that are bad-tasting, in addition to masking the taste, caregivers might offer a reward, such as a sweet, or a special treat, for taking the medication.
- As children get older, having them take more control over medication, with caregivers watching, will allow the children to feel more of a sense of independence over taking the medication.
- Caregivers should also know that during adolescence, medication adherence may become an issue for teenagers, as they try to become more independent of adults; challenges and questions should be answered with honesty with a focus on the need for the medications to remain healthy.

References and Resources

Republic of Zambia Ministry of Health. (2008). Paediatric HIV Care Training Course, 3rd ed.

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WHO (2008). Scale up of HIV related Prevention, Diagnosis, care and treatment for infants and children: A programming framework. http://www.unicef.org/aids/files/OMS_PAEDS_Programming_Frameworks_WEB.pdf

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[2] Royal College of Paediatrics and Child Health (2009): Measuring and Plotting using the new UK-WHO Growth Charts. Available at: http://www.rcpch.ac.uk/Research/Growth_ Charts_Education_Training_Resources

Module 8 Record Keeping, Monitoring and Quality Assurance

Total Module Time: 135 minutes (2 hours, 15 minutes)

Learning Objectives

After completing this module, participants will be able to:

- Describe the purpose of monitoring and evaluation.
- Describe how indicators and targets are used in the process of monitoring and evaluation.
- Discuss the relationship between record keeping and monitoring and evaluation.
- Describe the data collection tools used for monitoring of paediatric PITC programmes.
- Describe the purpose of quality assurance (QA).
- Define and describe supportive supervision.

Session 8.1: PITC Programme Monitoring

Session 8.2: Paediatric PITC Data Collection

Session 8.3: Quality Assurance and Supportive Supervision

Session 8.1 PITC Programme Monitoring

Session Objectives

After completing this session participants will be able to:

- Describe the purpose of monitoring and evaluation.
- Describe how indicators and targets are used in the process of monitoring and evaluation.
- Discuss the relationship between record keeping and monitoring and evaluation.

Monitoring

Monitoring is the routine collection and tracking of data about programme performance over time. Monitoring is a process that helps to ensure that implementation problems are identified early and corrected quickly. This requires that data be collected, compiled and analysed on a routine basis.

Monitoring can only answer those questions for which the programme is routinely collecting accurate data. As such, the healthcare worker plays a vital role in the monitoring process by regularly documenting data such as the number of children admitted to the ward, the number of caregivers provided with pre-test information, the number of children tested for HIV and the number of caregivers who receive results and participate in post-test counselling.

Targets are specific goals established before a new programme or service is implemented and on a regular basis thereafter. For example, at the initiation of a paediatric PITC programme, a target may be "To test at least 90% of children of unknown HIV status who are admitted to the hospital." Once the programme is well-established and meeting this target, the target would be re-evaluated, with the aim of continuous programme improvement.

Table 8.1: The purpose of PITC programme monitoring

Paediatric PITC programme monitoring will help:	
▪ Assess whether the programme is meeting its established targets.	Example: If a facility's target is to test at least 90% of children of unknown HIV status who are admitted to the hospital, the following data might be collected to determine if the target was met: ▪ The total number of hospitalised children tested for HIV ▪ The total number of children of unknown HIV status admitted to the hospital To determine the percentage of eligible children tested for HIV, e.g. 90 hospitalised children tested out of 100 hospitalised children eligible for testing=90/100 x 100%=90%
▪ Identify and improve problem areas in PITC programming.	Example: If monitoring data shows that only 75% of eligible hospitalised children are tested for HIV (far short of the 90% target), then barriers to the implementation of paediatric PITC must be identified and strategies developed to address these barriers.
▪ Improve utilisation of PITC programme resources.	Example: Monitoring data can focus efforts to improve services. So, in the above example, supervisors would want to focus attention on improving the 75% testing rate, probably by researching employee and client barriers to testing. Barriers to the uptake of PITC service uptake may include: lack of trained staff; stock-outs of HIV rapid antibody test kits; or problems in the identification of children of unknown HIV status. Identification of the problem is the first step toward revising procedures to fix the problem.

Indicators

Indicators measure things such as number of new patients tested and informed of their HIV status and the length of time it takes for DNA PCR results to be returned. PITC indicators are established on a national level according to the needs, resources and standards of the programme and defined in line with internationally-accepted definitions.

Indicators reflect key service interventions and provide information about activities and results. Indicators can be calculated for facility, district or national levels depending on need and how the data will be used.

Though standardised indicators are identified at the national level, they can be calculated for facility, district or national levels depending on need and

how the data will be used. National level indicators generally cover service delivery, quality of care and management-related information. At the facility level, planners and managers require more detailed information to make decisions about how best to spend the facility's resources to meet the needs of clients and ensure quality of care. Facility-level indicators can help to identify progress, problems, challenges and solutions in the delivery of PITC services at a specific site. Indicators may need to be revised periodically (e.g. in response to changes in national guidelines for the programme or services being monitored).

Examples of indicators are shown in Table 8.2; note that not all of these indicators are collected at the national level, but they may be useful at the facility level.

Table 8.2: Example of paediatric PITC programme monitoring indicators

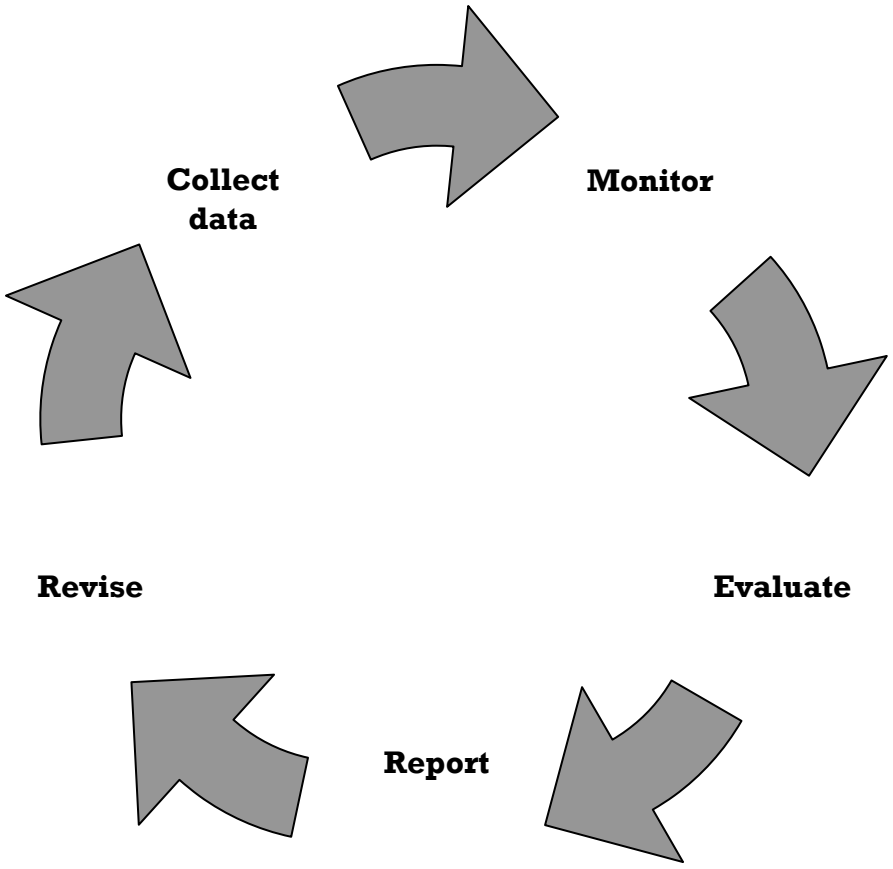
- Number of children admitted/seen at a given health facilities
- Number of caregivers/children eligible for HIV testing
- Number and percent of caregivers/children offered testing and counselling
- Number and percent of caregivers/children attending a pre-test session
- Number and percent of caregivers/children tested for HIV
- Number and percent of caregivers/children provided with post-test counselling
- Number and percent of HIV-antibody positive test results:
  - Less than18 months of age
  - 18 months of age and older
- Number and percent of HIV-exposed infants tested using DNA PCR
- Number and percent of HIV-exposed infants whose parent/caregiver refuses DNA PCR testing
- Number and percent of parents/caregivers who receive DNA PCR results
- Number and percent of positive DNA PCR test results
- Number and percent of HIV-exposed or -infected children started on CTX prophylaxis
- Number and percent of infants and children enrolled in follow-up HIV care and treatment services
- Number and percent of infants with an initial negative DNA PCR test result receiving follow-up HIV testing
- Number and percent of infants for whom final HIV status is determined
- Number and percent of children lost to follow-up (missing all visits for a period of six months)
- Number of mothers and other family members receiving HIV testing and counselling services
- Number and percent of mothers enrolled in care and treatment services

Evaluation

Evaluation is assessing the change in indicator measurements resulting from an intervention or programme. An evaluation of the paediatric PITC programme will demonstrate to what extent the programme contributed to changes in indicators. Evaluations should be conducted regularly to look at changes that occur as the PITC programme is implemented and maintained. This will enable programme staff to identify areas of programme strength and weakness and to respond to weaknesses by investigating and correcting problems.

Monitoring and evaluation is not complete or effective if problems identified in the process are not addressed. The process must be continuous, as shown in Figure 8.1 below.

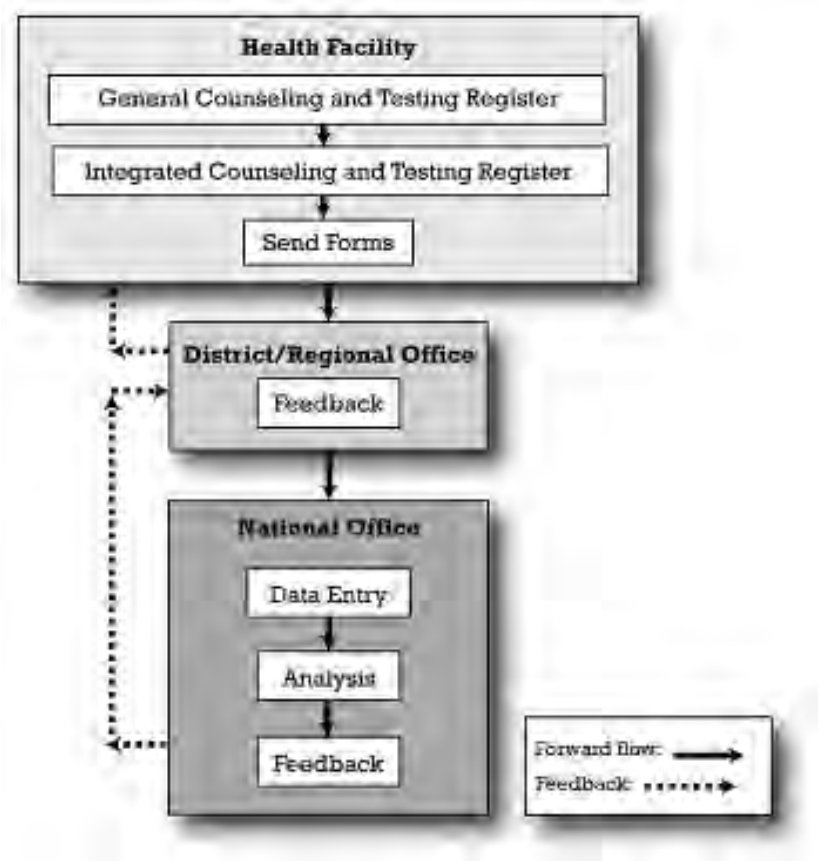
Figure 8.1: Monitoring and evaluation as a continuous process



Reporting

PITC indicators are calculated using the monitoring data that are recorded in registers and summarised on monthly summary forms. Monthly data should be summarised to provide feedback to local staff on programme implementation. Figure 8.2 depicts the standardised flow of PITC data.

Figure 8.2: Data management flow



The data collection and reporting forms gathered at the facility, district and national levels, have differing schedules for collection, aggregation (putting reports from several places together in one report) and reporting to the next level. For example, the *General Counselling and Testing Register* collects information on the number of new clients tested for HIV as well as the number who test positive; data from all wards in the hospital are aggregated into a single report before sent to the district. The number of new clients (children receiving PITC services) is reported quarterly and annually; the number of children who test positive is reported monthly and annually to the district level. These differing levels of reporting requirements entail a high level of monitoring and follow-up to ensure that reporting standards are followed consistently.

Making certain that all staff are aware of the reasons for accurate reporting and entry of data will help to ensure that programme monitoring reports reflect the most accurate and timely information. This is discussed further in the next session.

Revising

At every level of the system (facility, district and national) monitoring and evaluation reports should prompt decision-making on revisions or changes to key programme components (e.g. standard operating procedures or training) to improve programme implementation. Programme monitoring reports should be used to review whether or not PITC activities took place as planned. If not, the review should prompt a discussion of:

- Programme needs
- Problems that need to be addressed to meet programme goals
- How and when these problems will be addressed

The monitoring and evaluation process is not complete until the workplan is revised in response to the results of the evaluation. Even when targets are met, the workplan should be reconsidered to ensure procedures are in place to support the sustainability of successful programme implementation.

Exercise 1: Using paediatric PITC data for decision making Small group work and large group discussion	
Purpose	▪ To review paediatric PITC data and analyse the data for use in programme decision-making
Introduction	This is a small group activity that provides an opportunity to analyse data from a monthly paediatric PITC programme report. Using the sample report below, small group will have 20 minutes to: ▪ Review the data (e.g. determine the number of children of unknown HIV status). ▪ Calculate missing data (e.g. total number of children less number of children with a documented HIV status). ▪ Report on programme monitoring indicators, shown in Table 8.2, based on the data (e.g. interpret the data). ▪ Discuss major findings (e.g. the most important things learned from this report). ▪ Make recommendations for next steps, based on the data. The small groups will then be asked make a five minute presentation s summarising the following: ▪ Their discussion ▪ Main findings of their data analysis ▪ An overview of the next steps they would recommend to health facility managers and members of the multidisciplinary team.

Sample (partial) Monthly Paediatric PITC Facility Report	
Number of children admitted to ward	140
▪ Status known	37
▪ Status unknown	
Pre-test group counselling documented	60
Rapid HIV testing	50
▪ HIV-positive	30
▪ HIV-negative	20
Of the HIV-positive	30
▪ Less than 18 months of age	22
▪ DNA PCR testing	4
▪ 18 months of age or older	8
▪ Confirmatory antibody testing	7
▪ Number who picked up DNA PCR results	1
▪ Number of referrals to care and treatment	15
▪ Number enrolled in care and treatment	5

Session 8.2 Paediatric PITC Data Collection

Session Objectives

After completing this session participants will be able to:

- Describe the data collection tools used for monitoring of paediatric PITC programmes.

Paediatric PITC Data Collection

A functional and reliable record keeping, monitoring and reporting system — in line with national guidelines — must be in place before implementing a PITC programme. Standard data collection and accurate recording of activities and outcomes are essential. Data collection for paediatric PITC is part of the existing national system and uses existing national HIV testing forms and registers; it is not a separate system with PITC-specific forms.
It is the role of each healthcare worker to ensure that within their scope of duties, monitoring activities are carried out.

Programme monitoring systems must protect the **confidentiality** of the children and families served. Forms and registers should be protected from public view.

Systems for documenting paediatric PITC activities must also maintain client confidentiality; the data collected is not for public view.

Effective monitoring and evaluation requires record keeping that is:

- Accurate
- Reliable
- Standardised
- Recorded following established guidelines

It is the responsibility of all staff members that fill in forms or carry out these services to ensure that data is accurate and complete and that data collection protocols are followed. Attention to quality will help to ensure that needed services are effectively delivered to children and their families.

The following is an overview of the key standardised forms currently in use:

- **Ward or clinic register:** This register is used to record patients admitted (hospital) or scheduled to be seen (outpatient clinic) each day. The register includes information about the child (e.g. name, contact information and date of birth) and simplifies the task of identifying the care (related to testing and counselling) needed at any given visit because the status of testing can be identified quickly. See Figure 8.3.

Figure 8.3: Sample ward or clinic register

Date (a)	Mother												
	SM No. (b)	AGE (c)	MGA Yes/No (d)	DOB (e)	Sex (f)	Under 5 Card No. (g)	IGA Yes/No (h)	Feeding Method (BF or RF) (i)	Age CTX Started (j)	HIV Test weeks (PCR) (k)	Monthly Parameters to check	Month 1 (l)	Month 2 (m)
											Weight		
											CTX Given		
											Weight		
											CTX Given		
											Weight		
											CTX Given		
											Weight		
											CTX Given		

- **General HIV Counselling and Testing Register:** This register is used to record client number, date of visit, patient's name, age and other identifying information. It also includes columns for couple counselling, partner testing, reason for seeking service, date of HIV testing, result, post-test counselled, assessed/referred for ART. There is also space for other notes specific to the child or family; these might be useful as a tool for tracking patient attendance at follow-up testing or other services. The same register is used for adults and children; therefore, there are some data points requested that are not applicable to paediatric testing (e.g. marital status). See Appendix 8-A.
- **Patient-held records:** The patient-held records are the *Mother's Card* and the *Under-Five Card*; both have space designated for HIV testing information. See Appendix 8-B for a copy of the Under-Five Card.
- **Patient medical record:** In addition to the patient-held medical records, each clinic or hospital patient has a facility-based medical record where testing and counselling information must be recorded. UTH developed a colour-coded labelling system for the medical record so that the nurse counsellors could easily identify those children who had received testing and counselling and those who were awaiting DNA PCR results. During daily rounds, this system made it easy for the counsellors to quickly identify children who had not been tested.
- **Voluntary Counselling and Testing (VCT) Activity Sheet:** Selected columns are taken from the *General HIV Counselling and Testing Register* and then summarised and aggregated for regional and national reporting. See Appendix 8-C.
- **DNA PCR Laboratory Requisition Form:** This form goes with the specimen to the laboratory and is returned to the clinic or ward with the test result. See Appendix 8-D.
- **Paediatric Patient Locator**: This form includes space to record information on the patient's caregivers and home — home address, information about other adults and children in the home, emergency contact information and treatment supporters. See Appendix 8-E.

Tracking Missed Appointments

Health facilities also use an **appointment book** to keep track of upcoming appointments and if appointments were missed. A follow-up system should be developed to contact caregivers when appointments are missed and try to bring the child back into care (e.g. for repeat testing, to receive results of DNA PCR testing or to be evaluated for care and treatment). A follow-up protocol is particularly important for children because HIV progresses rapidly in this population. In settings with a high volume of exposed and infected children (such as tertiary hospitals), specific staff may need to be assigned to this task on a full-time basis to assure testing procedures are completed and that the linkages between testing and subsequent care for the child are maintained.

A follow-up system requires:

- A working appointment system whereby healthcare workers can readily track missed appointments and contact patients who miss appointments to bring them back to the clinic.
- In urban areas, contact may involve the use of cell phones (calling, SMS), while in rural areas, community workers, NGOs, peer educators, family members or friend networks may serve this purpose.
- Contacting families when appointments are missed, either by telephone or by home visit, requires the consent of the caregiver; therefore, a system should be in place to both obtain contact information and to routinely request consent to follow up missed appointments.

Session 8.3 Quality Assurance and Supportive Supervision

Session Objective

After completing this session, participants will be able to:

- Describe the purpose of quality assurance (QA).
- Define and describe supportive supervision.

Quality Assurance

QA is the means by which activities are routinely evaluated to check that healthcare workers are correctly following the established guidelines and standard operating procedures. The purpose of QA is to identify problems so that they can be corrected, thereby improving services for children and their families.

QA should be a routine part of the normal functioning of health facilities. QA incorporates procedures in which all staff, not solely supervisors, should be involved. On the staff level, for example, healthcare workers need to ensure that the content of pre- and post-test counselling adhere to national guidelines, that universal precautions are followed and that procedures related to patient confidentiality are maintained.

QA incorporates the monitoring and improvement of all activities related to the implementation of paediatric PITC including counselling, testing and follow-up as well as logistics management, maintenance of the building and data reporting.

QA activities examine and evaluate:

- General
  - Patient flow: (smooth, efficient, attentive to the needs of families)
- Compliance with national guidelines, standard operating procedures and protocols, including
  - Identification of children who require PITC services
  - Content of pre- and post-test counselling, informed consent
  - Procedures related to confidentiality
  - Adherence to universal precautions
  - HIV testing procedures following appropriate algorithms for the child's age
  - Referrals and linkages to care and treatment; tracking and supporting adherence to follow-up
  - Documentation of all services (ensure data collection is accurate, complete and according to standard procedures)
  - Tracking and follow-up of DNA PCR test results
  - Logistics management: supplies are adequate, not out of date, secure, forecasts are accurate
- Quality of testing and counselling procedures

    - Accurate identification of all children who require PITC services according to national guidelines
    - Quality of general counselling skills
    - Pre- and post-test counselling content
    - Protection of confidentiality
    - Informed consent procedure
    - Accurate interpretation of HIV testing algorithms
    - Consistent use of universal precautions
    - Proper collection and accurate interpretation of rapid HIV-antibody test
    - Proper collection of DBS specimens
    - Accurate and complete data collection and forms completion
    - Tracking and follow-up of DNA PCR test results
    - Accurate and complete completion of logs and data collection tools and forms
- Physical space: adequacy of space and attention to privacy
- Linkages to care and treatment
    - Provision of referrals and linkages to HIV care and treatment for the mother, child and other family members as needed
    - Responsiveness to the priority needs expressed by the family
    - Tracking, follow-up and documentation of missed appointments
    - Meeting national standards for follow-up care and treatment

When conducting QA to evaluate its completeness and accuracy, the data should be assessed against designated standards. Measurements that reflect that the data are of good quality might include the following:

- At least 80% of fields in the programme register are complete.
- At least 80% data within expected range (e.g., date of visit has the correct year, infant date of birth is logical).
- At least 90% of caregivers/clients accept HIV testing after counselling.
- 100% of DBS specimens for DNA PCR that are sent to the lab have either a test result or documentation of reason the test was not done.

QA activities may vary somewhat from one facility to the next based on the type of facility and the facility's experience with paediatric PITC services.

Applying QA Information to Improve Practice

Supervisors may identify (or confirm) shortfalls in individual, team or departmental practice through QA reviews. QA activities are most effective when the focus is on addressing deficiencies by providing staff with guidance and mentorship, as well as group problem solving techniques. The following two cases are examples of problems identified through QA activities and the potential solutions:

- *Problem*: Children in need of PITC services are frequently overlooked. Intervention: Observe the services to evaluate the system by which children are identified. Discuss with responsible staff to share

observations and ask for their input and suggestions. Identify ways to improve, implement and re-evaluate in two weeks.

- *Problem:* DBS specimens collected by one of the healthcare workers are frequently rejected by the laboratory due to improper collection. Solution: Discuss with the healthcare worker. Identify needs (e.g. re-training, mentorship, direct oversight for a specified period of time). Make expectations clear and re-evaluate frequently until resolved.

Methods to Assess Quality

QA is reviewed using a variety of methods — to examining the quality from a number of perspectives. For example: If only forms, client records and registers were used to assess quality, there would be no information on the quality and accuracy of pre- or post-test counselling sessions, the accuracy and timeliness of HIV rapid antibody testing, the quality of DBS specimen collection or quality of supply chain management.

QA activities may include, for example:

- Periodic reviews of records, with staff feedback — the reviewer should check for accuracy, completeness and consistency of entries in the *General HIV Counselling and Testing Register,* patient medical record, *Voluntary Counselling and Testing Activity Sheet* and *DNA PCR Laboratory Requisition Form.*
- Direct observation of procedures such as DBS blood sample collection, the pre-test session, the post-test session, HIV-antibody testing of a blood specimen, interpretation of HIV test results (both DNA PCR and antibody) and correct storage, packing and shipping of DBS specimens.
- Periodic reviews of supply chain management should be conducted to determine if supply forecasts are accurate: Are there too few supplies on hand and frequent stock-outs? Are too many supplies ordered so that HIV test kits are frequently discarded because they are out of date?
- Interviews with staff indirectly or directly involved in the paediatric PITC programme to obtain feedback on specific indicators. A case conference format may be used as a forum to highlight current challenges, systems that are working and those that need improvement and provide a forum for proposing solutions.
- Interviews with caregivers who have received PITC services for a child. Do caregivers feel that adequate information and support was provided in the counselling sessions? Were they clear about what was expected of them, e.g. how and when to follow-up? Was their privacy respected?
- Evaluate physical space, client flow and time concerns through staff and client or caregiver interviews.
- Meet with representatives of services where families are referred. Ask them about client needs, gaps in services and feedback on services.

During initial implementation, daily or weekly QA activities allow for immediate follow-up to correct identified problems. As the services become established, reviews should become a formal part of overall PITC

programme monitoring activities at designated intervals (monthly progressing to quarterly reviews).

Although supervisors have the ultimate responsibility for QA, the activities related to QA should be shared with other members of the team.

A well-designed QA programme is one that simplifies the evaluation process and becomes a meaningful, interesting and participatory activity that reduces the burden placed on any one particular staff member.

Supportive Supervision

Quality assurance activities are not complete without assessing the results of the QA review and planning a response. Often weaknesses discovered through QA activities require supervisors to work with staff to address the problems. An important component of responding effectively to QA findings is to provide **supportive supervision**. Supportive supervision requires the supervisor to work with staff to establish goals, monitor performance, identify and correct problems and proactively improve the quality of paediatric PITC services through training, one-to-one support, mentoring and coaching.

QA is most effective when the focus is on providing guidance and mentorship, as well as group problem solving techniques, to assist healthcare workers to correct problems and overcome barriers to a high quality programme.

It is important that supervisors explain to their staff that QA activities are not simply the responsibility of supervisors, but rather that all activities conducted by any staff member that aims to improve services is a part of the continuous QA process.

Supportive supervision aims to:

- Obtain valuable information on programme functioning and quality.
- Improve healthcare worker performance by providing one-to-one support to address an identified deficiency.
- Acknowledge good practices by providing positive feedback and noting contributions to the success of the programme.
- Involve both supervisors and healthcare workers to improve service provision (it is not the sole responsibility of the supervisor). Healthcare workers can support each other by mentoring their peers. For example the healthcare worker skilled at taking DBS specimens might tutor peers who are just learning this skill. Another healthcare worker who is experienced in completing clinic registers can show others how to ensure all columns are filled in correctly.
- Facilitate on-site, participatory problem-solving. Healthcare workers should be encouraged to become comfortable actively participating with their supervisors to address weaknesses.
- Assure the programme is successful in meeting the needs of HIV-exposed and HIV-infected children and their families.
- Motivate staff.

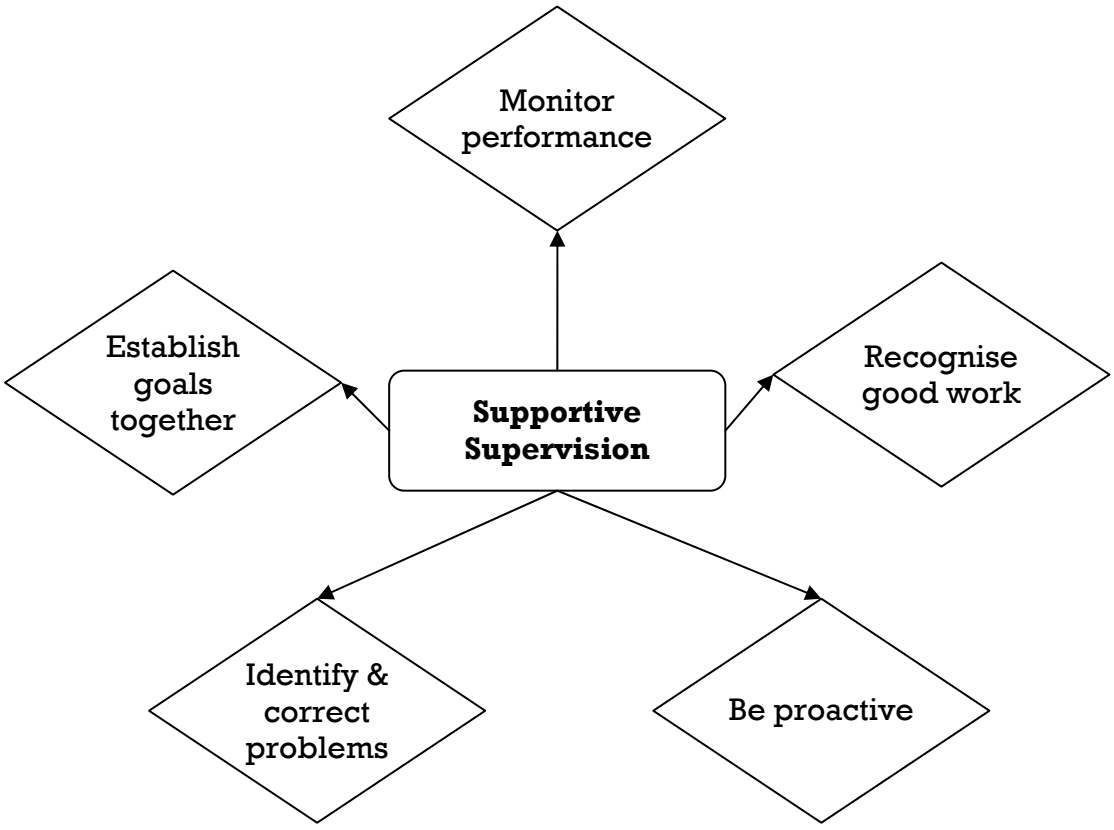
Supportive supervision must be established as quickly as possible to prevent poor practises from becoming routine. Figure 8.4 illustrates the concept of supportive supervision.

QA Checklist

See Appendix 8-F for the *Supportive Supervision and Motivation* form and Appendix 8-G for the *Quality Assurance Checklist for Staff and Supervisors*. These forms are a resource intended for supervisors and healthcare workers providing paediatric PITC services:

- Healthcare workers can use the checklist as a resource to assist them in understanding what is expected.
- Healthcare workers and supervisors can use the checklist as a guide when they are mentoring, training or otherwise supporting staff members.
- Healthcare workers and supervisors can use the checklist as a guide to ensure that paediatric PITC processes and protocols are followed.
- The checklist can also be used to set goals and expectations, improve worker performance and facilitate participatory problem solving.

Figure 8.4: Supportive supervision



The checklist includes questions that pertain to a variety of healthcare worker roles — including counsellors, data management staff and laboratory personnel — that can be answered only after direct observation of the employee in that role. In addition to evaluating proficiency, direct observation also provides supervisors with opportunity to assess staff attitude, particularly attitude towards clients and work.

Motivation for staff is an important factor contributing to the smooth operation of the PITC programme. During supportive supervision, the following actions may help keep the morale of staff high and keep them motivated:

- Praise and recognise healthcare workers for work that is done well.
- Involve healthcare workers in the planning process; encourage healthcare workers to set targets and develop performance monitoring indicators.
- Solicit and act on feedback received from healthcare workers.

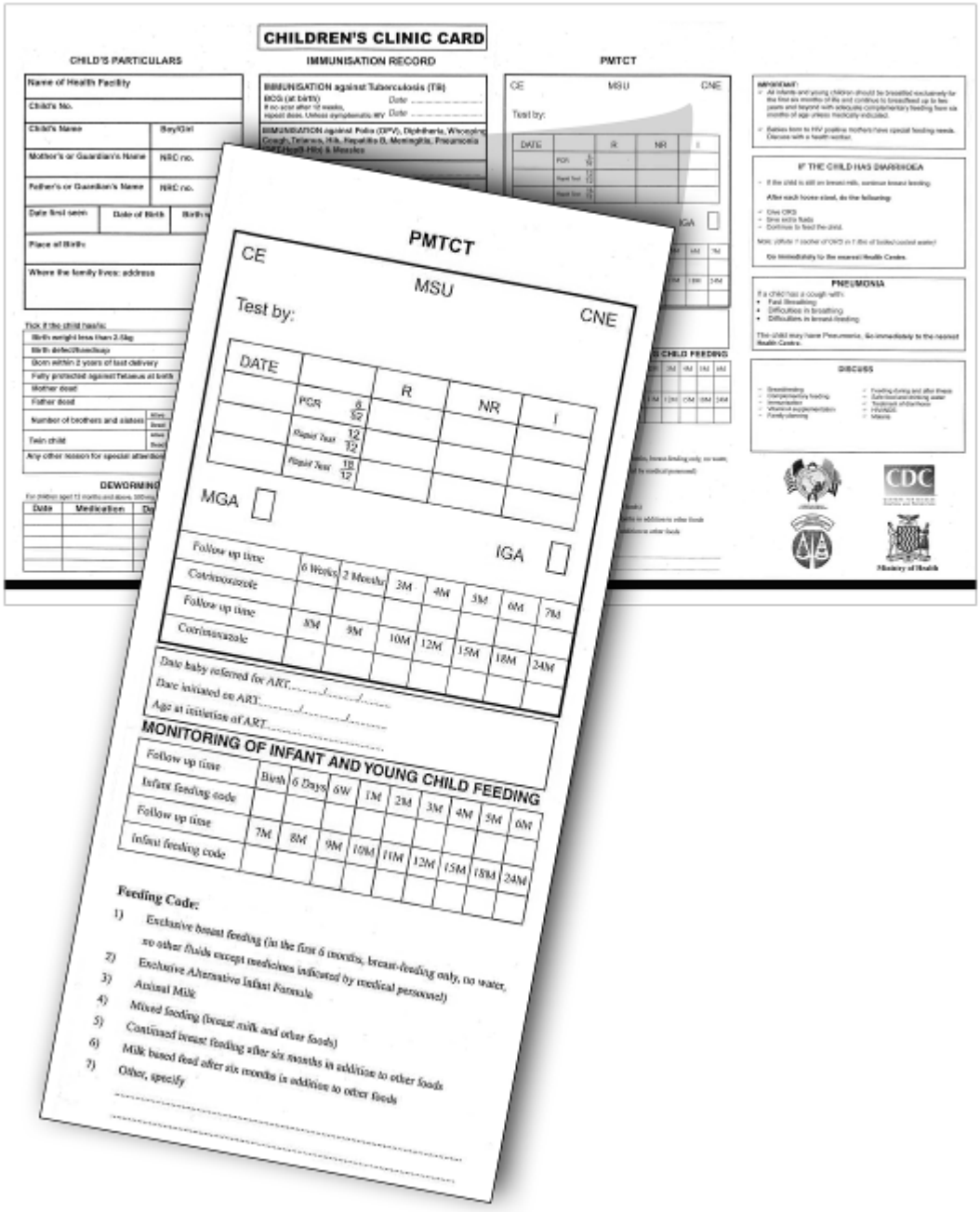
Module 8: Key Points

- Monitoring and evaluation is a process by which data related to the delivery of PITC services is collected and evaluated in a standard way at all health facilities. This data is used to monitor progress in the implementation and scale-up of PITC services from the facility perspective, but also at the district and national levels.
- Monitoring and evaluation is an ongoing, continuous process that informs the planning and implementation of changes to improve the delivery of PITC services.
- Ensuring that data are collected and recorded accurately and completely is the responsibility of the staff members that conduct these duties. Healthcare workers also actively collaborate in QA activities.
- QA is similar to monitoring and evaluation because it reviews the accuracy and completeness of programme data. QA activities, however, also look beyond data collection to review the quality of programme activities, e.g. the accuracy, completeness and quality of pre- and post-test counselling.
- Like monitoring and evaluation, QA is a continuous process. During initial implementation, daily or weekly QA activities allow for immediate follow-up to correct identified problems; as the programme is fully established, QA can be performed at regular intervals.
- QA activities are most effective when the focus is improving services by supportive supervision, e.g. providing guidance and mentorship, as well as group problem solving techniques to correct problems and overcome barriers to high quality services.

Appendix 8-A General HIV Counselling and Testing Register

Client Details									Pre-test Counselling and Testing				Post-test Services				
Client Number	Date of Visit (dd/mm/yyyy)	Patient's Name Second Name First Name	Age	Marital Status	Sex	Address House # & Township or Village Chief and/or District	Came as a Couple? If "Yes" Enter "Y"	Partner Took Test? If "Yes" Enter "Y"	Reason for Seeking Service	Took HIV Test on Visit … 1	 2+ Date	Test Result Enter (P, N, I)	Post-test Counselled If "Yes"=√ Date	Collected Results on Visit… Date	Assessed for ART Date Result	Referred for ART If "Yes"=√ Date	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)

Appendix 8-B Under-Five Card



Appendix 8-C Voluntary Counselling and Testing Activity Sheet

ACTIVITY SHEET: COUNSELLING & TESTING (VCT)

District Name:_____ Health Worker Name(s): _____ Month:_____

Facility Name: _____ Outreach Area: _____ Year: _____

NO	DATE	VCT Number	HIV- CT																								Additional Information
			Pre-test counselled for HIV on first visit (excl ANC)	Pre-test counselled for HIV on subsequent visit (excl. ANC)	Follow up psycho-social counselling	Attendance CT	HIV Test <12 months males	HIV Test <12 months females	HIV Test 12-59 months males	HIV Test 12-59 months females	HIV test 5-14 yrs males	HIV test 5-14 yrs females	HIV test >14 yrs male	HIV test >14 yrs female (excl. ANC)	HIV test pos <12 months males	HIV test pos <12 months females	HIV test pos 12-59 months males	HIV test pos 12-59 months females	HIV test pos 5-14 years males	HIV test pos 5-14 years females	HIV test pos >14 yrs male	HIV test pos >14 yrs female (excl. ANC)	Collecting results 0-14 years	Collecting results > 14 years	Referred for Pre ART from VCT	
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		DE CODE	HIV05	HIV08	HIV10	HIV15	HIV20	HIV22	HIV25	HIV26	HIV27	HIV28	HIV30	HIV35	HIV45	HIV46	HIV50	HIV51	HIV52	HIV53	HIV55	HIV60	HIV70	HIV72	HIV75		
	TOTAL																										

Appendix 8-D DNA PCR Laboratory Requisition Form

White Copy and Blue Copy – to the referral laboratory
Pink Copy – to be retained by the requesting site

Republic of Zambia
Ministry of Health

DNA PCR Test - Laboratory Requisition Form

Province _____ District _____

Facility _____ Ward _____

Patient ID No. _____ Patient Name _____ Age _____ Sex _____

Mother's ID No. _____ Patient Caretaker's Phone No. _____

Patient Caretaker's Address _____

Requesting Officer _____

Referral Lab for Sample *(Tick one)* ☐ Arthur Davison ☐ Kalingalinga ☐ UTH ☐ Other_____

Please also provide the information requested below (Tick as appropriate)

1	Child's HIV Rapid Test Result	☐ Reactive	☐ Non Reactive	☐ Indeterminate	☐ Unknown	
	Mother's HIV Status	☐ Positive	☐ Negative	☐ Unknown		
2	PMTCT Intervention Given to Mother	☐ Yes	☐ No			
3	PMTCT Intervention Given to Child	☐ Yes	☐ No			
4	Infant Still Breastfeeding	☐ Yes	☐ No	*If no, weeks since cessation* ____	☐ Never breastfed	
5	PCR Test Performed on Child Before	☐ Yes	☐ No	*If yes, date PCR test done* _____		

Sample Collected By:

Name _____ Designation _____

Signature _____ Date Collected ____ / ____ / ____

FOR LABORATORY USE ONLY

Patient Laboratory No. _____ Date Test Received at Lab ____ / ____ / ____

Date Test Performed ____ / ____ / ____

PCR LABORATORY RESULTS *(Tick as appropriate)* ☐ Detected ☐ Not Detected ☐ Sample Rejected

Signed _____ Counter Signed _____

Comments *(including reason for rejection, if applicable)* _____

Note: The form must be completely filled in and data on this form must tally with that on the DBS sample card in order for the sample to be worked on.

Appendix 8-E Paediatric Patient Locator

PAEDIATRIC PATIENT LOCATOR

Date ☐☐ / ☐☐ / ☐☐ (Day / Month / Year)

Patient ID ☐☐ (District) - ☐☐ (Facility) - ☐☐☐☐☐ (Serial no.) - ☐

Facility ID (if different) _____

Patient Last Name _____ Patient First Name _____ Clinic code ☐☐☐-☐☐☐

TYPE OF ENTRY ◯ New Patient ◯ Transfer in, specify facility: _____ ◯ Update information only

For transfer patient with records, complete only parts that have changed; if transfer patient does not have records, treat as a new patient

BACKGROUND

Name child goes by: _____ Mother's surname before marriage (if married): _____

Place of birth: _____ Mother's name: _____ Father's name: _____

Chief at birth: _____ Is mother living? ◯ Yes ◯ No Is father living? ◯ Yes ◯ No

Guardian's education level:
◯ None
◯ Highest grade (1-12): _____
◯ College/University

Guardian's occupation: _____

Guardian's employer: _____

Guardian's workplace: _____

Estimated household income per month:
◯ < 50,000 ◯ 200,000-499,999
◯ 50,000-99,999 ◯ > 500,000
◯ 100,000-199,999

ADDRESS

☐ Current ☐ Permanent	☐ Supporter ☐ Neighbor	☐ Parent ☐ Provider	☐ Current ☐ Permanent	☐ Supporter ☐ Neighbor	☐ Parent ☐ Provider
House number/plot number			House number/plot number		
Street name			Street name		
Township/compound			Township/compound		
Village			Village		
Chief			Chief		
Telephone			Telephone		

HOUSEHOLD

Adults	Other Children

EMERGENCY CONTACT

Name _____
Relation to patient _____
House number/plot number _____
Street name _____
Township/compound _____
Village _____
Chief _____
Telephone _____

TREATMENT SUPPORTERS

Name	Relation to patient	Phone/contact info	Lives in same household? Y/N

REMEMBER TO DRAW MAP ON SECOND SHEET OF FORM

PAGE 1 OF 2 PAEDIATRIC PATIENT LOCATOR v3.2.2 _____ Clerk initial _____ Staff ID _____ Staff signature

Appendix 8-F Supportive Supervision and Motivation

Supportive supervision helps to assure the programme is successful by:
- Improving worker performance
- Obtaining valuable information on programme functioning
- Facilitating on-site, participatory problem-solving

Specific factors in supervision and quality assurance:
- Adherence to protocols
- Systems for managing stocks of supplies and drugs
- Record keeping — accuracy of recording, timeliness, interpretation
- Content and quality of counselling and testing procedures
- Linkages to care and treatment services

Motivation for staff is an important factor in success:
- Identify and support career development and advancement opportunities.
- Involve healthcare workers in the planning process; act on feedback from staff at all levels.
- Praise and recognise healthcare workers who have earned it through hard work.

Comparison of traditional and supportive supervision

Action	Traditional supervision	Supportive supervision
What happens during supervision encounters	▪ Inspection of facility ▪ Review of records and supplies ▪ Supervisor makes most of the decisions ▪ Reactive problem-solving by supervisor ▪ Little feedback or discussion of supervisor observations	▪ Observation of performance and comparison to standards ▪ Provision of corrective and supportive feedback ▪ Discussion with clients ▪ Provision of technical updates and guidelines ▪ On-site training ▪ Use of data and client input to identify opportunities for improvement ▪ Joint problem solving
What happens after supervision encounters	▪ No or irregular follow-up ▪ Little documentation ▪ Lack of continuity lack of support for performance improvement	▪ Actions and decisions recorded ▪ Ongoing monitoring of weak areas and improvements ▪ Follow-up of issues identified at previous visits

Appendix 8-G Quality Assurance Checklist for Staff and Supervisors

PAEDIATRIC PROVIDER INITIATED TESTING AND COUNSELLING

This checklist is offered as an aid to support supervision and quality assurance for paediatric PITC services. Through observation, interviews and reviews of PITC data, the quality of PITC services and the accuracy of data can be routinely monitored. Ultimately, the goals are to:

- Obtain valuable information on programme functioning and quality.
- Facilitate participatory problem solving.
- Assure the programme successfully meets the needs of children and their families.
- Improve worker performance and the quality of PITC services by providing technical support and acknowledging healthcare workers' contribution to the success of the program.

When paediatric PITC services are initially implemented, routine quality assurance checks should be made bi-weekly and supervisory visits should occur monthly for at least six months. When PITC services are firmly in place and running smoothly, monthly quality assurance checks and quarterly supervision should be adequate.

Instructions

Through direct observation, interviews and/or review of data:

- Answer each question with a "yes" or "no". (Note: It may not be possible or necessary to complete every section of this tool every time an evaluation occurs.)
- Assign one point for each "yes" response, and zero points for each "no" response.
- Tally the number of points by section and compare with the total number of points possible for that section.
- Acknowledge the team's strengths.
- Discuss areas for improvement (if any) and formulate a plan to correct problems.
- If no problems were identified, continue routine QA activities.
- If problems were identified, re-evaluate after taking corrective action.
  - Acknowledge improvements (if any).
  - Re-evaluate corrective action plan if no improvements are seen.

Name of Health Facility:	Date of Supervision	Name of Supervisor

1. General Information			
Questions	**Yes-1**	**No-0**	**Comments**
Are reference materials on site and accessible, including: ▪ PITC Paediatric Guidelines ▪ Rapid Test Instructions ▪ Counselling Cue cards ▪ DBS instructions			
Are staff members who are not directly involved in delivery of paediatric PITC services aware of the rationale for these services? Note any circumstances that could inform plans for future training. Briefly interview representative staff and stakeholders, such as: ▪ Nurse and/or midwife ▪ Community health worker ▪ Clinical officer ▪ Pharmacist ▪ Laboratory technician The number of staff represented will vary depending on the size and type of facility.			
Total number of points this section: ____ **Total number of points possible: 2**			

2. Questions on Staffing and Training			
Questions	**Yes-1**	**No-0**	**Comments**
Was an orientation to introduce and discuss paediatric PITC held?			
Has a specific paediatric PITC coordinator or director been identified?			
Have the staff who will implement paediatric PITC been trained in specific skills, e.g., DBS testing, heel stick, pre- and post-test counselling, etc?			
Have counsellors who will conduct pre- and post-testing been identified?			
If lay counsellors are being used at the facility, is there clarity regarding their specific duties and their supervision?			
Are there sufficient healthcare workers for paediatric PITC services?			
Is there a designated person for data reporting and collection, or if not, are staff who collect data trained to fill out forms?			
Total number of points this section: ____ **Total number of points possible: 7**			

3. Physical Facility			
Questions	**Yes-1**	**No-0**	**Comments**
Are supplies kept in a secure location?			
Is there adequate space for testing and counselling?			

3. Physical Facility			
Questions	**Yes-1**	**No-0**	**Comments**
Does the space allow for privacy for individual counselling?			
Is there a table available to conduct tests?			
Is there sufficient equipment to conduct activities, e.g., beds, chairs for waiting room, etc.			
Are the rooms, equipment and physical space kept clean?			
Is there a system at the testing location for disposing of hazardous materials (e.g., sharps containers) and rubbish?			
Total number of points this section: ____ **Total number of points possible: 7**			

4. Supplies			
Questions	**Yes-1**	**No-0**	**Comments/Observations**
Were sufficient supplies available to ensure universal precautions are followed, e.g. gloves, etc?			
Were there sufficient supplies of other needed materials, e.g., sterile gauze pads, timers, etc?			
Were there sufficient numbers of antibody test kits (not out of date) available?			
Were there sufficient numbers of DBS test kits (not out of date) available?			

4. Supplies			
Questions	**Yes-1**	**No-0**	**Comments/Observations**
Were expired supplies kept separate from those that are to be used?			
Is a system in place to ensure that stock-outs do not occur?			
Are there working systems to manage receiving supplies and transport of DBS samples to central labs for testing?			
Total number of points this section: ____ Total number of points possible: 7			

5. Observation of Testing and Counselling			
5a. Pre-Test Information Session			
Questions	**Yes-1**	**No-0**	**Comments/Observations**
Did the counsellor introduce herself and establish rapport?			
Did the counsellor attempt to assess the baseline level of knowledge of the group?			
Did the counsellor explain that paediatric PITC is routine in Zambia?			
Were the benefits of testing (especially for children) and the availability of care and treatment reviewed?			
Was confidentiality discussed?			
Was the testing procedure explained?			

5. Observation of Testing and Counselling			
5a. Pre-Test Information Session			
Questions	**Yes-1**	**No-0**	**Comments/Observations**
Was an overview of the meaning of test results provided, including noting the potential need for further testing of children who are ▪ less than four weeks of age ▪ breastfed within the last three months ▪ less than 18 months of age			
Did the counsellor explain the relationship between a child's HIV status and the status of the mother?			
Was the right to refuse testing explained in an unbiased way?			
Did the counsellor close the session by asking if there were any more questions and offer to answer privately if preferred?			
Did the counsellor use facilitation and listening and learning skills appropriately, e.g., asking open-ended questions, maintaining a non-judgmental attitude, showing empathy?			
For older children and adolescents: If the caregiver deems the child to be of appropriate age and maturity to discuss HIV testing, was an individual session provided for the child?			
Total number of points this section: ____ **Total number of points possible: 12**			

5b. Rapid HIV–Antibody Testing Procedures			
Questions	**Yes-1**	**No-0**	**Comments/Observations**
Did the counsellor use the correct HIV test (in accordance with the testing algorithms)?			
Was the blood sample collected appropriately? (Heel stick for children 9kg or under; toe if over 9kg; finger prick for those over two years)			
Was the puncture site warmed and sterilised?			
Was the pipette used appropriately to draw the blood?			
Was the blood applied appropriately to the test strip?			
Were the caregiver and child given instructions and support?			
Were universal precautions used consistently?			
Was rapid HIV-antibody testing conducted according to instructions?			
Were the caregiver and child told when to expect test results, where to wait and to expect further counselling?			
Were the results correctly interpreted by the counsellor?			
Total number of points this section: ____ **Total number of points possible: 10**			

5c. DBS Collection for DNA PCR Testing Procedures			
Questions	**Yes-1**	**No-0**	**Comments/Observations**
Was DBS collection the correct test at the correct time (in accordance with algorithm)?			
Was the blood sample collected appropriately? (Heel stick for children 9kg or under; toe if over 9kg)			
Was the puncture site warmed and sterilised?			
Was the blood applied appropriately to the filter paper?			
Were the caregiver and child given instructions and support?			
Were universal precautions used consistently?			
Was the specimen labelled correctly before starting the DBS collection?			
Was the specimen air dried for at least three hours?			
Was glassine paper inserted between dried filter paper cards and desiccant packets inserted appropriately?			
Was the DNA PCR laboratory request properly completed and placed with the specimen?			
Were the caregiver and child told when to expect test results, when to return and what to expect upon return?			
Have all DBS specimens in the past month been accepted by the laboratory?			

5c. DBS Collection for DNA PCR Testing Procedures			
Total number of points this section: ____ **Total number of points possible: 12**			

5d. Post-test counselling			
Questions	**Yes-1**	**No -0**	**Comments**
Did the counsellor introduce herself and establish rapport?			
Were the test results delivered clearly, privately and without any attached judgment?			.
Was follow-up care for child and family discussed, e.g., need for further testing, what to do if child is sick?			
Was the caregiver's understanding of the results of the test as well as understanding of follow-up plan assessed?			
Were questions about the need or presence of emotional support for the caregiver and family asked?			
Did the counsellor use facilitation and listening and learning skills appropriately, e.g., asking open-ended questions, maintaining a non-judgemental attitude, showing empathy?			.
Were appropriate referrals made?			
Total number of points this section: ____ **Total number of points possible: 7**			

5d. Post-test counselling			
For infants less than 18 months — positive			
Questions	**Yes-1**	**No -0**	**Comments**
If the rapid antibody test is positive, were caregivers given information on DNA PCR testing?			
Were caregivers instructed on how to access cotrimoxazole and how it should be given until the results of the DNA PCR testing come back?			
Was safe infant/child feeding discussed? ☐ If less than 6 months, was exclusive breastfeeding discussed? ☐ If approaching six months (or older than six months), was complementary feeding discussed? ☐ If older than six months was "adequate diet" discussed?			
Was the mother's HIV status discussed? Was the mother given accurate information on her HIV status and the need for and availability of follow-up care and treatment?			
Was an evaluation done to determine other family members who need HIV testing and counselling?			
Were caregivers guided through the next steps of service, including acquiring cotrimoxazole, returning for DNA PCR results, care for mother and other family members, etc?			

5d. Post-test counselling			
For infants less than 18 months — positive			
Questions	**Yes-1**	**No -0**	**Comments**
Did the counsellor explore the caregiver's understanding of the results and follow-up care?			
Did the counsellor use facilitation and listening and learning skills appropriately, e.g., asking open-ended questions, maintaining a non-judgmental attitude, showing empathy?			.
Total number of points this section: ____ **Total number of points possible: 8**			

5d. Post-test counselling			
For children 18 months or older and under 16 years of age — positive			
Questions	**Yes-1**	**No-0**	**Comments**
Are children allowed in the post-test counselling session if parents deem them of appropriate age and maturity level?			
Were caregivers instructed on how to access cotrimoxazole and how it should be given?			
Was safe child feeding discussed? ☐ Was "adequate diet" discussed? ☐ If approaching 24 months, was weaning and continuing need for animal-source milk discussed?			
Are parents guided through the next steps of service, including acquiring medicines?			

5d. Post-test counselling			
For children 18 months or older and under 16 years of age — positive			
Questions	**Yes-1**	**No-0**	**Comments**
Are children referred to paediatric and psychiatric services, as needed?			
Was the mother's HIV status discussed? Was the mother given accurate information on her HIV status and the need for and availability of follow-up care and treatment?			
Was an evaluation done to determine other family members who need HIV testing and counselling?			
Are families encouraged to return to the clinic for follow-up and further referrals?			
Did the counsellor use facilitation and listening and learning skills appropriately, e.g., asking open-ended questions, maintaining a non-judgmental attitude, showing empathy?			.
Total number of points this section: ____ Total number of points possible: 9			

5d. Post-test counselling			
For infants less than 18 months — negative			
Questions	**Yes-1**	**No-0**	**Comments**
If the DNA PCR test comes back negative, are recommendations made regarding infant/young child feeding practices?			

5d. Post-test counselling			
For infants less than 18 months — negative			
Questions	**Yes-1**	**No-0**	**Comments**
Are caregivers encouraged to come back for further testing if the child is ▪ less than four weeks of age ▪ breastfed within the last three months ▪ less than 18 months of age			

5d. Post-test counselling			
For children 18 months or older and under 16 — negative			
Questions	**Yes-1**	**No-0**	**Comments**
Are parents encouraged to teach their children basic health practises that can decrease the risk of getting HIV?			
Are parents encouraged to come back for further testing if the child is still breastfeeding?			
Total number of points this section: ____ **Total number of points possible: 4**			

6. Referral Linkages and Systems			
Questions	**Yes-1**	**No-0**	**Comments**
Are linkages established that include referral mechanisms, appointment tracking and follow-up with: ▪ Paediatric HIV-related treatment? ▪ Adult HIV-related treatment? ▪ Reproductive health and family planning services? ▪ Under-Five clinic/immunisation services? ▪ Community based services?			
Are healthcare workers knowledgeable about how to make referrals and know of the potential places where caregivers and children can be referred?			
Is there a tracking and communication system in place for attendance at appointments for: ▪ DNA PCR results? ▪ For repeat testing and counselling (e.g. three months post cessation of breastfeeding)? ▪ For testing of partner(s) and sibling(s)?			
Does the facility have a working linkage with the laboratory for DNA PCR testing?			
Are DNA PCR results received within 2-4 weeks?			
Total number of points this section: ____ **Total number of points possible: 5**			

7. Data Collection and Use			
Questions	**Yes-1**	**No-0**	**Comments**
Was the testing register, laboratory specimen log, Under-Five card, Mother's card, and medical record correctly completed?			
Is the weekly/monthly report for PITC correctly completed?			
Does the site conduct and document QA activities?			
Have all monthly monitoring forms been submitted in the past year?			
Total number of points this section: ____ **Total number of points possible: 4**			

Client-Exit Interview (the caregivers are the clients)			
Questions	**Yes-1**	**No-0**	**Comments**
Did you feel that you were respected by the counsellor, regardless of your age or HIV status?			
Was the facility clean and comfortable?			
Did the counsellor explain testing your child for HIV in a way that you understood?			
Did the counsellor explain that you have a right to refuse HIV testing for your child?			
Were you provided with a private, confidential space for your post-test counselling?			
Did you understand what the test results mean?			
Did you understand what the next steps are for you and your child?			
Did you feel comfortable enough with the counsellor to discuss any concerns about your or your child's health status?			
Did you get referrals from the healthcare worker?			
Do you plan to follow up on the referrals, e.g., going to get care and treatment for your child and/or yourself?			

Client-Exit Interview (the caregivers are the clients)			
Questions	**Yes-1**	**No-0**	**Comments**
Did you feel that you were given just the right amount of information?			
Do you have any suggestions for improvement?			
Total number of points this section: ____ **Total number of points possible: 12**			

References and Resources

ICAP Infant Diagnosis Manual, Diagnosis of HIV Infection in Infants: A Comprehensive Implementation and Clinical Manual. (2007). http://www.columbia-icap.org/resources/peds/files/Infantdx050307.pdf.

Republic of Zambia Ministry of Health. (2009). National Guidelines for Paediatric Provider-initiated HIV Testing and Counselling.

Module 9 Paediatric PITC Action Planning and Implementation

Total Module Time: 60 minutes (1 hour)

Learning Objectives

After completing this module, participants will be able to:

- List the key steps and considerations when initiating paediatric PITC.

Session 9.1: Introduction to Paediatric PITC Action Planning and Implementation

Session 9.1 Introduction to Paediatric PITC Action Planning and Implementation (Pre-practicum)

Session Objectives

After completing this session, participants will be able to:

- List the key steps and considerations when initiating paediatric PITC.

Key Steps to Set Up and Implement Paediatric PITC

Setting up a new service — whether starting a new service where none exists or expanding an existing service — takes time, effort and resources. To start, strategic planning will require an assessment of current and required infrastructure, site readiness, staff selection, referral networks and the phasing and time frame for implementation. Figure 9.1 details eight of the major elements crucial to effective implementation.

Figure 9.1: Key steps for set-up and implementation of paediatric PITC

Protocols for testing and counselling, informed consent and integration with other services for post-test care and support must be in place, along with integrated systems for data collection, monitoring and evaluation and quality assurance related to standard operating procedures (SOPs). Sites or facilities without the required resources must develop site-specific plans for developing or acquiring them.

Table 9.1: Required resources for implementation of paediatric PITC in health facilities

- Stakeholder support and involvement
  - Healthcare facility staff (managers and workers) participation and support
  - Community participation and support
- Human resources, training, supervision and mentoring
- Training plan and curriculum, including plans for ongoing and refresher training
- Material supplies and resources for testing and a reliable supply chain

- Sufficient space to ensure safe working conditions and confidentiality for caregivers, children and their families
- SOPs for testing and counselling procedures (See Modules 5 and 6)
- Formal linkages to other services for post-test support, care and treatment
- Linkages to lab services, data management, quality assurance and other service components
- Monitoring and evaluation systems, plan and tools

Stakeholder Support and Involvement

What is community commitment?

Community commitment refers to the endorsement, active involvement and leadership by a variety of stakeholders — that is, people who live in the community or will otherwise be affected by the healthcare service under consideration, such as paediatric HIV testing and counselling.

Why is community commitment important?

- Stakeholders have valuable information and ideas and can make important contributions to planning and implementation.
- Establishing buy-in from stakeholders will promote and improve the implementation of PITC services.
- Sometimes stakeholders are unaware of the benefits of HIV testing for children, have misconceptions about the programme or have serious concerns about stigma and discrimination. Influential stakeholders can block implementation of a new service, especially if the services are perceived as being imposed on the community rather than developed collaboratively. It is important that these stakeholders are involved in the plan, that their reservations are addressed and that they see the benefits of the new service. Their support is instrumental to the program's success.

How do you keep stakeholders involved?

- When planning a new service, meet with stakeholders — not only those who will support the service but also those who may not support it. Discuss your plan with the stakeholders, revise your plan to address their wishes and reservations.
- Inform stakeholders of the benefits of the new service.
- If stigma might be an issue, ask stakeholders to suggest strategies for addressing stigma.
- Keep community stakeholders informed of the progress of PITC service implementation.
- Once the service is implemented, solicit feedback from stakeholders on their experiences with the programme as well as any feedback they have received from the community.

Facilities have varying mechanisms for communication with stakeholders in the community. Some have formal community advisory boards; others

have less formal but important ties through community workers, community Integrated Management of Childhood Illnesses (IMCI) programmes and non-governmental or faith-based organisations.

Human Resources: Participation and Support

As with any healthcare services, the ***human*** resources are the most critical component of effective, high quality paediatric PITC services. Conduct an assessment to determine:

- Staffing needs: staffing requirements will vary depending on the expected volume of clients and the workload of existing staff
- Staff turnover rates
- Staff capacity
- Staff willingness to initiate PITC services, particularly if paediatric PITC will be integrated with an established service
- Current roles and responsibilities of each member of staff — at all levels whether managerial, administrative or clinical

A commitment is required at all levels to develop and support staff by providing training, supervision and a safe working environment.

In facilities where multidisciplinary teams may assist with the function of implementing paediatric PITC, the roles of each team member must be defined and refined with time. While nurses may act as frontline staff when children first present for testing, counselling and treatment, other members of the multidisciplinary team undertake important roles: medical doctors will often manage complex cases, social workers and lay counsellors will conduct outreach and assist with counselling needs and facility managers and other staff may be involved with garnering community support. Each team member serves a vital role in the implementation of paediatric PITC.

Task-shifting and the use of lay counsellors and volunteers may help facilities cope with the demands of scaled-up HIV testing and counselling.

Table 9.2: Key staffing questions to consider

- Who will be responsible for procuring supplies: assessing stock, placing orders, receiving and storing stock and accounting for materials?
- Who will identify children for testing?
- Who will conduct pre- and post-test sessions for caregivers of children?
- Who will be responsible for conducting rapid antibody tests, and for completing registers and tracking forms?
- Who will be responsible for DBS collection and completing lab requisition forms, tracking forms and registers?
- Who will be responsible for DBS drying, storing, packaging and shipment to the central laboratory?
- Who will receive and file DNA PCR results?

- Who will review results and provide them to the family?
- Who will be responsible for prescribing CTX, dispensing CTX and counselling regarding CTX adherence?
- Who will make follow-up appointments (for testing and for care and treatment), keep track of client visits, assure adherence to visit schedule and trace those clients lost to follow-up?
- Who will be responsible for data collection and/or data entry, and preparation of summary reports?
- Who will evaluate data and present feedback to staff on site performance?
- Who will train new staff on programme activities?
- Who will provide supervision and mentoring?

Specific roles and responsibilities of the coordinator and healthcare workers within paediatric PITC are included below. In many cases, new staff may not be needed for implementation as existing staff may be able to expand into new roles.

The coordinator or director(s) will:

- Take primary responsibility for planning, implementing and supervising PITC services
- Act as the contact person for the programme
- Determine staffing needs; roles and responsibilities of all individuals involved in planning, implementation and monitoring should be defined
- Evaluate staff capacity and training needs
- Ensure that SOPs are in place and implemented for service delivery, quality assurance, monitoring and evaluation, supervision and staff support
- Support training and mentorship
- Supervise staff and conduct quality assurance activities
- Monitor and evaluate services; prepare reports and give feedback to staff and managers

Counsellors and healthcare workers will:

- Describe the rationale for testing
- Conduct pre- and post-test counselling
- Conduct rapid antibody testing and interpret the results
- Collect a DBS specimen sample
- Provide referrals for repeat testing and ongoing care, support and treatment

Training Plan and Curriculum: Capacity Building

A major effort to orient all facility staff is required before starting a PITC programme. All personnel involved in clinical services at the site should participate in a general orientation to:

- Provide staff with an overview of the new service and why it is needed. An understanding of the benefits to children, their families and the community is important, as is an emphasis on PITC as the national standard of care.
- Sensitise staff on the issues and changes in standard operating procedures for the facility.
- Provide an overview of clinical and programme issues related to the topics in Table 9.3.

Table 9.3: Paediatric PITC orientation topics to cover with all staff

▪ Rationale for implementing paediatric PITC services
▪ National guidelines for routine "opt-out" testing
▪ Overview of facility-specific paediatric PITC protocol and services
▪ Overview of HIV testing and counselling procedures in children
▪ Communicating with caregivers and children about HIV testing
▪ Importance of confidentiality
▪ Roles and responsibilities of staff
▪ Linkages to care and treatment and community support
▪ Legal framework for consent when no parent/guardian is available

In addition to the general orientation, specific and detailed training is required for personnel who will be involved in paediatric testing, counselling, data management or monitoring. Testing and counselling in paediatrics requires specific skills (e.g. blood tests requiring heel sticks, pre- and post-test counselling) and background knowledge (rationale for PITC, understanding of PMTCT, infant feeding, disclosure to older children with HIV and the complexities of determining HIV infection status in children less than 18 months of age). The knowledge and skills required to implement paediatric services are summarised in this curriculum (see curriculum objectives in Module 1).

Linkages to Care and Other Services (Adult and Paediatric)

Access to care and treatment, rather than testing, is the ultimate goal of PITC. Always refer HIV-exposed and -infected children for immediate evaluation, treatment and long-term support. Operational linkages to the programmes and services listed in Table 9.4 should be in place. Where possible, they should be in place prior to implementation of the PITC programme.

While not all services need to be available in the same facility, they should be available through a referral network. A referral network should:

- Be well coordinated so that the referral of clients from the testing site to care, treatment and support facilities is "seamless", that is, hardly noticed by the client. In order for the referral network to be coordinated, it needs leadership — that is, a healthcare worker who will

take the time to visit sister clinics, establish relationships with staff and agree on a way to facilitate the referral of clients back and forth.
- Have a standard operating procedure for referral and a standardised referral form to facilitate a smooth process.
- Have a tracking form for monitoring uptake of referrals.

In the early months, maybe even years, of the establishment of paediatric PITC, it is possible that children will be diagnosed with HIV but that HIV care and treatment facilities are either unavailable or have long waiting lists. It may well take a while for all services needed by children with HIV to be fully scaled up. In the meanwhile, it is still important to provide HIV-exposed children with routine testing to inform decisions on infant feeding and their overall health. Primary care clinics can provide HIV-infected children with many important health-related services; they can also provide some HIV-related care, such as the prescription of cotrimoxazole. Even if waiting lists are temporarily long for paediatric HIV care, it is still important that these children have access to the care that ***is*** available through the best possible referral network.

Table 9.4: Paediatric PITC referral networks

Paediatric PITC services should be able to refer clients to the following services:
- HIV prevention counselling and services, including condoms
- Family planning services for caregivers and adolescents with HIV
- PMTCT services for caregivers and adolescents with HIV
- HIV care and treatment, including ART
- HIV testing and counselling services for caregiver(s) and siblings
- Counselling and support related to infant feeding; nutrition advice
- CTX prophylaxis
- Adherence preparation and support
- Primary care for children, e.g. growth and development monitoring, vaccinations, vitamin A supplementation
- Management and treatment of common opportunistic infections
- Tuberculosis screening and treatment when indicated; preventive therapy when appropriate
- Malaria prevention and treatment
- STI prevention and treatment
- Palliative care and symptom management
- Psychosocial support/counselling
- Community support groups

Tracking Clients Who Miss Appointments

It is important, and potentially a matter of life or death, for caregivers and their children to attend follow-up appointments (for further testing, test results or for HIV-related care).
- The clinic procedures must state how clients who have missed appointments will be identified and brought back into care.

- At sites where a large volume of children are seen, it may be necessary to designate a nurse, counsellor or peer volunteer to manage adherence to appointments and follow-up.
- Use the *Paediatric Patient Locator* form to monitor follow-up and facilitate the response to missed appointments. Appendix 8-E provides an example of such a form. See Module 8 for more information on client tracking.

Links to Laboratory Services, including DNA PCR Testing and Laboratory Protocols

HIV antibody testing

Antibody testing is usually conducted on-site, however systems should be in place to ensure a continuous supply of test kits.

DNA PCR and CD4 cell count testing

DBS specimens for DNA PCR testing, as well as specimens for CD4 cell count testing, are sent from health facilities to the district laboratory. Couriers then transport specimens to one of three central laboratories in Lusaka or Ndola. Laboratory results are brought back from the central laboratories to the district hub by the same couriers for further distribution to the primary health facilities.

Central Laboratories

There are three central laboratories that process DBS samples to diagnose infants less than 18 months of age for DNA PCR testing:

- **Laboratory based at Arthur Davison Hospital** receives DBS tests from the northern provinces (ZPCT supported sites: Copperbelt, Northern, North Western, Central and Luapula provinces).
- **Kalingalinga laboratory** processes samples from CIDRZ-supported sites (Western, Eastern and Lusaka provinces).
- **UTH research laboratory** receives specimens from UTH, all Mission Hospitals and Southern province.

Target turnaround time is approximately four weeks, however there have been some challenges and delays. There are currently efforts underway to investigate efficiencies and ways of streamlining the process to reduce turnaround times. It should be emphasised that if a child in this context has symptoms that are suggestive of HIV infection, a presumptive clinical diagnosis of severe HIV infection may be necessary to permit decision-making regarding the initiation of potentially life-saving ART. (See Appendices in Module 7 for staging and treatment guidelines.)

SOPs for Testing and Counselling

Modules 5 and 6 detail specific guidance for testing and counselling, however the topic is briefly discussed here because testing and counselling are crucial components of the implementation of paediatric

PITC. SOPs ensure that testing and counselling procedures are conducted in the same consistent manner across all individuals. SOPs also assist in maintaining quality and are integral to quality assurance (QA) procedures. Finally, SOPs help to ensure that newly-trained staff have something on which to rely as they attempt to improve their testing and counselling skills.

Testing Supplies and Supply Chain

Careful management and oversight of procurement and storage of materials is essential to ensure continuity of supply. Good supply management includes:

- Ensuring the maintenance of product quality
- Reducing waste
- Preventing theft
- Preventing pilfering or diversion to outlets other than those intended
- Gathering information to adequately forecast ongoing procurement needs

The scale-up of paediatric PITC services directly impacts the amount of supplies facilities must keep on hand:

- Facilities should plan for the increased need for testing supplies, such as test kits (both for antibody and DBS testing), and the materials needed to ensure that universal precautions can be consistently applied (e.g. gloves).
- Supplies can continue to be procured through Medical Stores Limited, which is responsible for storing, handling and distributing all medical commodities, except vaccines and blood supplies.

Monitoring and Evaluation

Program monitoring provides information about the clients seen and services provided to those clients. Monitoring information provides information about whether facilities are doing what they are supposed to do. With the national scale-up of paediatric PITC services, additional indicators will be tracked so that testing and counselling services (outside of PMTCT and VCT) for children and their families can be monitored and evaluated. These have been described more fully in Module 8.

Monitoring data are summarised and analysed at regular intervals at the local (facility), district and national levels to examine progress, identify gaps and improve service delivery. Paediatric PITC monitoring and evaluation does not operate parallel to the national PITC adult programme, but rather in conjunction with the national system.

Systems and Protocols for Quality Assurance and Control

Quality assurance is important for the continuous evaluation of PITC services to ensure compliance with guidelines and protocols, to identify problems and, ultimately, to improve services for children and their families.

QA activities evaluate:

- Compliance with national guidelines, standard operating procedures and protocols
- Quality of testing and counselling procedures
- Proper documentation in registers and records
- Adequacy of system to identify children for testing and counselling; client flow
- Linkages to care and treatment

QA activities are described more fully in Module 8.

Framework and Tools for Supervision

Supportive supervision should be a component of supervisors' interaction with staff and refers to working with staff to establish goals, monitor performance, recognise good worker practices, identify and correct problems and proactively improve the quality of services. For more information on supportive supervision, refer to Module 8.

Direct observation of counselling sessions (with the permission of the client) can help ensure that the content of counselling is complete, that counselling messages are accurate and that the quality of the counselling interactions meets expected standards. Many healthcare workers report that such sessions are useful in enhancing skills. A suggested time frame for routine, direct observation of testing and counselling by the supervisor is twice monthly for the first six months, monthly for the second six months and quarterly for healthcare workers with more than one year of experience.

Module 9: Key Points

- Required resources for paediatric PITC implementation include:
  - Stakeholder support and involvement
  - Human resources, training, supervision and mentoring
  - Training plan and curriculum, including plans for ongoing and refresher training
  - Formal linkages to other services for post-test support, care and treatment
  - Linkages to lab services, data management, quality assurance and other service components
  - SOPs for testing and counselling procedures

    - Material supplies and resources for testing and a reliable supply chain
    - Sufficient space to ensure safe working conditions and confidentiality for clients
    - Monitoring and evaluation systems, plan and tools
- Facility supervisors and staff should ensure that the required resources for effective implementation of paediatric PITC services are in place.
- All clinicians involved in the care of children and families need an orientation to PITC services to understand the rationale for implementation of these services and the national standard of care. Specific and detailed training is required for personnel who will be involved in providing paediatric PITC services to clients.
- Community commitment directly impacts the implementation of PITC services. Healthcare workers must work with the community to provide an understanding of the commitment to test all children. Establishing buy-in from stakeholders will promote and improve the implementation of PITC services.

Appendix 9-A Paediatric PITC Action Planning and Implementation Template

Instructions: For each step, write down the key actions that need to be taken, as well as the person responsible, resources needed, timeline and how the action will be measured. Also, write down the top five anticipated challenges and possible solutions for each.

Step 1: Develop facility protocol for paediatric PITC

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 2: Ensure adequate staffing for paediatric PITC (including lay providers)

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 3: General staff orientation and comprehensive training and orientation for staff on paediatric PITC

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 4: Develop strong linkages to HIV care and treatment services, including ART (adult and paediatric)

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 5: Develop strong linkages with the laboratory, including for DNA PCR testing. Develop protocols for communication, transport, feedback and quality assurance between the laboratory and clinical services

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 6: Implement plan for community outreach, education and referral linkages, including tracking of clients who miss appointments

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 7: Implement data management protocols, including use of registers and forms

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 8: Adapt the logistics system to maintain and monitor supply inventory

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 9: Implement supervision and quality assurance systems

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Step 10: Implement a paediatric PITC monitoring and evaluation plan, in line with national guidelines

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?

Anticipated challenges to implementing the paediatric PITC action plan and possible solutions

Anticipated Challenge	Possible Solution(s)
1.	
2.	
3.	
4.	
5.	

References and Resources

Republic of Zambia Ministry of Health. (2009). National Guidelines for Paediatric Provider-initiated HIV Testing and Counselling.

Module 10 Supervised Clinical Practicum and Action Planning

Total Module Time: 4 days (approx 3.5 days for practicum; 4 hours 20 minutes for classroom)

Learning Objectives

After completing this module, participants will be able to:

- Understand the core competencies in paediatric PITC and prepare for hospital-based practicum sessions.
- Demonstrate core competencies in paediatric PITC in a hospital or other clinical setting.
- Discuss and debrief on the practicum session.
- Identify their own strengths and weaknesses in providing paediatric PITC and plan for ongoing practice and mentorship.
- Develop a site-specific implementation and action plan for paediatric PITC.
- Describe potential challenges to implementing paediatric PITC at participants' sites and solutions to each.

Session 10.1: Practicum Preparation

Session 10.2: Supervised Clinical Practicum

Session 10.3: Practicum Debrief

Session 10.4: Site-specific Paediatric PITC Action Planning and Implementation (Post-practicum)

Session 10.1 Practicum Preparation

Session Objective

After completing this session, participants will be able to:

- Understand the core competencies in paediatric PITC and prepare for hospital-based practicum sessions.

Core Competencies in Paediatric PITC

Participants will be asked to practise and demonstrate a number of skills learned during the training, including:

- Use the paediatric HIV testing and counselling algorithms.
- Identify children for HIV testing and counselling.
- Conduct pre-test counselling sessions in groups.
- Conduct individual pre-test counselling sessions.
- Collect blood samples from children.
- Conduct rapid HIV antibody testing.
- Collect, dry and pack DBS samples for DNA PCR Testing.
- Interpret HIV test results.
- Provide post-test counselling for positive and negative results.
- Provide infant and young child feeding education and support to parents.
- Provide referrals and planning next steps with mothers, caregivers and children.
- Link HIV-exposed and HIV-infected children and their families with needed care and treatment services, including ARV prophylaxis, ART, CTX prophylaxis and support services.
- Complete forms and registers related to paediatric HIV testing and counselling.

Preceptors will be available to help and mentor participants as they master the skills learned in training.

Refer to the Paediatric PITC Practicum Checklist in Appendix 10-B for more information on the core competencies for paediatric PITC.

Conduct during the Practicum Session

Prepare participants for the practicum sessions by reviewing the following information:

- *We are guests at the health facility and must respect the wishes of the healthcare workers and managers who work in the facility.*
- *Keep all discussions and observations during the practicum confidential. Only share with other participants, trainers or preceptors and only for learning purposes. Change any identifying information about specific individuals so that no one will be able to guess who is being described. Do not describe someone so specifically, for example, a tall woman who*

has three children and lives in a specific town, so that others may be able to guess who she is.

- *Always inform the preceptor if you need to take a break or leave the facility for any reason during the practicum.*
- *Always introduce yourself to healthcare workers and clients. Tell them that you are currently training in paediatric HIV testing and counselling, and that the training includes observation and practice in the hospital.*
- *Always ask clients for their verbal consent to observe or practise. Keep in mind that clients have the right to refuse to give consent or to withdraw their consent at any time. Participants and preceptors are obligated to concede to the client's request.*
- *Always ask the preceptor if you have a question or a concern.*

Preceptors will be using Appendix 10-B and Appendix 10-C: Final Evaluation by Preceptors, to assess participant performance during the practicum. Participants should therefore be familiar with the content of these forms.

Session 10.2 Supervised Clinical Practicum

Session Objective

After completing this session, participants will be able to:

- Demonstrate core competencies in paediatric PITC in a hospital or other clinical setting.

Exercise 1: Supervised clinical practicum	
Purpose	▪ To practise paediatric HIV testing and counselling skills learned during the training and receive mentoring.
Introduction	The supervised clinical practicum allows participants the chance to practise and apply the paediatric HIV testing and counselling knowledge and skills learned during the training. Participants will be assigned to groups of 4–5, each with a preceptor. Participants should refer to and complete Appendix 10-B Paediatric PITC Practicum Checklist throughout the practicum. Participants should reconvene as a large group at the end of each practicum day. Discussion may focus around the following questions: ▪ *What core competencies did you practise during the day?* ▪ *Which competencies were the most comfortable for you to conduct? Which were the most challenging?* ▪ *Are there areas in which you feel you need more practise? Which ones?* ▪ *Were there any unexpected or new things that you observed today during the practicum session?* ▪ *Do you have suggestions to improve tomorrow's practicum session?*

Session 10.3 Practicum Debrief

Session Objectives

After completing this session, participants will be able to:

- Discuss and debrief on the practicum session.
- Identify their own strengths and weaknesses in providing paediatric PITC and plan for ongoing practice and mentorship.

Exercise 2: Practicum session debrief	
Purpose	▪ To share experiences and lessons learned during the multi-day practicum.
Introduction	This exercise provides an opportunity for participants to discuss their practicum experiences and learn from each other. **Small Group Discussions:** Participants will be asked to break into groups of four or five — if possible, participants should not be in small groups with others from their same practicum group. In their small group, participants should take about 30 minutes to discuss: ▪ *What was your overall experience during the practicum?* ▪ *What skills were the most difficult to perform?* ▪ *What skills were less difficult?* ▪ *In which areas would you like more mentoring in the future?* ▪ *What did you learn that you hadn't anticipated learning?* ▪ *What was your most memorable experience from the practicum?* ▪ *How can participants and preceptors continue to support one another in building their skills once the training is over?* At least one person in each small group should take notes in preparation for presenting to the large group. **Large Group Discussion:** A representative from each of the small groups will be asked to briefly present key points from their small group discussions.

Session 10.4 Site-specific Paediatric PITC Action Planning and Implementation (Post-practicum)

Session Objectives

After completing this session, participants will be able to:

- Develop a site-specific implementation and action plan for paediatric PITC.
- Describe potential challenges to implementing paediatric PITC at participants' sites and solutions to each.

Exercise 3: Preparing site-specific implementation and action plans for paediatric PITC	
Purpose	▪ To develop site-specific paediatric PITC implementation and action plans.
Introduction	**Part 1: Small Group Work** This will be a chance for participants to develop a site-specific paediatric PITC action plan. If participants are from the same facility, they should work together to complete a single paediatric PITC implementation and action plan for their site. The action plan should be realistic, specific and measurable. The action plans should be filled in as completely as possible (actions that need to be taken, as well as the person responsible, resources needed, the timeline and how the action will be measured). As participants are completing the action plan, they should also jot down the top five anticipated challenges to implementing this action plan and possible solutions for each. Each small group should be prepared to provide the large group with a 10 minute summary of their action plan highlighting key action items and anticipated challenges and solutions. The small groups will have about 45–55 to complete their task. The Paediatric PITC Action Planning and Implementation Template can be found in Appendix 9-A. See Appendix 10-D for a partly completed Action Planning Template, which can be used as a model. **Part 2: Small Group Presentations and Large Group Discussion** Each small group should take about 10 minutes to present key action items they will undertake when returning to their site.

Module 10: Key Points

- Action planning is critical to the implementation of new services and programmes. Action planning is a fluid process that needs to be revisited, monitored, updated and revised as time goes on to best suit the needs and resources at individual healthcare facilities.
- Action plans or work plans can help prioritise, guide and monitor work over time.

Appendix 10-A Tips on Mentoring and Coaching

What are the qualities of a good preceptor?

- Strong knowledge, skills and experience related to paediatric PITC
- Professional
- Understands the importance of skill sharing and capacity building and is therefore willing to teach and to mentor
- Respects others
- Conscientious and trustworthy
- Accountable for her or his work; responsive to feedback
- Upholds confidentiality at all times
- Ethically sound decision making
- Leadership

Preceptor Do's and Don'ts

Do:

- Make participants feel welcome and valued
- Set shared achievable goals
- Put yourself in the participant's shoes
- Ask questions that show interest in developing participants' skills
- Monitor progress and give feedback frequently
- Provide guidance, encouragement and support

Don't:

- Appear unprepared
- Be vague about your expectations
- Confine the participant to passive roles
- Leave feedback to the final assessment
- Embarrass or humiliate learners
- Accept behaviour that is unethical or unsafe
- Judge if a participant does not know something

Five-step method for teaching clinical skills

1. Provide an overview of the skill and how it is used in patient care.
2. Demonstrate exactly how the skill is conducted without commentary.
3. Repeat the procedure, but describe each step.
4. Have participant "talk through the skill" by detailing each step.
5. Observe and provide feedback to the participant as she or he performs the skill.

Adapted from: George, J.H., & Doto, F.X. (2001). A simple five-step method for teaching clinical skills. Family Medicine, 33, 577-8.

Appendix 10-B Paediatric PITC Practicum Checklist

Preceptor instructions: Use one Checklist per participant in your group. As you observe a skill, tick your rating as GOOD, FAIR or POOR. Record any comments or recommendations in the right-hand column; be prepared to share comments with the participant. Use this Checklist to complete the final evaluation for each participant. **Participant instructions**: Complete this checklist during the practicum with your assessment of your own performance. In the "Comment" column, record areas for improvement or further study.

Name of Participant: _____ **Dates of Practicum:** _____

Name of Preceptor(s): _____ **Name of Health Facility:** _____

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
Early HIV Diagnosis in Infants and Children				
Explains the importance of identification of HIV in children as early as possible				
Routinely offers HIV testing and counselling for infants and children				
Uses the "opt out" approach to HIV testing and counselling				
Follows the paediatric HIV diagnostic algorithms				
▪ Children less than 18 months of age				
▪ Infants and children 18 months of age or older				
Pre-test Education/Counselling Sessions				
Leads a group pre-test information and education session with caregivers				
Conducts individual pre-test education and counselling sessions with caregivers				

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
Follows guidelines for "opt out" informed consent				
Provides follow-up counselling for caregivers who decline testing for their child				
Rapid HIV Antibody Testing				
Uses universal precautions				
Collects rapid HIV test specimen				
▪ From an infant				
▪ From a child				
▪ From an adult				
Performs rapid HIV antibody test (and confirmatory test)				
▪ Determine				
▪ Uni-Gold				
▪ Bioline				
Interprets the rapid HIV antibody test results				
Documents HIV test results on the correct registers/cards				
Delivers negative rapid test result and offers post-test counselling to the caregiver of a child:				

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
▪ Less than 18 months of age				
▪ 18 months of age or older				
▪ Not breastfeeding				
▪ Breastfed by an HIV-negative mother				
▪ Breastfed by a mother living with HIV				
Delivers positive rapid test result and delivers post-test counselling to the caregiver of a child:				
▪ Less than 18 months of age				
▪ 18 months of age or older				
Delivers positive rapid test result and offers post-test counselling to a caregiver or other adult				
Makes needed referrals for clinical care of the child and caregiver				
Makes needed referrals for community support for the child and family				
DNA PCR Testing				
Uses universal precautions				
Collects valid DBS sample from a child				
▪ Heel				

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
▪ Toe				
▪ Finger				
Labels sample card				
Completes lab request form				
Makes follow-up appointment with the caregiver				
Dries the DBS specimen				
Packs and ships the DBS specimen				
Reads results of DNA PCR testing from the laboratory				
Documents HIV test results on the correct registers/cards				
Delivers negative DBS test result and offers post-test counselling to the caregiver:				
▪ Breastfed child				
▪ Not breastfeeding child				
Delivers positive DBS test result and offers post-test counselling to the caregiver				
Makes needed referrals for clinical care of the child and caregiver				

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
Makes needed referrals for community support for the child and family				
Follows up with caregiver who does not return for DBS test results				
PMTCT and Infant Feeding				
Correctly explains MTCT of HIV				
Explains interventions to reduce the chances of MTCT, including ARVs for the mother and the baby				
Helps mothers improve and implement safe infant feeding				
▪ For infants up to six months of age				
▪ For children 6-24 months of age				
Provides follow-up infant feeding counselling and support				
On-going Care and Support for the Child and Family				
Links caregivers and children to HIV care and treatment				
Demonstrates understanding of care for HIV-exposed children and provides services/referrals				
Demonstrates understanding of care for HIV-infected children and provides services/referrals, including for ART				
Demonstrates understanding of care for caregivers and other adults living with HIV and provides referrals, including for ART				

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
Provides/refers all HIV-exposed and HIV-infected children for CTX prophylaxis				
Records clients' follow-up preferences				
Provides ongoing counselling and psychosocial support to caregivers and families				
Demonstrates ability to effectively communicate with children				
Provides referrals for community services and support				
General Communication and Counselling Skills				
Greets clients properly				
Ensures privacy				
Maintains confidentiality				
Uses active listening skills				
Uses good non-verbal communication				
Asks for information with open-ended questions				
Uses gestures and responses to show interest				
Reflects back what the client is saying				
Shows empathy towards the caregivers and children				

CORE COMPETENCIES	PRECEPTOR'S or SELF-RATING (TICK ONE)			COMMENTS
	GOOD	FAIR	POOR	
Uses non-judgemental words				
Helps the caregiver process information and set realistic next steps				

Appendix 10-C Final Evaluation by Preceptors

FINAL EVALUATION BY PRECEPTORS:

Name of participant: _____

Tick one:

____ Demonstrated a majority of core competencies effectively and is ready to start providing paediatric PITC services

____ Demonstrated some core competencies effectively, but still needs more practise before providing paediatric PITC services

____ Unable to demonstrate most skills and should participate in the training course again before providing paediatric PITC services

Additional comments:

Preceptor(s) Signature(s): _____

_____

_____

_____

Date: _____

Appendix 10-D Sample of a Partly Completed Paediatric PITC Implementation and Action Planning Template

Step 1: Develop facility protocol for paediatric PITC

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?
Identify a person to research and draft protocol.	Mrs. Ndombe, Clinic Director	None	By end January 2010	Person identified for this role.
Complete first draft of draft protocol.	To be determined (TBD) Nurse	None	By mid May 2010	Completion of first draft.
Review of first draft by clinic director.	Mrs. Ndombe	None	By end May 2010	Review of first draft.
Establish technical working group of representatives from clinic, community and primary care providers to review protocol.	Mrs. Ndombe	Funds for tea and snacks for 2 meetings	By end May 2010	Establishment of TWG
Develop 2nd draft of protocol.	Nurse	None	By mid June 2010	Completion of second draft
Technical Working Group (TWG) to meet and discuss 2nd draft	Mrs. Ndombe	None	End June 2010	Complete review of second draft.
Nurse to revise draft protocol further to comment from TWG and submit 3rd draft to Mrs. Ndombe and then back to the TWG.	Nurse and Mrs. Ndombe,	None	End July 2010	Third draft submitted to TWG on time.
TWG approves protocol.	Mrs. Ndombe	None	End August 2010	Protocol approved.
Protocol presented to staff in training.	Mrs. Ndombe and Nurse	None	September 2010	Staff training completed.
Protocol fully implemented			End September 2010	

Step 2: Ensure adequate staffing for paediatric PITC (including lay providers)

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?
Assess staffing needs and develop plan for training current staff.	Mrs. Ndombe, Clinic Director	None	By end January 2010	Needs assessment and plan completed.
Identify training opportunities.	Mr. Mbwake, Clinic administrator	None	End February 2010	Courses or other plan identified to meet 90% of training needs identified in plan.
Staff training completed.	Identified staff	$5,000 for course registration & hotels	August 2010	Training completed and plan updated. Copies of training certificates in personnel files.
Develop staffing plan with budget and submit to Hospital directors.	Mrs. Ndombe	$50,000 for new staff	March 2010	Staffing plan submitted.
Meet with Hospital directors to discuss plan and advocate for addition funding to hire new staff.	Mrs. Ndombe		April 2010	Completion of meeting with agreement on status of additional funding

Step 4: Develop strong linkages to HIV care and treatment services, including ART (adult and paediatric)

What is the action?	Who is responsible?	What resources or support are needed?	When will the action happen?	How will we measure progress on this action?
Identify person to lead development of referral network.	Mrs. Ndombe, Clinic Director	None	January 2010	Nurse Blanco agrees to lead this project.
Develop list of services needed in referral network.	Nurse Blanco	None	February 2010	List completed in consultation with all

				clinic staff & approved by Mrs. Ndombe.
Meet one-on-one with representative from each of the agencies in the referral network.	Nurse Blanco	None	By end April 2010	Meetings with all agencies completed.
Convene first meeting of all agencies in referral network.	Nurse Blanco	Funds for tea and snacks for meeting	Early Mary 2010	Meeting convened.
Work with referral network to develop standardised referral and intake forms.	Nurse Blanco	None	Early June 2010	Completion of first draft of referral and intake forms.
Work with referral network to develop referral monitoring form.	Nurse Blanco	None	Early July 2010	Completion of first draft of referral monitoring form.
Establish quarterly meetings to evaluate referral network and discuss progress and weaknesses.	Nurse Blanco	Funds for tea and snacks for meeting	Early July 2010	At least 4 meetings to take place between July 2010 and July 2011.

References and Resources

Republic of Zambia Ministry of Health. (2009). National Guidelines for Paediatric Provider-initiated HIV Testing and Counselling.

Module 11 Training Review, Evaluation and Closing

Total Module Time: 110 minutes (1 hour, 50 minutes)

Learning Objectives

After completing this module, participants will be able to:

- Discuss whether or not the training objectives have been achieved.
- List next steps, including training follow-up and supportive supervision.
- Complete the training Post-test.
- Evaluate the training and give suggestions for improvement.

Session 11.1: Review of Training Objectives and Discussion of Next Steps

Session 11.2: Post-test, Training Evaluation and Closing

Session 11.1 Review of Training Objectives and Discussion of Next Steps

Session Objectives

After completing this session, participants will be able to:

- Discuss whether or not the training objectives have been achieved.
- List next steps, including training follow-up and supportive supervision.

Paediatric PITC Training Objectives

By the end of this training participants will be able to:

1. Explain the rationale for paediatric PITC and the benefits of diagnosing HIV as early as possible.
2. Define family-focused care and describe how paediatric HIV testing and counselling can be the entry point to care for the entire family.
3. Demonstrate an understanding of the national guidelines on HIV testing and counselling, including PITC and age-specific HIV testing algorithms.
4. Conduct the group and individual HIV pre-test session with caregivers and children.
5. Conduct rapid HIV testing on children and interpret the results, according to national guidelines.
6. Provide post-test counselling, according to national guidelines.
7. Collect DBS samples for DNA PCR testing on children and interpret the results, according to national guidelines.
8. Provide infant and young child feeding education, counselling and support, according to national guidelines.
9. Actively link HIV-exposed and HIV-infected children, mothers and family members with needed care, support and treatment services. Monitor and support adherence to follow-up appointments.
10. Provide caregivers, children and family members with ongoing supportive counselling.
11. Collect and analyse routine data on paediatric testing and counselling and put quality assurance measures in place.
12. Develop a site-specific action plan for implementing paediatric PITC.

Immediate Next Steps

Below are some suggested next steps for participants to implement within two weeks of returning to their health facility. These may need to be adapted to fit the context of specific settings. Participants should:

- Debrief with their supervisors, as well as the facility management.
- Share the action plan with their supervisors and discuss ways to share the action plan with managers of other units in the facility. After this meeting participants should expect to make edits to their action plans further to feedback from their supervisors.

- Plan a multi-disciplinary team meeting where the participant can debrief colleagues and other key stakeholders in the facility on what has been learnt during the training. This meeting should focus on reviewing and revising the participant's draft action plan and reaching a collaborative agreement on the way to initiate/improve implementation of paediatric PITC services. Be sure that each multidisciplinary team member has a copy of the action plan and that there is time to revise the plan, discuss and agree on specific next steps and a timeline for those steps.
- Plan a follow-up meeting in a month's time to review progress made on the action plan.

Review of Mentoring and Follow-up Plan

This paediatric PITC training will be rolled-out using a phased approach. First, the MoH will conduct a centralised training of trainers, which will be followed by decentralised training in the provinces and subsequently in the districts. Mentorship by colleagues experienced in providing paediatric PITC services will be an integral component of the roll-out.

Session 11.2 Post-test, Training Evaluation and Closing

Session Objectives

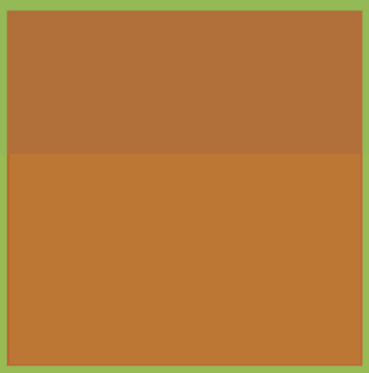
After completing this session, participants will be able to:

- Complete the training Post-test.
- Evaluate the training and give suggestions for improvement.

Exercise 1: Post-test	
Purpose	▪ To assess the knowledge gained during the training.
Introduction	During this exercise, participants will be given 25 minutes to complete the Post-test on their own. The Post-test includes the same questions that participants answered during the pre-test on the first day of training. A comparison of the pre- and post-test results will illustrate how much participants have learnt during the training, help to identify weaknesses in the training curriculum and areas where follow-up support and mentoring are needed.

Exercise 2: Training evaluation	
Purpose	▪ To get participants' feedback on the training.
Introduction	During this exercise participants will complete the two-page Training Evaluation Form which will distributed by the trainer. Participants should feel free to give honest feedback — both positive and negative. Trainers will use information from the completed evaluation forms to improve future trainings. Please note that participants do NOT need to write their name on the Training Evaluation Form.



ICAP
International Center for AIDS Care and Treatment Programs
MAILMAN SCHOOL OF PUBLIC HEALTH
Columbia University

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

University Teaching Hospital
Department of Paediatrics & Child Health

François-Xavier Bagnoud Center
School of Nursing, University of Medicine & Dentistry of New Jersey