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# **BASICS PEDIATRIC HIV TOOLKIT**

## **FACILITATOR'S MANUAL**



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# **TRAINING MODULE: FACILITATOR'S GUIDE**

**PEDIATRIC HIV ORIENTATION MODULE FOR  
FRONTLINE HEALTH CARE WORKERS:**

*A SHORT COURSE ON USING EVERY OPPORTUNITY TO SAVE  
HIV EXPOSED AND INFECTED INFANTS AND CHILDREN  
THROUGH EARLY IDENTIFICATION*

**JUNE 2009**

### **BASICS III**

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### **Abstract**

This Pediatric HIV Orientation Module for Frontline Health Care Workers provides guidance to health care workers on how to utilize every opportunity within maternal and child health entry points to care at hospitals and health centers to identify early infants and children exposed and infected with HIV and link them to appropriate care as to save their lives and improve their survival, especially the children under the age of five years.

The course is intended for those who work at the front lines of the health care system and attend to parents and children under five. This includes cadres such as clinical officers, nurses, nurse-midwives, community health nurses, medical assistants, district health officers, laboratory technologists, pharmacists, nutrition officers, health surveillance assistants, home-based care workers, and OVC care providers.

The aim is to reach those who work in places that attend to HIV exposed and infected infants and children or their parents or caregivers. These are all potential entry points to care for HIV exposed and infected children and include the following units: ANC, PMTCT, ART, IMCI, MCH, under 5 clinics, Immunization clinics, pediatric inpatient and out patient consultations, TB-HIV clinics, labor and delivery, family planning clinics, nutrition rehabilitation units; home based care, community child health programs and orphans and vulnerable children programs.

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# BACKGROUND

Globally, in 2007, about 2.5 million children under the age of 15 were living with HIV. In that year alone, 370,000 children were newly infected with HIV and 270,000 children died of AIDS.

Unfortunately, HIV disease usually advances rapidly in infants infected during pregnancy, labor and delivery, and they often die by the age of one year because they are not diagnosed early enough to benefit from the care and treatment that they need. A recent study in South Africa found that when infants were diagnosed with HIV early (before three months of age), and treated, far fewer died than those in whom treatment was delayed (Cotton M, Givv D et al. Antiretroviral therapy initiated before 12 weeks of age reduces early mortality in young HIV-infected infants: evidence from the Children with HIV Early Antiretroviral Therapy (CHER) Study. Presentation at IAS meeting 2006).

Children with HIV suffer from the same childhood illnesses as those who are not infected, however their illnesses last longer, are more frequent, and are often more severe. In addition, children with HIV may respond poorly to standard treatments for childhood illness. Without antiretroviral treatment (ART), most HIV-infected children die before the age of five—roughly half die before their second birthdays (WHO, 2005B).

Furthermore, prevention of common childhood infections through immunization, effective management of childhood illnesses and malnutrition, and prevention and early treatment of opportunistic infections can improve the quality of life of HIV-infected children. HIV counseling and support for children, their caregivers, and their families can considerably improve their quality of life, relieve suffering, and assist in the practical management of illness. ARV treatment can substantially prolong the lifespan of children living with HIV and ensure a higher quality of life.

There is currently much effort to prevent infections in infants through expansion of PMTCT programs, providing the means to prevent pregnancy in women with HIV when they do not want to bear a child and to ensure that mothers with HIV live a healthy life and care for their HIV positive and negative infants. There are also very important efforts to ensure that safe breastfeeding is practiced so that infants who are not infected during pregnancy, labor and delivery stay healthy and grow well while they are being breastfed.

There is an urgent need to do a better job of finding infants who are exposed to HIV during pregnancy, labor, delivery and after delivery (post partum) early enough to help them and to prevent needless suffering and early death. Through these efforts, they can become healthy children leading normal lives.

Improving the detection of HIV in children is the responsibility of **all** health workers working at hospitals at all levels, and especially at the district and rural levels as well as at health centres, dispensaries, health outposts, village clinics and communities. Although many providers may not directly treat mothers, infants and children affected by HIV, they have an important responsibility to carry the following key messages.

- All pregnant women should be tested for HIV as this is an important entry point to HIV prevention, care and treatment services for themselves, their families and their infants.
- All HIV positive pregnant women should access a package of services, including family planning counseling, infant feeding counseling, CPT, ART, adequate care during labour and delivery and effective post-delivery follow up.

- All children born to HIV positive women are entitled to a package of care including routine health care (immunizations, clean water, ITNs, etc.) and CPT, ART where necessary, and nutritional support.
- Effective management of HIV positive mothers and infants/children is based on maintaining ongoing care beyond delivery—hence the important need to ensure follow up care and support through health facilities and in the community involving all cadres of health workers.
- No HIV exposed or infected infant or child should leave a health facility without someone knowing he or she has been exposed or is infected with HIV, or without a referral for what is needed, and a follow-up plan.

This course is intended for anyone working at a health facility who is likely to come into contact with the parents and caregivers of children with HIV and with the infants and children who need HIV care and treatment services. This includes health care workers in maternal and child (MCH) units, outpatient facilities and, paediatric wards, among others. The course provides practical information that should help HCWS sharpen their attention on HIV exposed and infected infants in their facilities and seize currently missed opportunities to find these infants and children and ensure they are referred for diagnosis, care and treatment early in the course of their disease.

Participants are not expected to provide HIV testing and counseling, diagnosis or treatment for infants and children with HIV. In most countries, there are Early Infant Diagnosis (EID), Antiretroviral therapy (ART), HIV Testing and Counseling (HTC), Prevention of Mother-to-Child Transmission (PMTCT) courses that are designed to train health care workers to perform such functions. This course is designed to increase the referral of HIV exposed and infected infants that need to be seen to those who test and treat children. No HIV exposed or infected infant or child should leave a health facility without someone knowing he or she has been exposed to or is infected with HIV, or without a referral for what is needed, and a follow-up plan.

# ACRONYMS

AIDS	Acquired immunodeficiency syndrome
AFASS	Acceptable, feasible, affordable, sustainable, safe
ANC	Antenatal care (or antenatal clinic)
ARI	Acute respiratory infection
ART	Antiretroviral therapy
ARV	Antiretroviral
AZT	Azidothymidine (zidovudine)
CBHW	Community based health worker
CPT	Cotrimoxazole preventive therapy
CTC	Comprehensive treatment center
CTX	Cotrimoxazole
DNA-PCR	Deoxyribonucleic acid – polymerase chain reaction
EBF	Exclusive breastfeeding
EID	Early Infant Diagnosis
EPI	Expanded Programme on Immunization
HAART	Highly active antiretroviral therapy
HCW	Health care worker
HIV	Human immunodeficiency virus
HTC	HIV testing and counselling
IEC	Information, education and communication
IMCI	Integrated Management of Childhood Illness
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IUD	Intrauterine device
MCH	Maternal and child health
MTCT	Mother-to-child transmission
NGO	Nongovernmental organization
NRU	Nutritional rehabilitation unit
OI	Opportunistic infection
OPD	Outpatient department
OVC	Orphans and vulnerable children

PCP	<i>Pneumocystis Jiroveci</i> pneumonia (formerly <i>Pneumocystis carinii</i> pneumonia)
PCR	Polymerase chain reaction
PEPFAR	President's Emergency Plan for AIDS Relief
PLHA	People living with HIV and AIDS
PITC	Provider-initiated HIV testing and counselling
PMTCT	Prevention of mother-to-child transmission
SD-NVP	Single dose nevirapine
STI	Sexually transmitted infection
TB	Tuberculosis
U5	Under five
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
WHO	World Health Organization

# SELECTED TERMS AND DEFINITIONS

**Infant:** any child less than 12 months of age

**Young Child:** any child between the ages of 1–5 years

**School-Age Child:** any child between the ages of 6–12 years

**Adolescent:** any child between the ages of 13–18

**DNA PCR—Deoxyribonucleic acid (DNA) polymerase chain reaction (PCR)** detects HIV-1 DNA in peripheral blood mononuclear cells. It is a qualitative test and gives a “yes” or “no” diagnosis of HIV. The sensitivity approaches 96–99% by 28 days of age. It is reliable in the presence of ARV exposure for PMTCT or maternal ART.

**Dried Blood Spots:** Blood obtained from a heel or finger prick directly onto filter paper and dried at room temperature. It carries less biohazard risk and overcomes blood sampling and logistical obstacles, and can be used for serological and genetic analysis.

**Polymerase Chain Reaction:** Polymerase chain reaction (PCR) enables laboratory staff to produce millions of copies of a specific DNA sequence in approximately two hours. This automated process bypasses the need to use bacteria for amplifying DNA. It allows a single sequence of genetic material to be copied millions of times.

**Rapid Antibody Tests:** Rapid antibody tests detect HIV antibody in whole blood from finger/heel stick or oral sample. Results are available within minutes to half an hour. Sensitivity varies with test. Rapid antibody tests can be performed by any health worker who has been adequately trained. Rapid tests which have been approved for use in the field can be found at [www.who.int/hiv](http://www.who.int/hiv).



# WELCOME, INTRODUCTIONS, PRE-TEST, OBJECTIVES AND COURSE OVERVIEW



- Time:** 90 minutes
- Activities:** Welcome remarks  
Participant introductions  
Pre-test  
Open discussion
- Materials:** PowerPoint of objectives  
Pre-test  
Agenda  
Participant manual

## **OBJECTIVES:**

This session is designed to

1. Build a sense of comfort and safety among the participants.
2. Give the trainer a sense of the background and level of preparation of the participants.
3. Provide a clear idea to the participants of the importance and objectives of the course and what is planned each day.
4. Engage the participants in the issue of pediatric HIV in their country by providing a brief background.

### **❖ FACILITATOR**

1. WELCOME PARTICIPANTS AND INTRODUCE ALL PRESENTERS/FACILITATORS AND GUESTS.
2. ACKNOWLEDGE THAT THIS IS TAKING TIME FROM THEIR IMPORTANT WORK. EMPHASIZE HOW IMPORTANT THIS COURSE IS FOR THE INFANTS AND CHILDREN IN THE HOST COUNTRY, THAT THIS IS A VERY IMPORTANT PART OF THEIR WORK, AND THEY HAVE A HUGE CONTRIBUTION TO MAKE TO THIS ISSUE.
3. INTRODUCTIONS  
REQUEST THAT PARTICIPANTS EACH INTRODUCE THEMSELVES AND SHARE THE FOLLOWING:
  - WHAT IS THEIR TRAINING
  - WHERE DO THEY WORK
  - WHAT DO THEY HOPE TO LEARN FROM THIS COURSE
4. PROVIDE AN ORIENTATION TO THE LOGISTICS OF THE TWO DAYS OF THE WORKSHOP.
5. CHECK THE ROOM ARRANGEMENT TO MAKE SURE ALL PARTICIPANTS ARE COMFORTABLE, THAT THEY CAN SEE AND HEAR EACH OTHER AND THE FACILITATOR AND THAT THEY CAN CLEARLY SEE AUDIOVISUAL AIDS.
6. ASSIST THE PARTICIPANTS IN IDENTIFYING A LEADER AND A TIME KEEPER FOR THE WORKSHOP.

## ❖ FACILITATOR

DESCRIBE FOR THE PARTICIPANTS THE BACKGROUND, PURPOSE AND OBJECTIVES OF THE COURSE.

### BACKGROUND

- Globally, in 2007, about 2.5 million children under the age of 15 were living with HIV.
- In that year alone, 370,000 children were newly infected with HIV and 270,000 children died of AIDS.
- In   (year)  , it was estimated that                    children under 15 were living with HIV.
- In   (year)  , with more than   (#)   individuals benefiting from treatment only   %   of **the patients on treatment are children** despite the fact that children represent **over   %   of HIV infected individuals.** (Fill in current information)
- The challenge is to bring these unreached children into ART programs and to provide them with other interventions such as CPT and effective treatment and management of opportunistic infections.
- There are currently many missed opportunities to identify HIV exposed and infected infants and children early so that they are diagnosed before they are severely ill and it becomes more difficult to save them.
- This course is to **increase the numbers of infants and children identified as having HIV when they present to health facilities.**
- Participants are **not expected to provide HIV testing and counseling, diagnosis, or treatment.** There are other courses for this.
- This course is to **ensure that those who test and treat children are seeing all of the exposed and infected infants that need to be seen.**
- **No HIV exposed or infected infant or child should leave a health facility without someone knowing he or she has been exposed or is infected with HIV, or without a referral for what is needed, and a follow-up plan.**
- This course is intended for **anyone who comes into contact with the parents and caregivers and their infants and children, in a health facility and at community child health programs.**

### PURPOSE

The purpose of this course is to equip health care workers who work with children at the facility and community levels with the knowledge and skills to ensure that HIV exposed and infected infants and children benefit from HIV prevention, care and treatment services as early as possible. The course is designed to address the many missed opportunities for finding HIV exposed and infected children under five as early as possible.

### TARGET PARTICIPANTS

This course is intended for hospital and health center health care workers—those who work at the front lines of the health care system—and attend to parents and children under five. This includes cadres such as clinical officers, nurses, nurse-midwives, community health nurses, medical assistants, district health officers, laboratory technologists, pharmacists, health surveillance assistants, home-based care workers, OVC care providers and nutrition service providers.

The aim is to reach those who work in places that attend to HIV exposed and infected infants and children or their parents or caregivers. These are all potential entry points to care for HIV exposed and infected children and include the following units:

**❖ NOTE FOR FACILITATOR**

THE CONTENT OF THIS MODULE IS INTENDED TO BE DIRECTED AT THOSE AT THE FIRST LINES OF CHILD HEALTH. MANY OF THESE HEALTH CARE PROVIDERS HAVE LEARNED ABOUT HIV IN PRE OR IN-SERVICE TRAINING BUT SOME MIGHT NOT HAVE HAD MUCH FORMAL TRAINING OR UNDERSTANDING ABOUT THE CLINICAL ASPECTS OF HIV.

EMPHASIZE THAT IN ORDER TO HELP CHILDREN WITH HIV THE MANY DIFFERENT PARTS OF THE HEALTH SYSTEM AND HIV PROGRAMS MUST BE BROUGHT TOGETHER SO THAT THEY WORK IN COORDINATION AND SYNERGY WITH EACH OTHER. FOR EXAMPLE, HEALTH PROVIDERS WORKING IN MCH AND THOSE WORKING ON ART PROGRAMS SHOULD BE PLANNING, MEETING, COMMUNICATING AND REPORTING IN A WAY THAT MAKES IT EASIER FOR MOTHERS AND INFANTS TO GET THE SERVICES THEY NEED FROM DIAGNOSIS ALL THE WAY TO TERMINAL CARE.

AS YOU COVER THE TOPICS, YOU ARE ENCOURAGED TO BE SENSITIVE TO CUES THAT TERMINOLOGY OR CONCEPTS ARE NOT BEING CLEARLY UNDERSTOOD AND TO TAKE THE TIME TO SIMPLIFY OR EXPLAIN. SIMPLE ANALOGIES, METAPHORS AND EXAMPLES ARE ENCOURAGED. WE HAVE TRIED TO INCLUDE SOME HERE BUT YOU ARE ENCOURAGED TO THINK OF OTHER EXAMPLES IN YOUR PREPARATION FOR EACH TRAINING SESSION.

**Table 1. Programs and Services reaching Children, Parents and Caregivers of Children**

Programs and services reaching children	Programs and service reaching parents and caregivers of children
<ul style="list-style-type: none"> <li>• Under 5 clinics</li> <li>• Pediatrics – inpatient and outpatient</li> <li>• Immunization clinics, sites, or on EPI teams or Immunization outreaches in the community</li>   <li>• Outpatient department (OPD)</li> <li>• Nutritional rehabilitation unit and outpatient therapeutic nutrition programs</li>   <li>• TB/HIV Clinic</li> <li>• Community child health programs</li> </ul>	<ul style="list-style-type: none"> <li>• Antenatal clinics (ANC) and PMTCT programs</li>   <li>• Family Planning (FP) clinics</li> <li>• Adult ART sites</li> <li>• TB-HIV Clinics</li> <li>• Labor, delivery, postnatal, maternity and waiting mother units</li>   <li>• Home based care programs (HBC)</li> <li>• Programs for orphans and other vulnerable children (OVC programs)</li>   <li>• Mothers’ support groups</li> <li>• People living with HIV and AIDS (PLHA) support groups</li>   <li>• Men’s support groups</li> <li>• Community outreach programs</li> </ul>

## ❖ FACILITATOR

DESCRIBE FOR THE PARTICIPANTS WHAT THEY SHOULD BE BETTER PREPARED TO DO AT THE END OF THIS COURSE

## EXPECTED LEARNING OUTCOMES

At the end of the course, participants will be better prepared to

1. Describe HIV transmission and prevention and the course of HIV disease in infants and young children.
2. Discuss what communities know and what is being done for children with HIV, including HIV testing, care and treatment.
3. Explain the issues faced in diagnosing HIV in infants and children and recommended steps for HCWs when they suspect HIV exposure or infection.
4. Discuss the current national guidelines on PMTCT, HIV counseling and testing in children, ARV prophylaxis, follow-up, feeding counseling, and postpartum care.
5. Discuss infant feeding, nutrition and micronutrient supplementation for HIV infected infants, including infant feeding counseling.
6. Make a checklist of steps to take to improve the diagnosis, care and treatment of infants and children with HIV in the place(s) where you work.
7. List resources in their setting for identifying HIV-exposed or infected infants and children.
8. Identify child health programs where pediatric HIV care and supported could be integrated into e.g. PMTCT, IMCI, Immunization etc
9. Describe the unique needs of mothers, infants, toddlers, school age children and adolescents in terms of how having HIV can affect their lives.
10. List the components of a comprehensive care package for an infant or child with HIV.
11. Demonstrate the ability to correctly manage referral and follow up support for several cases related to HIV in children, from HIV diagnosis through care and treatment.

## KEY POINTS



***All health care workers play a critical role in ensuring that exposed and infected infants and children do not leave facilities without being assessed for HIV and ensured proper follow-up, care and treatment.***

## ❖ FACILITATOR

PROVIDE A BRIEF BACKGROUND SUMMARY OF THE PROBLEM OF PEDIATRIC HIV IN \_\_\_\_\_  
PUT THE FOLLOWING QUESTIONS ON A FLIP CHART AND ASK PARTICIPANTS TO WRITE SHORT ANSWERS (15 MINUTES) AND THEN ASK THEM TO SHARE THEIR RESPONSES (30 MINUTES).

ENSURE CORRECT ANSWERS ARE PROVIDED IF NOT OFFERED FIRST BY PARTICIPANTS.

### QUESTIONS

- HOW MANY CHILDREN IN \_\_\_\_\_ WOULD YOU ESTIMATE HAVE HIV?
  - WAIT FOR AN ESTIMATE AND THEN PROVIDE CURRENT DATA.
- IN YOUR OWN COMMUNITIES, WHAT WOULD YOU SAY ARE THE MAJOR ISSUES FACING A FAMILY WITH A PERSON WITH HIV? A CHILD?
- WHAT DO YOU KNOW ABOUT CHILDHOOD ILLNESSES AND HIV IN CHILDREN?

## THE IMPORTANCE OF THIS COURSE

### HIV IN CHILDREN

- In 2007, about 2.1 million children under the age of 15 globally were living with HIV.
- In that year alone, 370,000 children were newly infected with HIV and 270,000 children died of AIDS.
- In INSERT YEAR, in INSERT COUNTRY, it was estimated that \_\_\_\_\_ children aged less than 15 years were living with HIV.
- Over \_\_\_\_\_ infected adults have benefited from ART over the course of three years.
- Only \_\_\_% of the patients on treatment are children despite the fact that children represent **over** \_\_\_% **of HIV infected individuals** in INSERT COUNTRY. (Fill in current data)
- Unfortunately, HIV disease usually advances rapidly in infants infected during pregnancy, labor and delivery.
- Children with HIV suffer from the same childhood illnesses as those who are not infected, however their illnesses last longer, are more frequent, and are often more severe.
- Children with HIV may respond poorly to standard treatments for childhood illness.
- Without antiretroviral treatment (ART), most HIV-infected children die before the age of five—roughly half die before their second birthdays (WHO, 2005B).
- A recent study in South Africa found that when infants were diagnosed with HIV early (before three months of age), and treated, far fewer died than those in whom treatment was delayed.
- There is currently much effort to prevent infections in infants through expansion of PMTCT programs, providing the means to prevent pregnancy in women with HIV when they do not want to bear a child and to ensure that mothers with HIV live a healthy life and care for their HIV positive and negative infants.

- There are also very important efforts to ensure that safe breastfeeding is practiced so that infants who are not infected during pregnancy, labor and delivery stay healthy and grow well while they are being breastfed.
- However, there are many missed opportunities to identify and ensure care and treatment access for children under five, e.g., children at under five clinic whose mother's health passport is never checked to see if she is HIV positive; babies on a pediatric ward with HIV who are not tested during their admission.
- There is hope for infants and children with HIV, provided they are reached early with prevention of opportunistic infections and ART when they need it.
- Children with HIV can be healthy children leading normal lives.

## **LEARNING ACTIVITIES**

### **PRESENTATION**

### **SMALL GROUP DISCUSSION**

### **EXERCISES**

### **CASE STUDIES**

#### **❖ FACILITATOR**

ASK THE PARTICIPANTS IF THEY HAVE ANY QUESTIONS.

HAND OUT THE SESSION SCHEDULE AND ASK IF THERE ARE FURTHER QUESTIONS.

**Table 2. Session Content and Schedule**

<b>Session</b>	<b>DAY 1</b>		
	Welcome, introductions, pre-test, objectives and course overview	Facilitated interaction, Interactive exercise	90 minutes
I	HIV and You and HIV in Infants and Children (including 15 minute break)	Group and plenary discussion	90 minutes
II	HIV and AIDS Epidemic Background and Situation in _____name of country	Presentation with Q and A	30 minutes
	<b>LUNCH</b>		60 minutes
III	Prevention of HIV in Infants and Children and the Basics of PMTCT	Presentation with Q and A	60 minutes
IV	HIV Disease in Infants and Children: Disease Progression, Clinical Diagnosis and Testing	Presentation, Demonstration Cases	90 minutes
	<b>BREAK</b>		15 minutes
V	National Policies and Guidelines on HIV Testing in Children	Presentation/Q &A	60 minutes
	Review, preview, wrap up		15 minutes
<b>Session</b>	<b>DAY 2</b>		
	Review of Day 1, preview of Day 2, Q and A	Facilitated presentation/discussion	20 minutes
VI	Comprehensive Care for HIV Exposed and Infected Infants and Children	Presentation	2 hours
	<b>BREAK</b>		15 minutes
VII	Infant feeding and Nutrition Issues Include 15 minutes <b>break</b>	Presentation, Cases	2 hours
	<b>LUNCH</b>		60 minutes
VIII	Mother-Infant Pair Follow-Ups and Referrals	Presentation, small group exercises and action planning	90 minutes
	Post test and review of post test		40 minutes
	Course Evaluation and Wrap Up		45 minutes

# SESSION I



## HIV AND YOU

**Time:** 90 minutes

**Activities:** Group and plenary discussion

**Materials:** Handout of the questions below

Large pieces of plain paper for drawing

Magic markers or crayons or other drawing materials

Masking tape

Space for group breakouts

Time Keeper and Rapporteur

## **OBJECTIVES:**

### **At the end of this session, participants will be better able to**

1. Describe their beliefs and attitudes about HIV.
2. Explain the state of understanding of the average person in the host country about HIV in infants and children.
3. Share their thoughts and feelings about their work in HIV.
4. Clarify and be focused about their learning objectives for this module.

### **❖ FACILITATOR**

#### **15 MINUTES**

CONVEY TO THE PARTICIPANTS THAT THEY SHOULD ONLY SHARE WHAT THEY ARE COMFORTABLE SHARING AND THAT THEY ARE NOT EXPECTED TO NAME ANYONE WITH HIV IN THEIR FAMILIES OR COMMUNITIES. THE PURPOSE OF THIS SESSION IS TO CLARIFY THEIR ATTITUDES AND VALUES SO THEY CAN MORE COMFORTABLY AND EFFECTIVELY SERVE CLIENTS.

THIS SESSION IS DESIGNED TO RAISE AWARENESS AND TO SHARE SOME FEELINGS AND THOUGHTS ABOUT HIV BEFORE WORKING ON LEARNING THE TECHNICAL DETAILS.

#### **21 MINUTES IN GROUPS**

#### **30 MINUTE REPORTING BACK**

EXPLAIN TO THE PARTICIPANTS THAT EXPLORING OUR PERSONAL ATTITUDES, BELIEFS AND KNOWLEDGE ABOUT HIV IS THE MOST IMPORTANT FIRST STEP IN BECOMING GOOD PROVIDERS OF PREVENTION, CARE AND TREATMENT SERVICES. OUR OWN ATTITUDES, BELIEFS AND VALUES INFLUENCE THE WAY WE PROVIDE CARE TO OTHERS. IT IS WELL KNOWN THAT HIV BRINGS UP MANY BELIEFS, VALUES AND FEELINGS IN PEOPLE AND THAT STIGMA CAN PREVENT PEOPLE FROM CARING AND TREATING FOR THEMSELVES AND OTHERS.

DIVIDE THE GROUP INTO SMALLER GROUPS OF 5 EACH BY ASKING PARTICIPANTS TO COUNT 1 TO 5 AND FORM GROUPS OF THEIR SAME NUMBER.

PROVIDE EACH GROUP WITH A HANDOUT OF THE STATEMENTS THEY WILL RESPOND TO ABOUT HIV.

AS EACH GROUP FORMS, THEY SHOULD DESIGNATE A LEADER AND A REPORTER.

ONCE IN THE GROUPS, THE LEADER SHOULD TELL THE GROUP TO:

- TELL YOUR OWN STORY ABOUT EACH OF THE FOLLOWING STATEMENTS OR QUESTIONS.

NOTE: WHILE A PERSON IS TELLING OR SHOWING THEIR STORY, THE GROUP IS ENCOURAGED TO STAY NEUTRAL AND AVOID LAUGHTER OR OTHER REACTIONS, AND TO AVOID ANY INTERRUPTIONS.

AT THE END WE WILL ASK THAT YOU SELECT ONE OR TWO STORIES TO SHARE WITH THE WHOLE GROUP.

WE WILL SPEND 30 MINUTES HEARING THE DIFFERENT STORIES.

**The following statements are written on the handout and the PowerPoint**

1. The first time I heard about HIV was...
2. When I heard this disease described, I thought...
3. When I first heard that babies could be born with HIV, I thought...
4. In my own family and community what people say about HIV in babies is something along the lines of ...
5. What I most want to know about HIV in infants and children in the next few days is...
6. I am most concerned about...
7. I am most interested in...
8. I am most confused about...
9. My most rewarding experience related to HIV (can be work or home) was when...
10. My most difficult experience was when...

**❖ FACILITATOR**

MAKE OBSERVATIONS ABOUT THE STORIES AND PROVIDE POSITIVE FEEDBACK ON THE WORK, COMMENTING ON POINTS RELEVANT TO THE COURSE.



## SESSION II



### HIV AND AIDS: BACKGROUND AND THE SITUATION IN HOST COUNTRY

**Time:** 45 minutes

**Activities:** Open discussion followed by presentation, Q and A

**Materials:** PowerPoint presentation

## **OBJECTIVES:**

### **At the end of this session participants will be better prepared to**

1. Define HIV and AIDS and discuss the differences between HIV infection and AIDS.
2. Describe how HIV infection is diagnosed and monitored in children.
3. Discuss the meaning and implications of the window period.
4. Describe approaches to HIV prevention.
5. Discuss the HIV epidemic in the country in terms of
  - numbers infected,
  - the impact on societies, families and communities
  - the national response to the epidemic
6. Discuss progress and problems related to the national response to HIV, and services for people living with HIV.

## **HIV AND AIDS**

HIV (human immunodeficiency virus) is the virus that causes AIDS. This virus may be passed from one person to another when infected blood, semen, or vaginal secretions come in contact with an uninfected person's broken skin or mucous membranes\*. In addition, infected pregnant women can pass HIV to their baby during pregnancy or delivery, as well as through breast-feeding. People with HIV have what is called HIV infection.

- The immune system is the body's defense against disease. HIV, the human immunodeficiency virus, causes the immune system to gradually deteriorate, resulting in what is called AIDS.
- AIDS is an acronym for Acquired Immunodeficiency Syndrome and refers to an advanced stage of HIV infection.

**A:** Acquired—not inherited

**I:** Immune—affecting the immune system

**D:** Deficiency—inability to protect against illness

**S:** Syndrome—a group of symptoms or illnesses that occur as a result of an infection

This means that a person with HIV experiences many HIV-related infections and other conditions such as tumors, many of which become severe and require intensive treatment. Example: severe thrush and shingles, genital ulcer disease in a person with HIV requires a higher dose and a longer course of treatment with Erythromycin.

## ❖ FACILITATOR

NOTE THAT THE ENTRY POINT TO CARE AND TREATMENT IS THROUGH TESTING AND COUNSELING

ASK: HOW MANY HIV TESTING AND COUNSELING SITES ARE IN YOUR AREA?

DISCUSS THE FOLLOWING TERMS WITH THE PARTICIPANTS AND SEE WHAT THEIR UNDERSTANDING IS OF THESE TERMS BEFORE PROCEEDING WITH THE PRESENTATION:

- WINDOW PERIOD
- SEROCONVERSION
- INCUBATION PERIOD

## DIAGNOSIS OF HIV

### TYPES OF HIV TESTS

HIV antibody tests detect antibodies that the immune system forms against HIV. These tests do not detect the virus itself. There are several types of HIV tests.

#### Antibody tests

These tests are the most commonly used type of test. They are usually used first. These tests detect the presence of antibodies to HIV.

The commonly used antibody test is a rapid test such as Determine or Unigold which are brand names of different rapid antibody tests. One test is used to determine the diagnosis if the first test is negative then the result is negative but if the first test is positive then a second test is used to confirm the first positive result. This is known as serial testing.

The advantages of the rapid type of antibody test are that they do not require sophisticated laboratory equipment and most health care workers and even lay people can learn to do these tests accurately with some training. Most importantly, the results can be given to the patient the same day that the test is done.

#### Antigen or virological tests (PCR)

Antigen or virological tests detect the presence of the HIV virus itself. These tests are more expensive and require more complex equipment and training.

These tests are used in infants below the age of 18 months. This is important for early infant diagnosis because the infant still has the mother's antibodies so that an antibody test will detect the mother's antibodies and cannot reliably say whether the infant is infected or not.

**THE WINDOW PERIOD** – PERIOD AFTER A PERSON BECOMES INFECTED WITH HIV WHEN THE VIRUS IN THEIR BLOOD INCREASES VERY RAPIDLY AND THEY EXPERIENCE A BRIEF FLU-LIKE ILLNESS.

IF AN HIV ANTIBODY TEST IS DONE DURING THIS TIME, THE PERSON'S TEST RESULT WILL BE NEGATIVE EVEN THOUGH THEY ARE INFECTED WITH HIV.

- THIS IS CALLED THE **WINDOW PERIOD**.
- THREE MONTHS AFTER INFECTION THE TEST WILL BE POSITIVE.
- THE IMPORTANCE OF THIS PERIOD IS THAT IT IS DURING THIS TIME THAT A PERSON IS MOST INFECTIOUS TO OTHERS.
- IT IS IMPORTANT TO REPEAT NEGATIVE TESTS IN PERSONS AT RISK, INCLUDING PREGNANT AND BREASTFEEDING WOMEN.

## LABORATORY TESTS TO MONITOR HIV DISEASE

### CD4

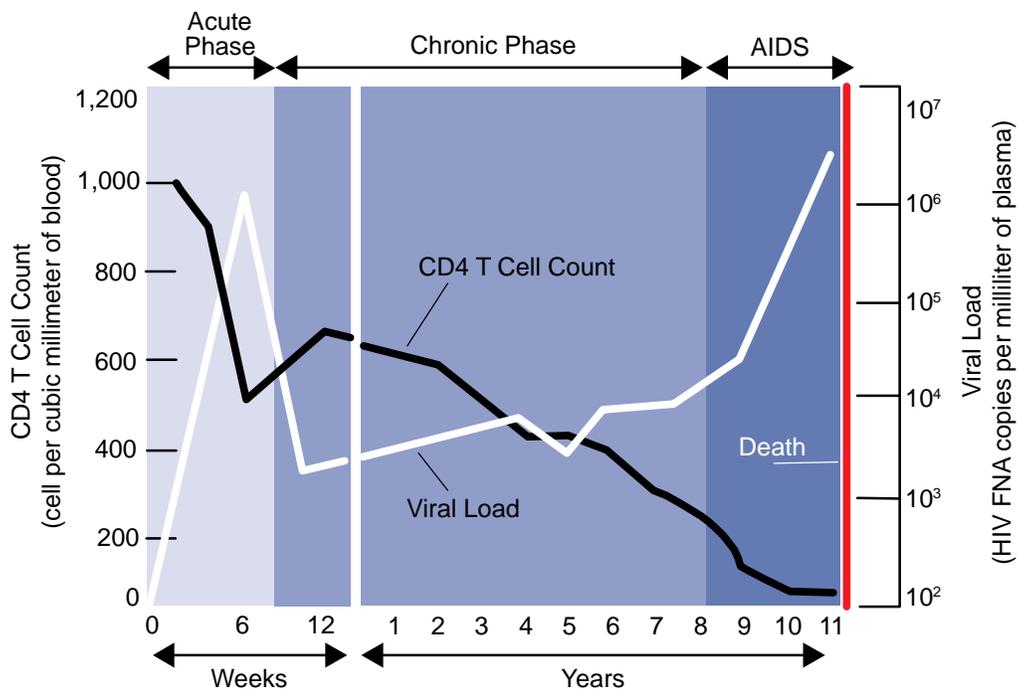
- A type of blood cell that is an important marker of the immune system
- CD4 cells are part of the body's defense against infection.
- The normal levels are higher in infants and children than in adults
- Their numbers decline throughout the course of HIV infection, as the immune system becomes overwhelmed
- There is a blood test that counts the number of CD4 cells in the blood.
- In children it is the percentage that is important because the number changes as a child gets older.
- The cells in the body that are destroyed by HIV are called CD4 cells.
- As the number of these cells decrease, the virus in the blood increases.
- Depending on the level of CD4 cells people develop different infections and eventually AIDS.

### VIRAL LOAD

- A measure of the severity of a viral infection
- Can be calculated by estimating the amount of virus in an involved body fluid, such as blood
- Children can be started on antiretroviral drugs without knowledge of viral load, especially for facilities that do not have the machine to measure it
- Determination of viral load is part of the therapy monitoring during HIV treatment.
- The drugs that treat AIDS increase the CD4 cells and the HIV virus in the blood decreases resulting in fewer infections and a greater quality life. These drugs called ARVs mean that there is now hope for people who become infected with HIV.

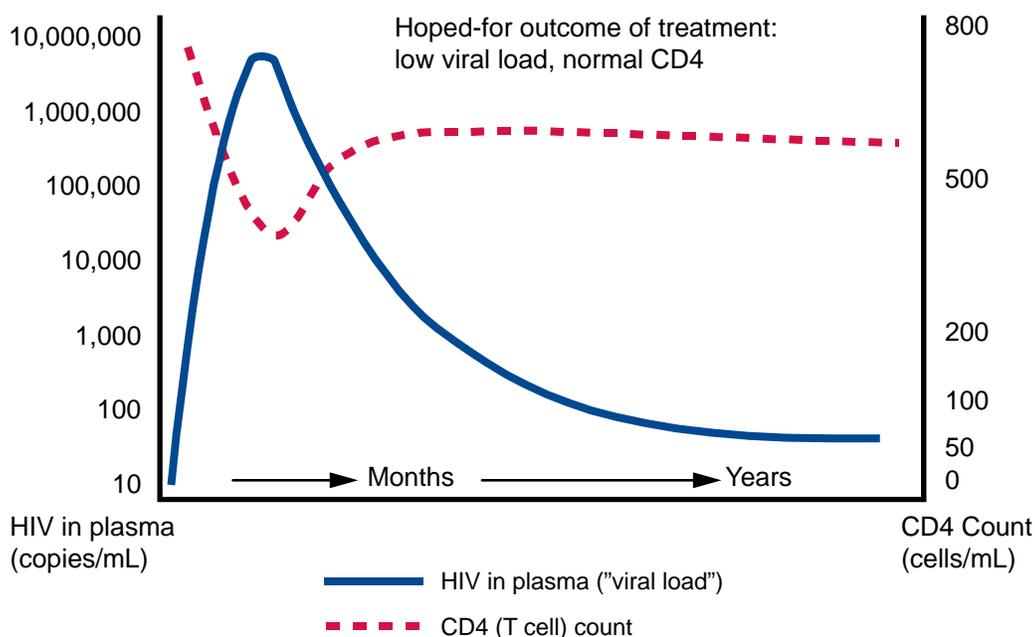
The natural course of HIV infection in the absence of ART is shown in Figure 1 below (Adapted from VCT Toolkit, FHI, 2004) As the patient's HIV viral load increases, the CD4 count decreases.

**Figure 1. Natural Course of HIV Infection**



The effect of ART is the reverse: the viral load **decreases** and the CD4 count rises, as shown in Figure 2 below, resulting in fewer infections and illness, weight gain and a better quality of life. Treatment is discussed in greater detail later in the module.

**Figure 2. Effect of ART**



## HIV TRANSMISSION

### HIV can be transmitted from one person to another in several ways

- The most common form of transmission in the world is sexual

*Other ways in which HIV is transmitted include*

- Transmission from a mother to her infant during pregnancy, labor, delivery or breastfeeding
- Occupational exposure to needle stick or other sharps injuries or splashes with infectious blood or bodily fluids or through use of unsterile injection needles and procedures
- Transmission can occur through needle sharing during drug use,

Prevention of transmission is through avoidance of situations in which exposure occurs or by taking medications to prevent transmission, such as ARV prophylaxis through PMTCT programs or post-exposure prophylaxis (PEP) after rape or an occupational exposure.

- Child sexual abuse as a source of HIV transmission in children is of concern in countries where child sexual abuse is a major public health problem
- Transmission of infected blood or blood products is a possible source, but this has been greatly reduced because of blood safety programs.
- Scarification from traditional healers may also be a source of infection, as a desperate attempt by mothers and guardians to treat frequent illnesses in the child.

#### ❖ FACILITATOR

ASK THE GROUP WHAT THEY KNOW ABOUT PREVENTING HIV TRANSMISSION AND THEN CLEAR UP MISCONCEPTIONS AND PRESENT THE FOLLOWING:

## HIV PREVENTION

### General approaches to HIV prevention include

- Abstaining from sex
- Practicing mutual faithfulness after determining HIV status of both partners
- Consistent and correct use of condoms
- Screening blood before transfusion
- Adhering to infection control measures
- Post Exposure prophylaxis (PEP)
- Prevention of mother to child transmission (PMTCT) of HIV through ARV prophylaxis, modifying delivery practices to reduce transmission and ensuring safe infant feeding practices.

❖ **FACILITATOR**

ASK THE GROUP WHAT THEY KNOW ABOUT HIV IN THEIR COUNTRY.

PRESENT LOCAL HIV DATA.

## HIV IN INFANTS AND CHILDREN

### Global Data

- Annually, more than 700,000 children are infected with HIV globally.
- The most common route by far of HIV transmission for children is mother- to-child transmission (MTCT).
- Globally, in 2007, about 2.5 million children under the age of 15 were living with HIV. In that year alone, 370,000 children were newly infected with HIV and 270,000 children died of AIDS (UNAIDS, 2007)

### Regional Data

It is known that of 90% all of the children in the world living with HIV live in Africa. A report for the President's Plan for Emergency Relief (PEPFAR) in 2005 showed the following as an example of the number of children in this region.

**Table 3. 2005 PEPFAR Regional Data**

Country	No. of children with HIV
Mozambique	140,000
Kenya	150,000
South Africa	240,000
Zambia	130,000
Uganda	110,000

The percentage of children in the region in 2006 needing antiretroviral treatment who received it was about 3% in west and central Africa and about 17% in Eastern and Southern Africa.

## LOCAL HIV DATA ON PMTCT AND PEDIATRIC HIV PROGRAMMING

- \_\_\_\_\_ children aged less than 15 years are infected with HIV
- \_\_\_\_\_ children are on ART
- Pregnant women tested for HIV - over \_\_\_\_% of all pregnancies
- HIV Positive pregnant women - \_\_\_\_\_
- HIV positive pregnant women who received
- ARV prophylaxis - \_\_\_\_\_% of those in need
- Newborns who received ARV prophylaxis
- - \_\_\_\_\_% of those in need of ARV prophylaxis

## PREVENTING HIV IN INFANTS AND CHILDREN

PMTCT is discussed in detail in Session III.

To protect children we must prevent HIV infection in women; ensure that women have a way to decide when they want to get pregnant and to prevent unwanted pregnancies.

When women with HIV get pregnant they must access PMTCT programs and practice safe infant feeding practices to prevent transmission to their infants.

It is of critical importance to keep mothers with HIV alive as we know that infants are more likely to die if their mothers are not alive to care for them, even if the infant does not have HIV.



### KEY POINTS

- HIV IS THE VIRUS THAT CAUSES AIDS AND RESULTS IN A PERSON EXPERIENCING MANY ILLNESSES AND INFECTIONS. TREATMENT CAN ENSURE THEY LIVE A PRODUCTIVE LIFE
- THE TESTS THAT USED TO DIAGNOSE HIV DEPEND ON THE AGE OF THE PERSON. ANTIBODY TESTS ARE MOST APPROPRIATE FOR CHILDREN OLDER THAN 15-18 MONTHS. VIROLOGICAL TESTS OR CLINICAL DIAGNOSIS ARE USED IN YOUNGER INFANTS AND THE VIROLOGICAL TESTS ARE BECOMING MORE COMMONLY AVAILABLE USING DBS-PCR.
- SEXUAL TRANSMISSION OF HIV IS THE SOURCE OF MOST HIV TRANSMISSION IN SUB SAHARAN AFRICA.
- HIV CAN BE PREVENTED THROUGH MANY APPROACHES INCLUDING ABSTINENCE, DECREASING THE NUMBER OF SEXUAL PARTNERS AND MUTUAL FAITHFULNESS, CONDOMS AND ARVs AND OTHER METHODS TO DECREASE TRANSMISSION FROM A MOTHER TO HER INFANT.
- HIV IN CHILDREN IS A PROBLEM IN MANY COUNTRIES IN SUB SAHARAN AFRICA. MUCH NEEDS TO BE DONE TO ENSURE THAT INFANTS DO NOT GET INFECTED AND TO HELP THOSE WHO DO GET INFECTED EARLY SO THEY DO NOT DIE.

**Figure 3. Missed Opportunities for Pediatric HIV: Program Checklist**



## SESSION III



### PREVENTION OF HIV IN INFANTS AND CHILDREN THE BASICS OF PMTCT

**Time:** 75 minutes

**Activities:** Presentation followed by Q and A

**Materials:** PowerPoint presentation or flip charts prepared in advance

Handout:

## OBJECTIVES:

### At the end of this session participants will be better prepared to:

1. Describe how HIV is transmitted from mothers to their babies.
2. Describe the four PMTCT prongs to prevent mother to child transmission of HIV.
3. Discuss how to implement the four prongs in their facility.
4. Discuss how to follow up and track mother and child pairs in PMTCT programs.

### ❖ FACILITATOR

ASK THE PARTICIPANTS WHERE THEY FIRST HEARD ABOUT HOW BABIES GET HIV AND WHAT THEY UNDERSTAND ABOUT IT.

### Explain the following:

- Some women are infected with HIV before they get pregnant. Others become infected during pregnancy or, later, while breastfeeding.
- When a woman is infected with HIV she can pass the virus to her infant during pregnancy, labor, delivery or breastfeeding.
  - This is called mother to child transmission, or **MTCT**
  - The prevention of transmission of HIV from the mother to her infant is called **PMTCT**.
- One way to think about transmission from a mother to her child is to remember that mother and baby are “one” or are a unit or a pair in a way. It is blood and bodily fluids that carry the HIV.
- 90% of children who have HIV became infected during pregnancy, labor, delivery or through breastfeeding.
- The transmission risk for a child born to an HIV-infected mother in an African setting without interventions for prevention of mother-to-child transmission is about 30-40%. (Handbook on Pediatric AIDS in Africa)
- We need to protect all women from becoming infected with HIV and take care not to blame them when they or their babies are infected with HIV.
  - Counsel women and couples about HIV prevention
  - Provide diagnosis, care and treatment when they are infected
  - Provide PMTCT services, including supportive counseling
- When we think of how to offer services to mothers with HIV and their infants, we should think of the mother and the baby as a unit or a pair. The one usually travels with the other!
- It is best if mothers and babies are cared for at the same service delivery point

## How is HIV transmitted from mother to child?

The majority of children born to HIV infected mothers are uninfected. However, HIV- positive women can transmit HIV to their infants during pregnancy, birth, or while breast feeding.

Table 4 below explains how this happens during pregnancy, labor, delivery and breastfeeding.

**Table 4. How is HIV Transmitted from Mother to Child?**

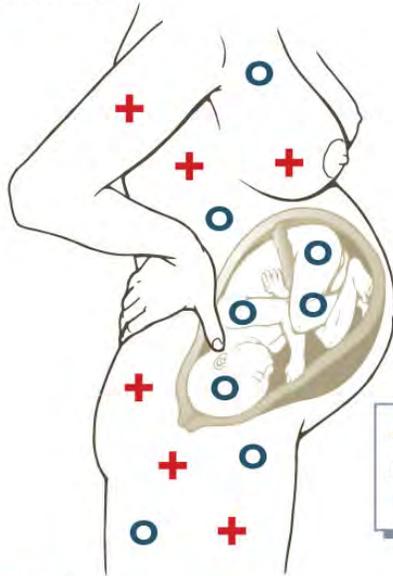
Phase	Fluid which is shared	Prevention messages
Pregnancy (pre-delivery)	Blood	<ul style="list-style-type: none"> <li>• HTC – It is important for a pregnant woman to know her HIV status so she can prevent transmission to her infant.</li> <li>• Avoid risky maneuvers on the uterus during pregnancy like correcting an abnormal lie of a baby using external cephalic version.</li> <li>• ARVs (both HAART and PMTCT specific drugs) – there are drugs for the mother and the baby that prevent HIV transmission to the infant. Some of the same drugs in different combinations are also important for treatment of the mother if her HIV disease has progressed to the point that she needs ART.</li> </ul>
Delivery	Blood Body fluids	<ul style="list-style-type: none"> <li>• Good birthing practices include avoiding practices such as routine episiotomy, premature rupture of membranes and instrumental deliveries.</li> <li>• Use of protective gear-mask, gloves, booths, aprons, goggles etc as part of universal precaution for infection prevention.</li> <li>• ARVs – It is important to remember to give the baby its dose of ARV prophylaxis. Continuous assessment of the mother and the infant for their need for ART is critical.</li> </ul>
Breastfeeding (post-delivery)	Breast milk	<ul style="list-style-type: none"> <li>• Mothers need help and encouragement to practice EBF till 6 months (no complementary feeding). This is the best food for the baby (this will be discussed further in Session 7)</li> </ul>

The diagram in Figure 4, “Passive Transfer of Maternal Antibody” shows the transfer of maternal antibodies and HIV virus in one baby (Mother 2 and Baby 2) and not the other (Mother 1 and Baby 1). This also explains HIV test results in infants before and after they excrete the mother’s antibodies (HIV antibody test negative), and in those with and without actual HIV virus from the mother.

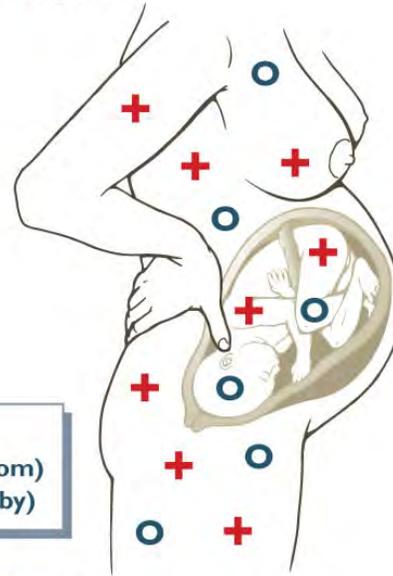
Figure 4. Passive Transfer of Maternal Antibody to Baby

# Passive Transfer of Maternal Antibody

Mother 1



Mother 2



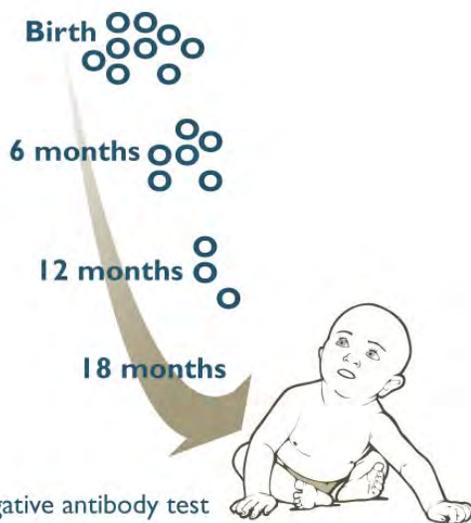
+ HIV infection  
 ○ HIV antibody (mom)  
 ● HIV antibody (baby)

**Baby 1:**

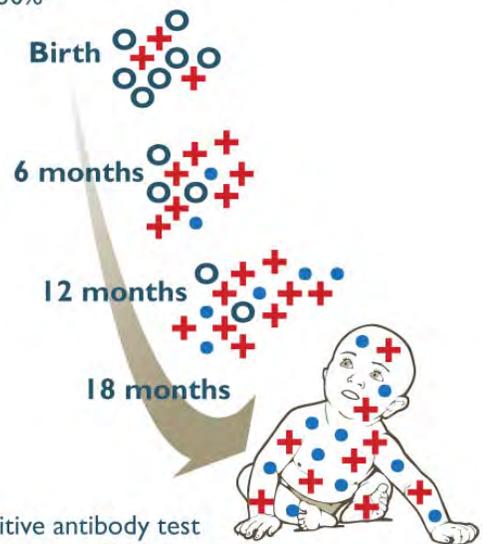
- Has received HIV antibody ONLY
- Does not have HIV infection
- Will have a negative viral test
- Will have positive antibody test until 18m
- 70-80%

**Baby 2:**

- Has received virus and mother's antibody
- Has a positive viral test
- Has a positive antibody test
- Does have HIV infection and will go on to develop symptoms of illness over time
- 20-30%



- Negative antibody test
- Sero Reverter
- Baby does not and never did have HIV infection



- Positive antibody test
- HIV Culture/PCR Positive
- HIV infected. Over time will develop symptoms of disease

From HIV Basics Course for Nurses, I-TECH Guyana, 5/2008.

## HIV transmission during pregnancy, labor and delivery

During pregnancy, labor and delivery, the risk of HIV transmission from mother to child is about

- 5–10% during pregnancy. During pregnancy the virus may cross the placenta to infect the unborn fetus
- 10–20% during labor and delivery. During childbirth, the HIV virus may be transmitted across the placenta (as during the antenatal period).
- 5–20% during breast feeding.
- And, the virus can be transmitted at any time the newborn has contact with the blood or bodily fluids of the HIV positive mother:

This contact may occur as the baby descends the birth canal. For this reason delivery practices have been modified to reduce the contact of fluids or blood between the mother and baby. This includes universal precautions as for any other delivery, avoidance of routine rupture of fetal membranes in early labor, reduced frequency of vaginal examinations, no routine episiotomy, and avoidance of instrumental delivery (e.g. use of vacuum delivery).

## Postpartum HIV transmission

During the postpartum period, the HIV virus may be transmitted from mother to baby via the breast milk.

- The rate of HIV transmission to the infant is 5–20% during breastfeeding.
- If a mother breastfeeds till 6 months, the rate is 25–35% and
- If breastfeeding goes on till 18–24 months, the rate is 30–45%.

## Maternal factors that increase the rate of transmission

The following factors related to the mother's health and HIV status can **increase** the rate of transmission:

1. If the woman has a high viral load, she is more likely to transmit the virus to the infant.
2. A woman with severe HIV disease (her immune system is not functioning well, with CD4 count below 200) is more likely to transmit HIV to her infant.
3. If the mother has poor nutrition, with micronutrient deficiencies, she is more likely to transmit HIV to the infant.
4. If the mother becomes infected with HIV or has other infections, such as malaria, during pregnancy or breastfeeding, the levels of the virus can go very high and at those times she is more likely to transmit HIV to the fetus or infant.

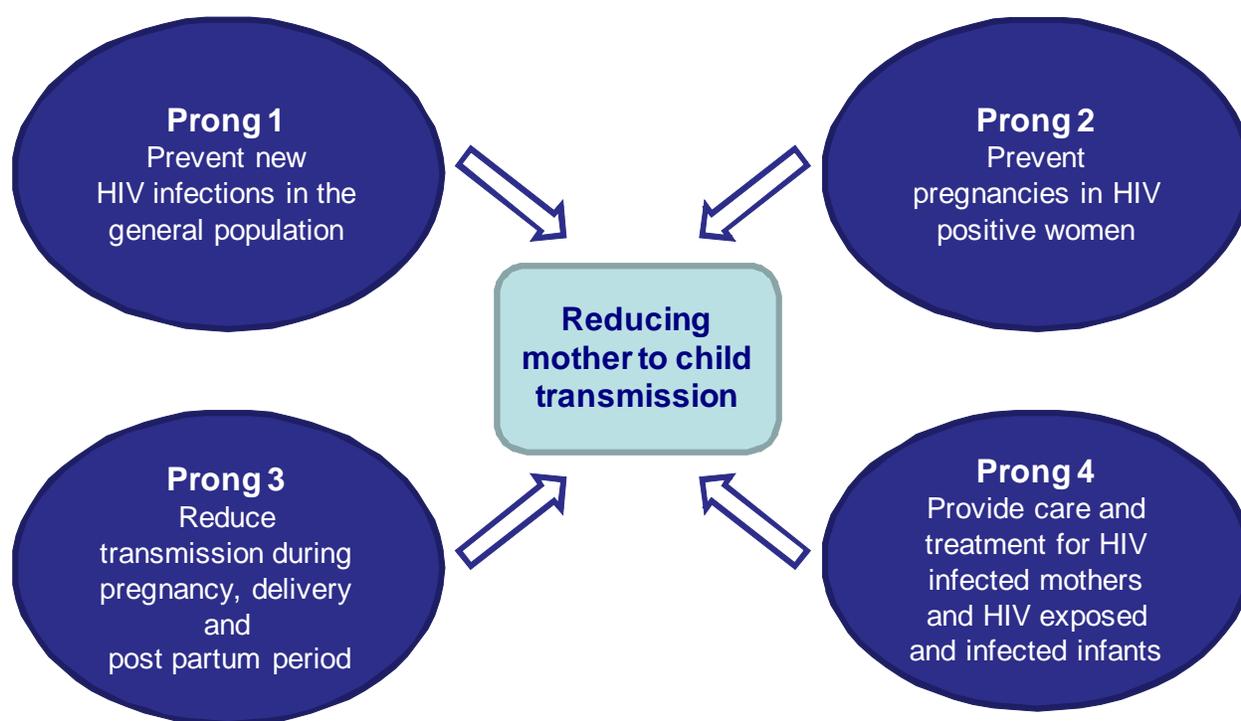
In countries where **malaria** is common, it is important to pay attention to the interaction between malaria and HIV.

- HIV infection impairs the immune response during pregnancy and diminishes a pregnant woman's ability to control *Plasmodium falciparum*, or malaria infections. HIV infection also increases the risk of malaria-associated problems with pregnancy outcomes.

## PROGRAMS FOR THE PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV (PMTCT)

Most national PMTCT programs include four prongs (see figure 5 below)

**Figure 5. Four Prongs of PMTCT Programs**



**Prong 1:** Primary prevention of HIV infection in the general population among women of childbearing age and their partners, especially in young women and pregnant women

- **HTC** – It is important for a pregnant woman to know her HIV status so she can prevent transmission to her infant. She can also receive HIV care and treatment support for herself if she is found to be HIV positive. Other family members could also be linked to care and support if her HIV status is known.

**Prong 2:** Prevention of unintended pregnancies among HIV-infected women

- Family planning is a core PMTCT intervention
- Women who are HIV positive need support on family planning in order to prevent unintended pregnancies or adequately space the birth of their babies and therefore reduce the number of infants with MTCT of HIV.

**Prong 3:** Prevention of transmission of HIV infection from HIV infected pregnant women to their infants during pregnancy, labor and delivery, and postnatally through breastfeeding.

- a. In order to prevent the transmission of HIV from a pregnant woman to her infant, it is important to provide pregnant women with information about their HIV status and what to do for themselves and their infants.

In many countries, women of childbearing age, adolescents, pregnant women, and their partners and family planning clients are routinely offered testing and counseling for HIV (HTC). . In this way, the HIV status of those who make decisions about bearing children and those who will be mothers and fathers is known as early as possible so pregnancies can be planned and infants can be protected from HIV. This is also the best way to ensure that those who need HIV services access them and stay healthy for as long as possible.

❖ **FACILITATOR**

ASK PARTICIPANTS WHAT MEASURES CAN BE TAKEN TO REDUCE MTCT, AND WRITE THEIR RESPONSES ON FLIP CHART PAPER.

- b. Reduce the risk of transmission to the fetus or infant by providing ARV prophylaxis to the mother and the infant.

Provide the best available regimen of ARVs according to national guidelines.

The new PMTCT Guidelines from the Ministry of Health in some countries have introduced ARV prophylaxis regimen for PMTCT which is AZT+SD-NVP in sites where hemoglobin can be monitored. However the use of SD-NVP will still continue in other countries without access to combination therapy.

- c. Reduce infant exposure to the virus during labor and delivery
  - a. Avoid artificial rupture of membranes
  - b. Avoid prolonged rupture of membranes
  - c. Avoid routine episiotomies
  - d. Avoid needless and vigorous suctioning of the infant's mouth and pharynx
  - e. Avoid instrument delivery
- d. Reduce infant exposure to the virus through safer feeding options
  - a. Practice optimal infant feeding which we will discuss in the session on infant feeding.
  - b. Factors related to breastfeeding that increase the risk of transmission of HIV to the infant
    - longer duration of breastfeeding
    - mixed feeding – feeding the infant food and fluids in addition to breast milk before the age of six months
    - breast conditions – examples
      - breast abscesses
      - nipple fissures and cracks
      - mastitis

**Prong 4:** Provide HIV care, treatment and support to HIV-infected women, children and their families.

Keeping the mother alive is extremely important to the health of the infant. While this course focuses on the infant or child with HIV, it is known that even uninfected children are more likely to die if their mother dies. Part of caring for infants and children with HIV is caring for their mother.

During the mother’s attendance at ANC, or through the community for mothers who do not attend ANC, it is important to support the mother infected with HIV to receive care and treatment as early as possible. This entails clinical and laboratory monitoring of her HIV disease, cotrimoxazole prophylaxis and ART if eligible during pregnancy.

To the greatest extent possible, it is best to care for the mother and the baby together rather than giving them separate appointments at different locations on different dates, causing great expenditure of the family’s time, money and energy.

It is important to remember that:

- Even uninfected children are more likely to die if their mother dies, and part of caring for infants and children with HIV is caring for their mother.
- For example, recent data from Malawi shows there is need to do some work in this area:

*“.....although overall access to antiretroviral therapy among women is higher than or equal to that among men, pregnant women living with HIV have poor access to antiretroviral therapy for their own health. In Malawi, among 9150 women who started antiretroviral therapy in the last quarter of 2007 in the public sector, only 343 (4%) had been referred from the programme to prevent mother-to-child transmission.”*

*(From Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector 2008, WHO, UNAIDS, UNICEF)*

There is hope, though, that more women will be referred for ART now that many ANC sites have CD4 equipment at ANC sites. See Table 5.

**Table 5. Percent of Facilities Providing Antenatal Care that Provide CD4 Testing**

Country	% of Facilities Providing Antenatal Care that Provide CD4 Testing On-Site or Have Systems for Collection and Transport
Botswana	100
Central African Republic	2
Haiti	55
Lesotho	10
Malawi	66
Papua New Guinea	12
Swaziland	31
Zambia	18
Zimbabwe	5

*From Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector 2008, WHO, UNAIDS, UNICEF.*

❖ **FACILITATOR**

LEAD THE PARTICIPANTS THROUGH THE TABLE THAT SUMMARIZES HIV TRANSMISSION DURING PREGNANCY, LABOR AND DELIVERY, AND WAYS TO REDUCE TRANSMISSION.

THE FIRST SLIDE IS ANIMATED SO THAT YOU CAN WAIT FOR PARTICIPANT INPUT OF SOURCE OF TRANSMISSION (BLOOD, BODILY FLUIDS) AND MESSAGES ABOUT REDUCING TRANSMISSION.

THE NEXT SLIDE SHOWS THE SAME TABLE AS A FINAL SUMMARY WITHOUT ANIMATION SO THAT ALL POINTS SHOW UP SIMULTANEOUSLY.

**Table 6. Review of phases and sources of mother-to-child transmission of HIV and PMTCT**

Phase	Shared Fluid	Prevention messages
Pregnancy (pre-delivery)	Blood	<p><b>HTC</b> – It is important for a pregnant woman to <b>know her HIV status</b> so she can prevent transmission to her infant.</p> <p><b>ARVs (both HAART and PMTCT specific drugs)</b> – there are drugs for the mother and the baby that <b>prevent HIV transmission</b> to the infant. Some of the same drugs in different combinations are also important for treatment of the mother if her HIV disease has progressed to the point that she needs ART.</p>
Delivery	Blood Body fluids	<p><b>Good birthing practices</b> include avoiding practices such as episiotomy, premature rupture of membranes.</p> <p><b>ARVs</b> – It is important to remember to give the baby its dose of ARV prophylaxis. Continuous assessment of the mother and the infant for their need for ART is critical.</p>
Breast-feeding (post-delivery)	Breast milk	Mothers need help and encouragement to practice <b>EBF</b> till 6 months (no complementary feeding).

▪



## **KEY MESSAGES**

- ALL HIV POSITIVE PREGNANT WOMEN CAN TRANSMIT HIV TO THEIR BABY DURING PREGNANCY, AT BIRTH AND DURING BREAST FEEDING.
- THE NATIONAL PMTCT STRATEGY RECOMMENDS THAT ALL PREGNANT WOMEN SHOULD BE TESTED FOR HIV.
- THERE ARE INTERVENTIONS WHICH PREVENT THE TRANSMISSION OF HIV FROM THE MOTHER TO THE BABY—ALL PREGNANT WOMEN SHOULD ACCESS THESE INTERVENTIONS.
- FOR MOTHERS WHO CHOOSE TO BREASTFEED, IT IS IMPORTANT TO PRACTICE EXCLUSIVE BREASTFEEDING FOR THE FIRST 6 MONTHS.

### **❖ FACILITATOR**

INVITE THE PARTICIPANTS TO ASK QUESTIONS.

# SESSION IV



## HIV DISEASE IN INFANTS AND CHILDREN: CLINICAL PRESENTATION AND STAGING

- Time:** 1.5 hours or 90 minutes
- Activities:** Presentation, demonstration, case studies
- Materials:** PowerPoint presentation or flip charts prepared in advance
- Handout of table:** Program Components and Issues to Scale Up Pediatric HIV Services

## OBJECTIVES:

### At the end of this session participants will be better prepared to:

1. Describe how HIV disease progresses in infants and children and identify the common presenting signs and symptoms of HIV infants and children.
2. Discuss the need for early diagnosis, care and treatment of HIV exposed and infected infants and children.
3. Discuss current missed opportunities for early identification, diagnosis, care and treatment of HIV in infants and children and how these can be addressed in the participants' settings.

#### ❖ FACILITATOR

PRESENT OVERVIEW BASED ON STATEMENT BELOW

## HIV DISEASE IN CHILDREN

It is important to understand how HIV disease in children is different from HIV disease in adults and, especially, how infants and children under five are affected and what they need. HIV infection **follows a more aggressive course among infants and children** than among adults.

- 30% die by age 1 year, and 50% die by age 2 years without access to ART and CPT
- Early diagnosis of HIV, timely provision of effective care and treatment for common childhood illnesses, opportunistic infections and antiretroviral therapy can prevent these deaths in infants and children.
- Most of the deaths in children who have HIV can be avoided through early diagnosis of HIV and timely provision of effective care and treatment for common childhood illnesses, opportunistic infections and antiretroviral therapy Early diagnosis of HIV, timely provision of effective care and treatment for common childhood illnesses, opportunistic infections and antiretroviral therapy can prevent early deaths in infants and children.
- HIV exposed and infected children need routine as well as HIV specific child health services.
- Children surviving the first year of life are more likely to die from common childhood illnesses.
- Children with HIV suffer from the same childhood illnesses as those who are not infected.
- However their illnesses last longer, are more frequent, and are often more severe.
- In addition, children with HIV need to be treated aggressively for childhood illnesses.

#### ❖ FACILITATOR

LEAD THE GROUP IN SHARING THEIR RESPONSES TO THE FOLLOWING QUESTIONS.  
PUT THE RESPONSES ON A FLIP CHART AS THEY ARE OFFERED.

- WHAT ARE THE MOST COMMON ILLNESSES IN INFANTS AND CHILDREN IN YOUR COUNTRY?
- WHAT ARE THE MOST COMMON ILLNESSES IN INFANTS AND CHILDREN WITH HIV?

- The most common **causes of death in infants and children who have HIV** are
  - respiratory infections

- diarrhea, and
- tuberculosis

These commonly result from several risk factors, including opportunistic infections and under nutrition, with death from all causes being greatest among those with low weight.

- Poor nutritional status makes children who have HIV more likely to get sick and die, even while they are receiving antiretroviral therapy. (From UNICEF Programming Guide DRAFT 2008)
- Without ART and CPT, most HIV-infected children die before the age of five.
- HIV exposed and infected children need routine as well as HIV specific child health services including:
  1. Prevention of common childhood infections through immunization
  2. Effective management of childhood illnesses and malnutrition

They also need

3. Prevention and early treatment of opportunistic infections (CPT)
4. HIV counseling and support for children, their caregivers, and their families
5. ARV treatment when the child needs it by clinical and laboratory measures – this can substantially prolong the lifespan of children living with AIDS and ensure a higher quality of life.

## HIV DIAGNOSIS IN INFANTS AND CHILDREN

A large challenge in providing HIV care services to children is actually finding the children who need the services. Children depend on parents and caregivers to be sure they are tested for HIV. It is important that national programs design strategies to be sure that children who need services are identified and followed.

As illustrated in the following table, children fall into several categories, depending on how far along their HIV disease is—many do not have symptoms and we don’t even know they are exposed or infected while others are at different stages of their HIV disease.

## CLINICAL SIGNS AND SYMPTOMS OF HIV IN CHILDREN

An HIV test is the only best way to definitely diagnose HIV infection in a person. However there are signs and symptoms to look for in an infant or child that indicate the need for a test and for follow up care and treatment if the infant has HIV.

There should not be a situation where every child who gets pneumonia a few times is stigmatized as having HIV; on the other hand, infants who fail to grow or have frequent illnesses should also not die because no one was willing to check for HIV.

- Growth failure is one of the key presentations of HIV infection.

The relationship between malnutrition and poor resistance to infections and illnesses (or immunosuppression) has been recognized for a long time.

At least 90% of HIV-infected children experience wasting and nutritional depletion during the course of their illness. There is emerging evidence that nutritional status has direct correlation with the survival of the HIV infected child.

It is important to know what the local guidelines are for IMCI-HIV. **In general**, it is important to “*think of HIV*” and help the mother and infant learn more about the infant’s status if the following are present:

- Pneumonia and or persistent cough
- Persistent diarrhea

- Ear discharge
- Very low weight for height
- Very low weight for age

Also, HIV infection should be considered when a child is found to have

- oral thrush after eight weeks of age
- enlargement of the glands in the jaw/cheek area (parotid gland)
- persistence of enlarged lymph nodes in many parts of the body

Note developmental signs as well as these may signal a young child has HIV.

- Unable to sit by 6 months of age
- Unable to stand by 12 months
- Unable to say one word by 15 months

Another way to understand better the signs and symptoms in children when they have HIV is illustrated in Table 7.

❖ **FACILITATOR**

THE TABLE OF SIGNS AND SYMTOMS IN CHILDREN IS NOT FOR EXHAUSTIVE RECITAL OR REVIEW.

POINT OUT TO THE PARTICIPANTS THAT SIGNS AND SYMTOMS AND ILLNESSES FALL INTO THE THREE CATEGORIES THAT ARE IMPORTANT AND USEFUL FOR CLINICIANS WHO MUST TRY TO ASSESS HIV IN A CHILD, OFTEN WITHOUT THE BENEFIT OF LABORATORY TESTS.

**TABLE 7. Clinical Conditions or Signs of HIV Infection in Child that May Suggest HIV Infection**

<b>Specificity for HIV infection</b>	<b>Signs, conditions common in HIV infected children but also common in ill uninfected children</b>	<b>Signs, conditions common in HIV infected children and uncommon in uninfected children</b>	<b>Signs/conditions very specific to HIV infection</b>
<b>Signs and conditions</b>	<ul style="list-style-type: none"> <li>• Chronic recurrent ear infections (otitis media) with discharge</li> <li>• Persistent or recurrent diarrhea</li> <li>• Failure to thrive</li> <li>• Tuberculosis</li> </ul>	<ul style="list-style-type: none"> <li>• Severe bacterial infections, particularly if recurrent</li> <li>• Persistent or recurrent oral thrush</li> <li>• Chronic swelling of the parotid gland that is often painless (parotitis)</li> <li>• Generalized persistent non-inguinal lymphadenopathy in two or more sites</li> <li>• Enlargement of the liver and spleen (hepatosplenomegaly)</li> <li>• Persistent or recurrent fever</li> <li>• Neurological dysfunction</li> <li>• Shingles (herpes zoster) on one part of the body or affecting a single dermatome</li> <li>• Skin rash that won't go away and does not respond to treatments that usually work (persistent generalized dermatitis)</li> </ul>	<ul style="list-style-type: none"> <li>• Pneumonia (PCP pneumonia or <i>pneumocystis jiroveci</i>—formerly called <i>carinii</i>) or lymphoid interstitial pneumonitis (LIP)</li> <li>• Thrush in the esophagus (Esophageal candidiasis)</li> <li>• Shingles (herpes zoster with more than one area of the body affected (multidermatomal involvement)</li> <li>• Kaposi's sarcoma</li> </ul>

## THE WHO CLINICAL STAGING SYSTEM

The WHO clinical staging system for HIV infected children, which should be used as a basis of assessing progression of HIV disease and eligibility for ARV therapy, are highlighted below.

Clinical staging is important because:

- It helps determine the prognosis
- It strengthens the clinical diagnosis when laboratory testing is unavailable or delayed
- It guides decision about starting ART
- Medical history and physical examination are used to place patients into clinical stages.
- There are four stages. Clinical stage 1 is the least severe and clinical stage 4 is the most severe.
  - For each stage there are specific illnesses, or symptoms, that occur at that stage, which represents a stage of immune deterioration, as measured by the CD4 count of the child.
  - For example, in stage 1 the child might have few symptoms but the lymph nodes might be swollen.
  - In stage 2, there is likely to be itchy skin rashes with certain characteristics.
  - In stage 3, there are pneumonias, oral thrush, TB, and other conditions.
  - In stage 4 you will see severe wasting, malnutrition, PCP pneumonia, neurological symptoms, and other specific conditions.

The WHO table that lists the specific criteria for each clinical stage can be found in Appendix A.

## THE NEED FOR ACTION ON PEDIATRIC HIV

- More action is needed to ensure that children born with HIV can live a healthy life.
- There are many **missed opportunities** to identify infants and children with HIV before they become very sick.
  - Infants and children with HIV are not being identified on pediatric wards, at under five clinics, in the NRU, at adult ART sites, in communities and at other potential entry points to care - no one is thinking about whether they are HIV infected and no one even knows it.
- Each person working at the community and facility level has a role to play in helping to save and improve the lives of infants and children with HIV.
- We will focus on children under five but it is important to keep in mind that national programs and training should prepare the health system to help all children with HIV. They are of different ages, have different needs and HIV disease presents and progresses differently, depending on the child's age.
- The purpose of this course is to ensure that more infants with HIV get the care and treatment they need before it is too late.

Table 8 below outlines what needs to be considered for each age group of children when planning a program in a district or hospital.

**Table 8. Program Components and Issues to Scale Up Pediatric HIV Services**

Group	Entry points to care	Testing and Counseling: <ul style="list-style-type: none"> <li>• what test is used?</li> <li>• who does the testing and counseling?</li> <li>• where is the test done</li> </ul>	What is the next step if HIV test is positive?	What is documented and what is the follow-up and referral system?	Special Issues
Newborns up to 18 months					
Over 18 months					
Children in school					
Teens/ adolescents					
Orphans (at each of above ages/stages)					

## **ACTION STEPS FOR HIV EXPOSED INFANTS**

The starting point for scaling up pediatric HIV services is to identify and ensure follow-up for HIV-exposed infants. The action steps include

- Ensure both mother’s and infant’s passports indicate the mother’s HIV status
- Check the passports at every postnatal, under five visit, home visit
- Expand PMTCT coverage
- Establish links from the facility to the community
- Ensure health care worker follow up of home deliveries, and missed appointments for postnatal, under five clinics
- Pilot early virological HIV testing at 6 weeks wherever possible (including using DBS-PCR)
- Introduce earlier antibody testing (9-12 months)
- Institutionalize co-trimoxazole prophylaxis at six weeks of age

The importance of ensuring that infants born to women with HIV are “tracked” is highlighted by the following example of 2005 finding in Malawi. Knowing a mother has HIV is only one part of what she needs—her care and her baby’s care after delivery must follow.

*In Malawi, 75% of 646 children born to HIV-infected women were lost to follow-up at 6 months. As a result, less than 5% of infants than require ART are receiving it, and only 1% of children born to HIV-infected mothers have access to cotrimoxazole.*

- In order to save children with HIV we must first know they are exposed or infected.
- **Constant vigilance** for HIV-infection in every child that enters a health facility or receives community services is essential.

❖ **FACILITATOR**

ASK PARTICIPANTS TO WRITE ON A PIECE OF PAPER WHICH OF THESE STEPS IS CURRENTLY BEING ADDRESSED WELL AT THEIR FACILITY.

ASK WHICH ARE BEING MISSED.

ENGAGE PARTICIPANTS IN SHARING AND DISCUSSING WHAT THEY WROTE.

FOR THE STEPS THAT ARE MISSED, DISCUSS POSSIBLE REASONS WHY.

IS IT POLICY? LACK OF KNOWLEDGE? LACK OF SYSTEMS FOR RECORDING? TIME?

**Figure 6. Identifying HIV Exposed and Infected Infants and Children at Health facilities and Community level of care**

Finding HIV Exposed and Infected Infants and Children	
HIV Status	Case Finding: Identification of Exposed and Infected Infants and Children
Unknown/ asymptomatic	At under five clinic, OPD, ANC—always check: have parents and/or child been tested for HIV? Same for adults with children at ART, TB, STI visits
Unknown if exposed/ symptomatic	At under five clinic, OPD, ANC—have parents and/or child been tested for HIV? Same for adults with children at ART, TB, STI visits Community visits (OVC, HBC)—checked passports of mother? child? referral? IMCI-HIV, Pediatric wards, NRUs, health centers, under five clinics
Known to be exposed / asymptomatic	In the community At postnatal visit Under five clinics
Known to be exposed/ symptomatic	Under five clinics—IMCI-HIV in facility or in community detection Pediatric wards, NRUs HBC, OVC other community worker visit
Known to be infected/ asymptomatic	Under five clinic Postnatal: visit HBC, OVC other community worker visit
Known to be infected/ symptomatic	Under five clinics—IMCI-HIV in facility or in community detection OPD, under five clinic, paediatric ward, NRU In the community—OVC, HBC program visits

**Action steps to ensure early identification of exposed and infected infants include:**

- All ANC, PMTCT, maternity and pediatric records and registers as well as mother and infant passports should indicate the parents' HIV status, death of either parent from HIV and, where known, the child's HIV serostatus
- All exposed children should be referred for testing and counseling
- Children with signs and symptoms of HIV, as detailed later in this session, should also be referred for testing and counseling
- Siblings of children with should be referred for testing and counseling
- Orphans and vulnerable children are at risk of HIV infection and should access HIV testing and counseling

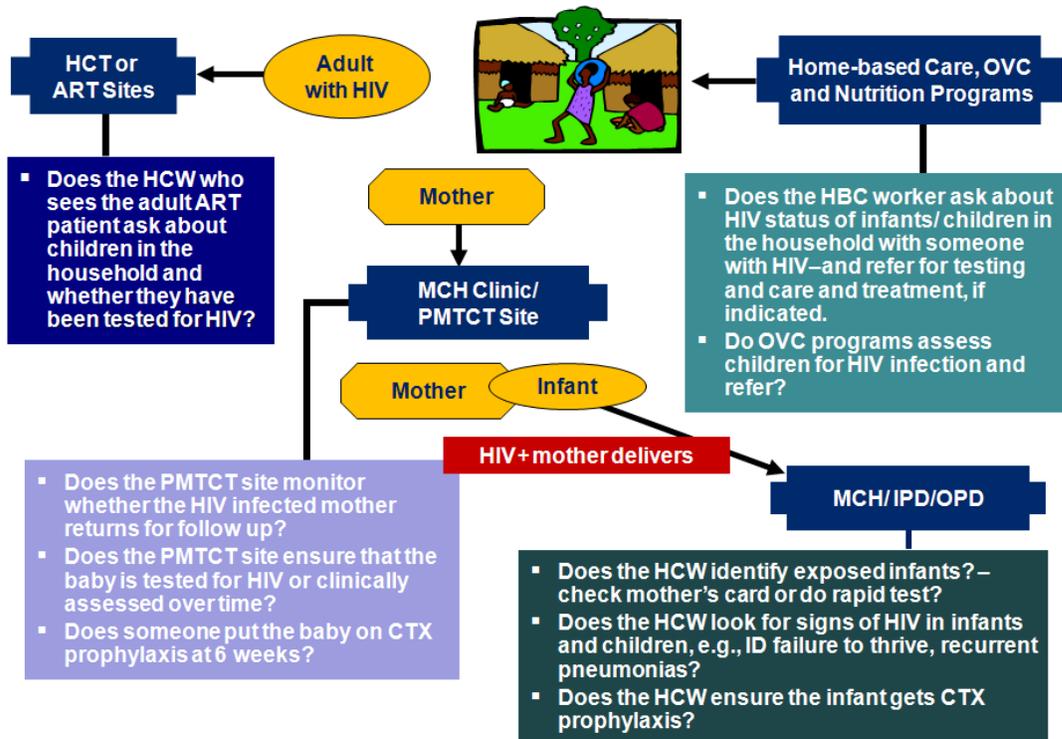
**❖ FACILITATOR**

INTRODUCE THE NEXT SLIDE TO SHOW THAT WE WILL BE ADDRESSING ALL OF THE MISSED OPPORTUNITIES TO IDENTIFY AND PROVIDE CARE FOR HIV EXPOSED AND INFECTED INFANTS AND CHILDREN.

ONCE THE SLIDE IS SHOWN ALL THE WAY THROUGH, BEGIN AGAIN, ANIMATING EACH ENTRY POINT ONE BY ONE AND ASKING THE GROUP AT EACH ENTRY POINT IF WHAT IS DESCRIBED IN THE SLIDE IS BEING DONE.

IF NOT, IDENTIFY WHAT CHANGES WOULD NEED TO TAKE PLACE TO INCREASE THE IDENTIFICATION OF INFANTS AND CHILDREN AT THAT ENTRY POINT TO CARE.

**Figure 7. Missed Opportunities for Pediatric HIV: Program Checklist**



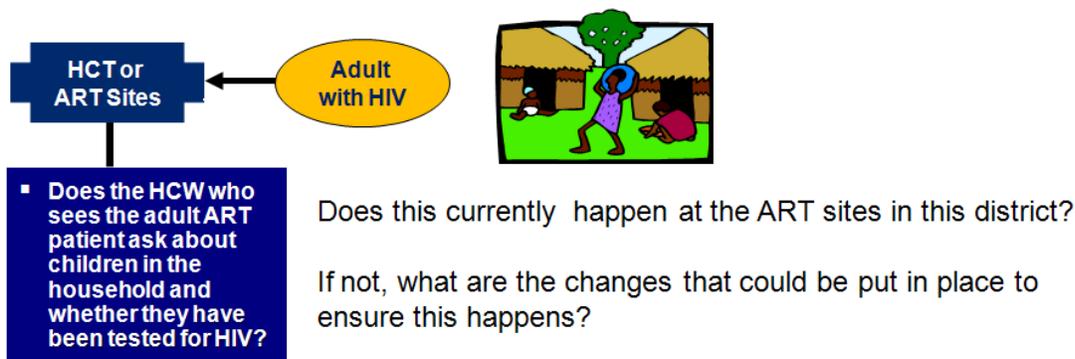
## ❖ FACILITATOR

USING THE ANIMATED POWER POINT SLIDE, STOP AT EACH ENTRY POINT, AS ILLUSTRATED ABOVE, AND ASK THE TWO QUESTIONS – DOES THIS CURRENTLY HAPPEN AT THAT ENTRY POINT AND WHAT CHANGES COULD BE PUT IN PLACE TO ENSURE IT HAPPENS?

EXAMPLES CAN INCLUDE: CHANGE THE REGISTER TO INCLUDE STATUS OF THE INFANT, CHECK THE HEALTH PASSPORT, INSTITUTE A NEW REFERRAL FORM, TRAIN THE HEALTH CARE WORKERS. ETC.

## EXAMPLE

Figure 8. Missed Opportunities for Pediatric HIV: Program Checklist



## ADVANTAGES OF EARLY IDENTIFICATION OF EXPOSED AND INFECTED INFANTS

Early identification facilitates access to:

- Currently available interventions to reduce morbidity and mortality associated with HIV infection
- Access to needed interventions for other affected family members
- Access to social and emotional support of the child and family
- Appropriate healthcare and social welfare planning at the national, regional, and local levels.

## RECOGNIZING CHILDREN AT RISK OF HIV INFECTION

In order to identify as many HIV exposed and infected children as possible and provide them with care and treatment, HCWs should be aware of and refer infants and children who might have been exposed to HIV or who have signs and symptoms suggesting they are infected.

❖ **FACILITATOR**

USING THE TABLE ON THE NEXT PAGE TELL THE PARTICIPANTS THAT WE WANT TO TRY TO AVOID ANY MISSED OPPORTUNITIES FOR IDENTIFYING AND ENSURING FOLLOW UP OF HIV EXPOSED AND INFECTED INFANTS AND CHILDREN IN HOST COUNTRY.

STEP ONE:

LEAD THE PARTICIPANTS THROUGH THE TABLE BELOW, ASKING THEM TO

(1) SAY WHO WOULD BE RESPONSIBLE FOR ENSURING IDENTIFICATION AND FOLLOW UP AND

(2) RESPOND WHAT SHOULD THEY DO (A) FIRST AND AS (B) FOLLOW-UP?

**Table 9. Ensuring identification and referral of HIV exposed and infected infants and children**

Description of infant or child	Who would be responsible for ensuring identification and follow up?	What should they do (1) first and as (2) follow-up?
A baby born to a mother with HIV		
A child admitted to a pediatric inpatient ward		
A child being seen in U5 clinic		
Babies and children being treated at Community Therapeutic Centers (CTC)		
A child in a family getting home based care or hospice services		
A sick baby with a mother seen in FP clinic		
The child of an ART patient		

**TABLE 10. Clinical Conditions or Signs of HIV Infection in Child that May Suggest HIV Infection**

Specificity for HIV infection	Signs, conditions common in HIV infected children but also common in ill uninfected children	Signs, conditions common in HIV infected children and uncommon in uninfected children	Signs/conditions very specific to HIV infection
Signs and conditions	<ul style="list-style-type: none"> <li>• Chronic recurrent ear infections (otitis media) with discharge</li> <li>• Persistent or recurrent diarrhea</li> <li>• Failure to thrive (growth card does not indicate continued growth over a period)</li> <li>• Tuberculosis</li> </ul>	<ul style="list-style-type: none"> <li>• Severe bacterial infections, particularly if recurrent</li> <li>• Persistent or recurrent oral thrush</li> <li>• Chronic swelling of the parotid gland that is often painless (parotitis)</li> <li>• Generalized persistent non-inguinal lymphadenopathy in two or more sites</li> <li>• Enlargement of the liver and spleen (hepatosplenomegaly)</li> <li>• Persistent or recurrent fever</li> <li>• Neurological dysfunction</li> <li>• Shingles (herpes zoster) on one part of the body or affecting a single dermatome</li> <li>• Skin rash that won't go away and does not respond to treatments that usually work (persistent generalized dermatitis)</li> </ul>	<ul style="list-style-type: none"> <li>• Pneumonia (PCP pneumonia or <i>pneumocystis jiroveci</i> – formerly called carinii) or lymphoid interstitial pneumonitis (LIP)</li> <li>• Thrush in the esophagus (Esophageal candidiasis)</li> <li>• Shingles (herpes zoster with more than one area of the body affected (multidermatomal involvement))</li> <li>• Kaposi's sarcoma</li> </ul>

# SESSION V



safe

Do not  
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here

safe

## HIV TESTING IN INFANTS AND CHILDREN

**Time:** 60 minutes

**Activities:** Small group review followed by discussion

**Materials:** PowerPoint presentation or flip charts prepared in advance

## OBJECTIVES:

At the end of this session participants will be able to:

1. Identify the type of HIV tests that are suitable for infants and children at different ages.
2. Identify the steps to take when HIV is suspected in an infant.
3. Discuss National Guidelines on HIV testing in children.

## HIV TESTING IN INFANTS AND CHILDREN

It is important to diagnose HIV in infants and children through testing whenever it is possible to do this, rather than relying only on a clinical diagnosis.

Infants will not get the proper care and treatment without a proper diagnosis. There are currently many missed opportunities to ensure that an HIV diagnosis is made in children. The missed opportunities were discussed earlier but we cannot emphasize enough that **health care workers must begin to consider HIV in infants and children much more often than they currently do.**

It is important that HIV testing and counselling be voluntary and the “three C’s” – informed consent, counselling and confidentiality – must be observed.

Providers must

- give individuals sufficient information to make an informed and voluntary decision to be tested
- maintain patient confidentiality
- perform post-test counseling, and
- make referrals to appropriate services.

HIV testing might be initiated by a provider or by an individual. These are referred to as Provider initiated testing and counseling (PITC) or Client-initiated testing and counseling (CITC) can occur under several situations.

- **Provider-initiated HIV testing and counselling (PITC)** refers to HIV testing and counselling which is routinely offered by health care providers to persons attending health care facilities as a standard component of medical care. The major purpose of such testing and counselling is to enable specific clinical decisions to be made and/or specific medical services to be offered that would not be possible without knowledge of the person’s HIV status.

In the case of persons presenting to health facilities with symptoms or signs of illness that could be attributable to HIV, it is a basic responsibility of the health care provider to routinely offer HIV testing and counselling as part of the patient’s routine clinical management. This includes routinely offering HIV testing and counselling to tuberculosis patients and persons suspected of having tuberculosis.

Provider-initiated HIV testing and counselling also aims to identify unrecognized or unsuspected HIV infection in persons attending health facilities. Health care providers may routinely offer HIV testing and counselling to patients in some settings even if they do not have obvious HIV-related symptoms or signs.

- **Client-initiated HIV testing and counselling (also called Voluntary Counselling and Testing, or VCT)** involves individuals actively seeking HIV testing and counselling at a facility that offers these services. Client-initiated HIV testing and counselling is conducted in a wide variety of settings including health facilities, stand-alone facilities outside health institutions, through mobile services, in community-based settings and even in people’s homes. A good example might be a pregnant woman, or a mother bringing her baby with symptoms to an under-5 clinic requesting an HIV test for herself and/or her baby.

❖ **FACILITATOR**

LEAD THE PARTICIPANTS IN A DISCUSSION BY ASKING THEM

- WHEN WAS THE LAST TIME THEY SAW A CHILD UNDER FIVE TESTED FOR HIV?
- WHAT DO YOU THINK ARE THE REASONS PROVIDERS HESITATE TO SUGGEST TO A MOTHER THAT HER INFANT OR CHILD BE TESTED FOR HIV?
- ASK FOR PARTICIPANTS TO VOLUNTEER THEIR EXPERIENCES DOING THIS THEMSELVES OR SEEING A TEST OFFERED BY ANOTHER PROVIDER.
- ASK THEM: OUT OF 10 SITUATIONS WHERE A CHILD WHO SHOULD BE TESTED FOR HIV PRESENTS AT YOUR HEALTH FACILITY, HOW MANY TIMES DO YOU THINK A TEST WOULD BE OFFERED, OR IF A TEST IS NOT AVAILABLE, HOW MANY TIMES WOULD IT BE SUGGESTED AND A REFERRAL ACTIVATED?

## GUIDELINES FOR PEDIATRIC HIV TESTING AND COUNSELING

All health care providers who encounter infants and children should recommend the proper test according to age when an infant is exposed to HIV or when HIV is suspected because of signs or symptoms.

The diagnosis of HIV in HIV-exposed infants and children is an essential part of any national HIV care and treatment strategy. For example in Malawi:

- *As of November 2007, only 6.8% of all people tested for HIV in the country were between 18 months and 14 years of age.*

The Guidelines for Pediatric HIV testing and Counselling are developed to “set standards for HIV testing and counseling for infants and children either presenting for treatment and care in health care institutions or voluntarily seeking HIV testing at NGOs and other institutions licensed to provide HTC.”

The guidelines are intended to “foster a supportive HIV/AIDS policy environment that is rightfully the cornerstone of effective HIV programming.”

The following definitions are used in the PMTC Guidelines in Malawi. Refer to host country guidelines for the difference in age range indicated here:

**Infant:** any child less than 12 months of age

**Young child:** Any child between the ages of 1-5 years

**School-age child:** Any child between the ages of 6-12 years

**Adolescent:** Any child between the ages of 13-18

**Disclosure:** In the context of pediatric HTC, it is the process of informing a child of his or her HIV status

**Infected child:** A child older than 18 months of age with 1 positive HIV rapid tests, or a child less than 18 months of age with a positive PCR.

**Exposed child:** A child born to an HIV-infected mother without confirmed infection or exposed to infected blood products without a confirmed infection. In the event that a mother's status is unknown, a rapid test in a child less than 18 months of age can confirm HIV exposure.

### **HIV testing and counseling for children is guided by the following five principles:**

- Right to testing and care
- Consent to HIV testing
- Right to age-appropriate HIV counseling
- Right to confidentiality
- Support for disclosure of HIV status

### **RIGHT TO TESTING AND CARE**

All children, irrespective of the status of their health, have a right to be tested for HIV either in a health care setting where diagnostic and routine testing is being offered or in non-health care settings where voluntary HIV testing and counseling is licensed.

All infected children have a right to access HIV care and treatment where ever ART services are offered.

### **CONSENT FOR HIV TESTING**

Children aged 12 years and below need consent for HIV testing from parents or guardians/care giver.

- In the absence of a parent or guardian/care giver, a clinician can give consent to test children age less than 12 years of age for purposes of medical management.
- Any young person 12 years and below who is married, pregnant or engaged in risky behavior should be considered a mature minor and be eligible to give consent for HIV testing and counseling.
- Children aged 13 years or over shall be entitled to access HIV testing and counseling without the consent of a parent or guardian.

### **DISCLOSURE OF HIV STATUS TO CHILDREN**

Disclosure or telling the child that he/she is HIV positive, should be regarded as a process, not an event. Disclosure is a process that should take place as early as possible in an age-appropriate manner, beginning in children as young as 6 years of age. A good indicator for starting disclosure process is when a child starts to ask questions about his/her treatment, e.g. "why do I have to take this medicine?"

### **RIGHT TO CONFIDENTIALITY**

Any information related to a patient's medical condition must be kept confidential. A child's HIV status can only be shared with that child's parents or guardian and the medical team caring for that child; With respect to any other medical information pertinent to a child, established confidentiality laws must be adhered to.

## ROUTINE HIV TESTING AND COUNSELING

Routine testing means the test is “routinely” offered in certain health care settings. The health provider informs the client first that the HIV test will be a part of their care and will be done unless they choose to opt-out or refuse such a test.

An example from Malawi on the approach to routine HIV testing and counseling follows:

### Testing Children 18 months of Age and Under When the Mother is HIV Positive:

- Any infant born to an HIV infected mother is considered HIV-exposed and is therefore at high risk for HIV infection.
- The 6 week infant vaccination visit represents an ideal opportunity to screen children for HIV, provide guidance on feeding issues, and clinically stage those with suspected or confirmed infection.
- At 6 weeks of age, all exposed infants must have a clinical evaluation. to coincide with the routine first postnatal visit.
- Where DNA PCR is available, exposed infants must be tested with DNA PCR at the 6 week vaccination visit, or as early as possible.
- All newborn infants should receive health passports at birth. The health passport of the newborn should be stamped with a standard government issued stamp which notes the exposure status of the newborn. This stamp also includes information about polio and BCG vaccination status, as these are vaccines given at birth.
- When the exposed infant attends the under-5 clinic for his/her 6- week visit, the clinician should prescribe Cotrimoxazole Preventive Therapy (CPT) and counsel care giver on when to return for follow-up care.

### Children Below 6 Weeks of Age

Children presenting for an HIV test before 6 weeks of age should be tested with DNA PCR if available, or at a minimum they should receive a rapid HIV test and have a clinical evaluation. No child should be turned away from HIV testing due to young age.

### *When Should a Child Who Tests Negative for HIV be Retested?*

Retesting for HIV infection should be done whenever new HIV exposure has occurred. This includes:

- Babies who are breastfed by an HIV positive individual (infant retested for the HIV virus 6 weeks after complete breastfeeding cessation).
- Illness and failure to thrive- If a child tests negative for HIV and no other cause of illness or failure to thrive is identified in the screening clinic, the child should be referred to a pediatric specialist for further evaluation and possible re-testing.

### *When should a child testing positive for HIV be re-tested?*

**False positives**—False positive HIV tests are rare but do sometimes occur. In the case where a clinician suspects a false positive result repeat rapid tests may be performed.

#### ❖ FACILITATOR

WE WILL DISCUSS NOW SPECIFIC CASE SITUATIONS OF INFANTS AND CHILDREN AND DISCUSS THE MOST APPROPRIATE HIV TEST TO USE AND ACTION TO TAKE IN EACH CASE.

## **CASE A**

- **Case:** 12 week old infant born to mother with HIV
- **Recommended test and specifics**
  - Virological test at 4-6 weeks (PCR)
- **Issue**
  - Rapid tests only detect antibodies and infant still has mother's antibodies in the blood
- **Follow-up and other actions**
  - If positive, start on ART
  - Recommend testing of other family members
- **Comment**
  - If virological testing not available and the infant has symptoms and signs of HIV, treat as if infected.

## **CASE B**

- **Case:** Infant or child suspected of having TB
- **Recommended test and specifics:**
  - Offer HIV test appropriate for age
- **Issue**
  - Even though the child is seen for TB, a provider must think of HIV since the two diseases co-exist.
- **Follow-up and other actions:**
  - Ensure result is provided to mother or father or caregiver
- **Comment**
  - If HIV antibody test is positive in an infant between 9 and 12 months, it usually suggests that the baby is infected with HIV.

## **CASE C**

- **Case:** HIV exposed child with negative antibody test who is still being breastfed.
- **Recommended test and specifics:**
  - Rapid test unless virological test available. Infant must be off of breast milk for at least six weeks before testing.
- **Issue**
  - HIV is transmitted through breast milk. If the infant has breastfed within six weeks or less in the period before the test is performed the infant might have been infected through breast milk but has not yet produced antibodies. The virological test is likely to be positive but the antibody test

will be falsely negative because the infant has not yet formed antibodies to HIV at the time of testing.

- **Follow-up and other actions:**

- Provide infant feeding counseling to the mother regardless of the test result.
- Repeat test after six weeks with no breast milk.

- **Comment:**

- Nutrition is an important component of child health in both HIV negative and HIV positive children, so infant feeding counseling is a critical intervention



## KEY POINTS

- HIV TESTING IN CHILDREN IS THE KEY TO THEIR GETTING THE CARE AND TREATMENT THEY NEED.
- THE PRINCIPLES OF HIV TESTING IN ADULTS APPLY TO TESTING IN CHILDREN: IT IS IMPORTANT THAT HIV TESTING AND COUNSELLING BE VOLUNTARY AND THE “THREE C’S” – INFORMED CONSENT, COUNSELLING AND CONFIDENTIALITY – MUST BE OBSERVED.
- PROVIDER INITIATED TESTING OR THE ROUTINE OFFER OF TESTING TO ALL EXPOSED INFANTS AND CHILDREN IS A CRITICAL INTERVENTION.
- ALL HEALTH PROVIDERS WHO ENCOUNTER INFANTS AND CHILDREN SHOULD RECOMMEND THE PROPER TEST ACCORDING TO AGE WHEN AN INFANT IS EXPOSED TO HIV OR WHEN HIV IS SUSPECTED BECAUSE OF SIGNS OR SYMPTOMS.
- WHERE DNA PCR IS AVAILABLE, EXPOSED INFANTS MUST BE TESTED WITH DNA PCR AT THE 6 WEEK VACCINATION VISIT, OR AS EARLY AS POSSIBLE.

# SESSION VI



## COMPREHENSIVE CONTINUUM OF CARE FOR HIV-EXPOSED AND HIV-INFECTED INFANTS AND CHILDREN

### BASIC CARE PACKAGE, COTRIMOXAZOLE PREVENTION THERAPY (CPT) AND ART FOR INFANTS AND CHILDREN WITH HIV

**Time:** 2 hours

**Activities:** Presentation, demonstration, case studies

**Materials:** PowerPoint presentation

Handout: Case studies  
Sample CPT and ART forms  
Role play instructions

## OBJECTIVES:

At the end of this session participants will be better prepared to:

1. Describe the guiding principles of a national program to provide comprehensive care for HIV exposed and infected children.
2. Identify and discuss the implementation of the components of comprehensive child health, and the specifics of care and treatment for exposed and infected infants and children, including the basic care package, CPT and ART.
3. Discuss the use, benefits, and monitoring of cotrimoxazole preventive therapy (CPT) in exposed and infected infants and children and the guidelines for initiation and maintenance of CPT.
4. Describe the current status of pediatric ART in your country, the standard regimen and guidelines and principles of managing ART in infants and children.
5. Discuss pain management in children.

## ESSENTIAL GUIDING PRINCIPLES FOR HIV CARE AND TREATMENT FOR CHILDREN

Programs for children who have HIV work best when they keep the focus on what the child and his/her family need. There are several **principles** that should guide our efforts in our work and the country's efforts to help children with HIV.

- **Urgency.** HIV prevention, diagnosis, care and treatment must be immediately scaled up to avert hundreds of thousands of deaths among children who are HIV exposed or infected.
- **Universal access.** All children in need should have access to HIV prevention, diagnosis, care and treatment services.
- **Life-long care.** HIV disease is a chronic disease and requires ongoing care and treatment; national governments have a responsibility to ensure uninterrupted care and treatment.
- **Family-centered care.** Family members should receive care in a manner that recognizes and responds to the family as a unit.
- **High-quality care.** Care provided should be of the highest quality possible and should be monitored and improved through a system of improvement.

Adapted from *Pediatric HIV Programming Guide, May 2008, WHO, UNICEF*

The needs of infants and children who are HIV exposed or HIV infected include the needs of all children, including management of common childhood illness, support for growth and development, and immunizations, among other elements. Following are lists of key components for medical and nursing care of children with HIV, newborn infants, prevention of transmission, and details of care for exposed and infected children.

Program planning needs to ensure:

- country health systems for immunization
- essential nutrition interventions
- care for newborn infants, and
- care for sick children

## ❖ FACILITATOR

THIS NEXT SECTION OUTLINES WITH THE NEEDS OF NEWBORNS, INFANTS AND CHILDREN'S BASIC CHILD HEALTH NEEDS AND A BASIC CARE PACKAGE TO MEET THESE. THIS INCLUDES BASIC PREVENTION OF COMMON CHILDHOOD ILLNESSES, TREATMENT OF COMMON ACUTE ILLNESSES, AND ESSENTIAL MEDICAL AND NURSING CARE AND TREATMENT FOR EXPOSED AND INFECTED INFANTS AND CHILDREN.

AS EACH AREA IS INTRODUCED, ELICIT INPUT FROM THE PARTICIPANTS ABOUT WHICH OF THESE ELEMENTS ARE INCLUDED CURRENTLY IN THE CARE PROVIDED AT THEIR FACILITY. FOR THOSE NOT PROVIDED, DISCUSS BARRIERS AND OPPORTUNITIES TO ADDING THIS COMPONENT.

## THE NEWBORN

- Most deaths of newborns and mothers occur within the first hours or days after delivery (WHO 2004)
- In the first four weeks of a neonate's life, although HIV infection in the mother will impact the health of the baby, practically all neonatal deaths in this period are due to non-HIV causes. There is a need to address the quality of basic maternal and newborn care with which PMTCT programs need to link.

### **Newborn care interventions include:**

- Skilled care at birth;
- Thermal care or warming;
- Hygienic cord care;
- Extra care for low-birth-weight or premature infants:
- Early initiation of exclusive breastfeeding (ideally within the first hour) with skin to skin contact;
- Early postnatal visit (optimally within the **first 48 hours**).

### **Prevention, care and treatment interventions for infants include:**

- Exclusive breastfeeding up to 6 months of age
- Safe complementary feeding from 6 months of age
- Good maternal nutrition
- Complete and timely immunization: BCG, hepatitis B, DPT (diphtheria, pertussis, tetanus), oral polio vaccine, measles and *Haemophilus influenzae* type B
- Vitamin A supplementation
- Regular growth monitoring and developmental assessment
- Improved water, sanitation and hygiene; and
- Insecticide-treated bed nets
- Oral rehydration therapy for diarrhea
- Prompt care-seeking

- Zinc to reduce diarrhea and pneumonia deaths (not yet adopted as policy host country)
- Prompt antibiotic treatment for pneumonia and dysentery
- Prompt antimalarial treatment
- Management of severe malnutrition
- Palliative care for child

## **BOX 1. IMMUNIZATIONS IN HIV-INFECTED CHILDREN**

### **CHILDREN WHO ARE HIV-INFECTED**

- ARE **MORE LIKELY** TO EXPERIENCE PROGRESSIVE PRIMARY TB DISEASE AFTER EXPOSURE TO TB. THE CLINICIAN SHOULD GIVE **BCG AT BIRTH** TO CHILDREN BECAUSE TUBERCULOSIS IS ENDEMIC.
- EXPERIENCE MORE FREQUENT EPISODES OF HAEMOPHILUS INFLUENZA TYPE B INFECTION. BOTH THE CONJUGATE HAEMOPHILUS INFLUENZA AND PNEUMOCOCCAL VACCINES ARE EFFECTIVE, EVEN IN HIV-POSITIVE CHILDREN, AND ARE RECOMMENDED IN REGIONS WHERE THESE VACCINES ARE AFFORDABLE.

### **ADMINISTER CHILDHOOD IMMUNIZATIONS AS RECOMMENDED BY EPI WITH THE FOLLOWING MODIFICATIONS:**

- WHEN CONSIDERING BCG VACCINATION AT A LATER AGE (RE-VACCINATION FOR NO SCAR OR MISSED EARLIER VACCINATION), EXCLUDE SYMPTOMATIC HIV INFECTION.
- ALTHOUGH MEASLES VACCINE IS A LIVE VIRUS, GIVE IT EVEN WHEN SYMPTOMS PRESENT, AT 6 AND 9 MONTHS.
- HIV-INFECTED CHILDREN CAN RECEIVE PROPHYLACTIC MEASLES IMMUNOGLOBULIN (0.5 ML/KG, MAXIMUM OF 15 ML) WITHIN 6 DAYS OF EXPOSURE.
- **VARICELLA IMMUNOGLOBULIN (0.15ML/KG)** IS ADVISED WITHIN 3 DAYS OF EXPOSURE IF CHILDREN ARE EXPOSED TO CHICKEN POX

	<b>Vaccine</b>	<b>Asymptomatic HIV Infection</b>	<b>Symptomatic HIV Infection</b>
Infants	BCG	Yes	No
	DPT	Yes	Yes
	Polio	Yes	Yes
	Measles	Yes	Yes
Women of Childbearing Age	Tetanus toxoid	Yes	Yes

## **MEDICAL AND NURSING CARE FOR INFANTS AND CHILDREN WITH HIV: KEY COMPONENTS**

The key components of medical and nursing care of infants and children with HIV include

- HIV counseling and testing
- Prophylaxis of opportunistic infections (OIs)
- Management of HIV-related illnesses, including OIs
- TB control
- Management of HIV disease
- Palliative care
- Access to HIV-related drugs
- Interventions to reduce parent-to-child transmission
- Clinical HIV care for mothers and infants
- Support systems such as functional laboratories and drug management systems
- Nutritional support
- Health education
- Adequate universal precautions Interventions to reduce parent-to-child transmission
- Clinical HIV/AIDS care for mothers and infants
- Support systems such as functional laboratories and drug management systems

## **COTRIMOXAZOLE PREVENTIVE THERAPY (CPT)**

Cotrimoxazole preventive therapy (CPT) in HIV-positive patients:

- reduces risk of PCP pneumonia
- reduces mortality in those who get PCP
- reduces risk of other bacterial infections

CPT has been shown to decrease morbidity and mortality in children by 45%.

This also means there is a decrease in hospitalizations of children.

Cotrimoxazole prophylaxis is cheap, widely available, and easy to administer.

***For details about dosages and dispensing, see Appendix on these topics.***

### **Who should get CPT**

CPT should be offered to children (aged 14 years or less) in the following circumstances:

- Any child, aged 6 weeks or above, born to an HIV-positive woman irrespective of whether the woman received antiretroviral therapy in pregnancy
- Any child, 6 weeks or more, who is HIV-positive regardless of symptoms

## Reasons not to provide CPT

- Known allergy to cotrimoxazole for adults and children
- First trimester of pregnancy for adult women

## Duration of CPT

- In HIV-exposed infants (i.e. children born to HIV-positive women) CPT should be taken until HIV infection can be confidently excluded. At 18 months of age and provided the child has stopped breast-feeding for six weeks, the child should have an HIV test.
- According to Malawi guidelines, HIV positive children should continue CPT for life.
- CPT should be **discontinued** in the event of severe cutaneous reactions, renal or hepatic toxicity or severe haematological toxicity

*In Malawi, clinicians and nurses can prescribe cotrimoxazole.*

## WHERE SHOULD PATIENTS RECEIVE CPT?

### ART Clinics

- All patients on ART should be started on CPT.
- The administration of CPT should be recorded in the patient master cards under the CPT column and also indicated in the ART Register.

### All other sites

There are patients who need CPT but do not yet need ART.

An example of the approach used in Malawi includes:

- Each patient is issued a CPT card which is then kept in the patient's health record or "passport."
- In this record there should be documentation of the reason for the patient to be on CPT,
- The patient should get their CPT card at the Pharmacy. At the pharmacy, the pharmacist should give the patient a CPT number, based on the last number in the Pharmacy CPT Register
- There is an indication on the CPT card in the health passport the CPT number and the number of tins given to the patient with the date
- The pharmacist enters the date of giving CPT in the CPT register
- The pharmacist asks the patient to report back in 2 months time to collect another supply of CPT

## ❖ FACILITATOR

### 10 MINUTES

ASK PARTICIPANTS INDIVIDUALLY TO NOTE THE NEEDS AND FOLLOW-UP ACTIONS TO ENSURE CARE AND TREATMENT IN THE FOLLOWING CASES:

- ANY CHILD, AGED 6 WEEKS OR ABOVE, BORN TO AN HIV-POSITIVE WOMAN
- AT 18 MONTHS OF AGE AND PROVIDED THE CHILD HAS STOPPED BREAST-FEEDING FOR SIX WEEKS
- SIX WEEK OLD INFANT OF AN HIV POSITIVE MOTHER WITH SIGNS OF SEVERE HIV DISEASE

### 15 MINUTES REPORT BACK TO WHOLE GROUP

## ANTIRETROVIRAL THERAPY

Antiretrovirals (ARV) is the name given to the type of drugs that act to decrease the damage that the human immunodeficiency virus (HIV) does to the person's immune system. Persons with HIV will need these drugs when their immune systems do not function well any more and there is a high viral load. This is determined through CD4 cell count and viral load measurements.

These drugs are not a cure. They help HIV infected individuals by decreasing illnesses and infections due to HIV. There are four main groups of ARVs and they act at different steps in the HIV replication/multiplication stages in the body.

Where CD4 cell counts and viral load tests are not available, there are clinical stages that are characterized by certain signs and symptoms. Having a CD4 or viral load test to determine the stage of illness is better if it is possible to perform one of these tests.

If the infant or child is ready to start ART, there must be significant effort to ensure the caregiver of the child understands how to administer the drugs and the importance of adherence to the prescribed drug regimen.

It is absolutely critical that these drugs be taken according to instructions without missing any doses. Missed doses lead to the development of resistant viruses, which means viruses that no longer respond to the drugs.

## **BOX 2. ART GUIDELINES FOR CHILDREN CONTINUE TO BE DEVELOPED AND REFINED**

WHO IN APRIL 2008 MET AND REVISED ITS GUIDELINES ABOUT WHEN TO START ART IN INFANTS BASED ON THE FOLLOWING EXPERIENCES:

RECENT STUDIES IN RESOURCE CONSTRAINED SETTINGS CONFIRM THAT HIV DISEASE PROGRESSES **VERY RAPIDLY IN THE FIRST FEW MONTHS OF LIFE AND OFTEN LEADS TO DEATH** IN INFANTS WHO BECOME INFECTED WITH HIV AT OR AROUND DELIVERY

OVER 80% OF INFECTED INFANTS RAPIDLY BECAME ELIGIBLE TO START ANTIRETROVIRAL THERAPY BEFORE 6 MONTHS OF AGE.

IN A RECENT CLINICAL STUDY (RANDOMIZED CONTROL TRIAL) CONDUCTED IN SOUTH AFRICA, INFANTS WITH NO SYMPTOMS OF HIV AND WITH A %CD4 >25 STARTED ANTIRETROVIRAL THERAPY AS SOON AS POSSIBLE AFTER DIAGNOSIS OF HIV. IN THESE INFANTS THERE WAS A **VERY DRAMATIC REDUCTION IN MORTALITY (75%)** COMPARED TO INFANTS WHO WERE STARTED ON TREATMENT BASED ON THE IMMUNOLOGICAL OR CLINICAL CRITERIA AS OUTLINED IN THE CURRENT TREATMENT GUIDELINES.

OTHER RESEARCH AND OBSERVATIONAL DATA ALSO SUGGEST THAT STARTING ANTIRETROVIRAL THERAPY VERY EARLY (BEFORE 6 MONTHS) IN INFANTS WITH HIV DRAMATICALLY REDUCES THE RISK OF DEATH AND DISEASE PROGRESSION.

## **RECOMMENDATIONS ON “WHEN TO START” ART IN INFANTS**

- In infants **under 12 months** with **confirmed HIV diagnosis (virological test positive)**
  - Start ART in all regardless of clinical disease stage or CD4 count
- In infants **under 12 months** – **if cannot do a virological test, use WHO presumptive diagnosis of HIV** (see below). **Discontinue ART when a virological test shows the infant does not have HIV.**
  - Start ART
- **Young children 1–4 years old and those over 5 years old**
  - Use clinical and immunological criteria

## **Eligibility for ART in children under the age of 18 months in the absence of virological diagnosis**

For infants and children less than 18 months of age, the diagnosis of HIV infection is difficult because of the presence of maternal antibodies. In most situations, there will be no access to virological testing. In these situations, clinical criteria (shown below) can be used for making the diagnosis of severe HIV disease requiring ART.

A presumptive (without laboratory tests) diagnosis of **severe** HIV disease requiring ART is made if:

- The infant has been confirmed to be HIV antibody positive

*and*

- The infant categorized in WHO paediatric Clinical Stage 4 (this includes severe malnutrition)

*or*

- The infant has been confirmed to be HIV antibody positive

*and*

- The infant is symptomatic with two or more of the following conditions:
  - Oral candidiasis
  - Severe pneumonia
  - Severe sepsis

### **EXAMPLE OF STANDARDIZED TREATMENT FOR MALAWI**

The first line regimen for both adults and children is a combination of three drugs:

- Stavudine (d4T) and
- Lamivudine(3TC) and
- Nevirapine(NVP).

This regimen is easy to administer, has few side effects, does not interact significantly with rifampicin and is not too expensive.

#### **BOX 3. ART MESSAGES WHICH ALL HEALTH WORKERS SHOULD KNOW AND BE ABLE TO EXPLAIN**

- THE DRUGS ARE NOT A CURE AND HAVE TO BE TAKEN FOR LIFE
- MISSING DOSES CAN CAUSE THE DRUG NOT TO WORK BECAUSE THE VIRUS BECOMES RESISTANT TO THE DRUG.
- GUARDIANS AND CARE GIVERS MUST SUPPORT DRUG ADMINISTRATION FOR CHILDREN.
- DRUGS MUST NOT BE SHARED BY RELATIVES AND FRIENDS
- CONSULT A PHYSICIAN WHEN AN ADVERSE REACTION TO THE DRUGS OCCURS

## ❖ FACILITATOR

### 15 MINUTES

IN GROUPS OF THREE, YOU ARE GOING TO DO A ROLE PLAY OF A MOTHER WHO HAS A SIX MONTH OLD INFANT WHO HAS JUST BEEN DIAGNOSED WITH HIV.

ONE PARTICIPANT WILL BE THE MOTHER, ONE THE HEALTH CARE WORKER AND THE OTHER THE OBSERVER.

THE TASK IS TO EXPLAIN TO THE MOTHER THAT HER SIX MONTH OLD BABY NEEDS ART.

THE MOTHER NEEDS TO UNDERSTAND

- WHY THE BABY NEEDS THE DRUGS
- WHAT THE DRUGS ARE
- HOW THE DRUGS WORK
- COMMON SIDE EFFECTS AND WHAT TO DO ABOUT THEM
- WHEN TO GET THE DRUGS REFILLED
- THE OBSERVER WILL NOTE WHAT IS LEFT OUT AND HOW THE EXPLANATION COULD HAVE BEEN IMPROVED.

NOTE IF THE HCW USES SIMPLE TERMINOLOGY AND CHECKS TO SEE IF THE MOTHER UNDERSTANDS.

### 20 MINUTES

INVITE THE OBSERVERS TO REPORT BACK AND THOSE WHO ROLE PLAYED THE MOTHER AND HCW TO COMMENT

## PAIN MANAGEMENT

Children with HIV will sometimes have pain related to their infections or conditions. It is important to be sure that infants and children are provided with pain relief. There are key facts you should know about pain in children as well as principles that should guide how you manage their pain.

There is no evidence that the sensitivity to pain of infants and children is different from that of adults. Despite this, children are often under medicated. It is recommended that one begin with medications suitable for mild pain, such as paracetamol and advance, as needed to those for more severe pain, such as codeine and then morphine.

### Selected principles of pain management in children

1. Prevent pain whenever possible, and treat underlying cause.
2. Use measures other than drugs to help the pain medicines work (massage, comfort, etc.)
3. Intramuscular administration is less desirable than oral, intravenous or rectal routes. Intramuscular injections cause pain, and drug absorption is unpredictable.
4. You must monitor closely the variables of level of consciousness and respiratory status.
5. Morphine remains an effective drug for many children with pain when given inappropriate doses.

*Fear and anxiety and other emotions play a large role in the experience of pain. Taking measures to lessen the impact of these emotions on pain is a key intervention. Infants and children can respond to measures that increase relaxation. Young children can be engaged in play and older children can be counseled.*



## KEY MESSAGES

- THE KEY GUIDING PRINCIPLES FOR CARE OF HIV EXPOSED AND INFECTED INFANTS AND CHILDREN ARE ABOUT **URGENCY, UNIVERSAL ACCESS, LIFE-LONG CARE, FAMILY-CENTERED CARE, AND HIGH QUALITY CARE.**
- HIV EXPOSED OR HIV INFECTED CHILDREN HAVE THE SAME HEALTH CARE NEEDS AS UNINFECTED CHILDREN
- COTRIMOXAZOLE PREVENTIVE THERAPY OR CPT IS AN EXTREMELY EFFECTIVE WAY TO PREVENT OPPORTUNISTIC INFECTIONS IN INFANTS AND CHILDREN AND ALL INFANTS WHO ARE EXPOSED, EVEN BEFORE WE KNOW IF THEY ARE INFECTED, SHOULD BE RECEIVING CPT STARTING AT SIX WEEKS.
- IT IS NOW RECOMMENDED THAT ALL INFECTED INFANTS BE STARTED ON ART AS SOON AS POSSIBLE. UNLIKE ADULTS, THERE IS NO NEED TO WAIT TO CHECK A CD4 COUNT OR TO SEE A CONSTELLATION OF SYMPTOMS BEFORE STARTING.
- FAMILIES OF CHILDREN WITH HIV HAVE A SPECIAL NEED FOR PSYCHOSOCIAL SUPPORT
- PAIN MANAGEMENT IS AN IMPORTANT PART OF COMPREHENSIVE CARE OF INFANTS AND CHILDREN WITH HIV



# SESSION VII



## OPTIMAL INFANT FEEDING PRACTICES AND YOUNG CHILD NUTRITION IN THE CONTEXT OF HIV

**Time:** 90 minutes

**Learning activities:** Presentation, discussion, role plays

**Materials:** PowerPoint presentation or flip charts prepared in advance

Handout:

## OBJECTIVES

By the end of the session participants will better prepared to:

1. Define nutrition and describe the causes and consequences of malnutrition
2. Explain indicators of nutritional status in children
3. Explain criteria for admission into nutrition rehabilitation programmes
4. Describe Infant and young child feeding considerations in the context of HIV and AIDS
5. Explain principles for nutrition counseling and negotiation
6. State the importance of each nutrition action (is this ENA) – is there another word...here?) for women and children.
7. List the key messages to implement each action to prevent malnutrition among children and women.
8. Discuss safe feeding options for HIV exposed and infected infants and young children.
9. Define counseling and negotiation, and explain and demonstrate the key steps in counseling as they will apply them in their work contexts.

### ❖ FACILITATOR

#### 10 MINUTES

BEGIN THE SESSION BY ASKING PARTICIPANTS TO DESCRIBE THE COMMON INFANT FEEDING PATTERNS OF MOTHERS IN THE HOST COUNTRY.

LIST CONTRIBUTIONS ON A FLIP CHART AS THEY ARE OFFERED.

**PAY SPECIAL ATTENTION TO BREAST FEEDING PRACTICES SOON AFTER BIRTH UP TO 4 DAYS FOCUSING ON COLOSTRUM AND THE TYPE OF FEEDS GIVEN TO BABIES BEFORE 6 MONTHS OF AGE AND REASONS WHY THESE FEEDS ARE GIVEN.**

*NOTE THAT THESE WILL BE REFERRED TO AS DIFFERENT FEEDING OPTIONS ARE DISCUSSED DURING THE SESSION.*

## INFANT FEEDING PRACTICES

In many countries in Africa, even though breastfeeding is practiced by most, exclusive breastfeeding (EBF) for the first six months of life is practiced by a fewer number of mothers. Although most mothers breastfeed for almost 2 years, infants are not given timely, appropriate or adequate nutrient rich and energy-dense foods to complement breast milk from age 6 months to 24 months older.

Malnutrition levels can be high in some countries, with children under the age of five years are stunted, some underweight, and others presenting with wasting. Poor feeding practices contribute substantially to child malnutrition along with food insecurity, and poor sanitation and health care.

**Nutrition** is the process by which the body acquires and uses food. It includes ingestion (process of eating food), digestion, absorption and utilization of food. It is the sum of processes of taking in food and nutrients and using it for healthy functioning of the body. Nutrition is not the same as “food” and “nutrients.” Nutrition can be both the ‘cause’ and ‘outcome’ of good or poor health. Malnutrition can result from the following factors:

- Inadequate dietary Intake
- Diseases e.g. diarrhea, malaria, TB, AIDS
- Insufficient household food security
- Inadequate social & care environment
- Insufficient health services & unhealthy Environment
- Political ideology

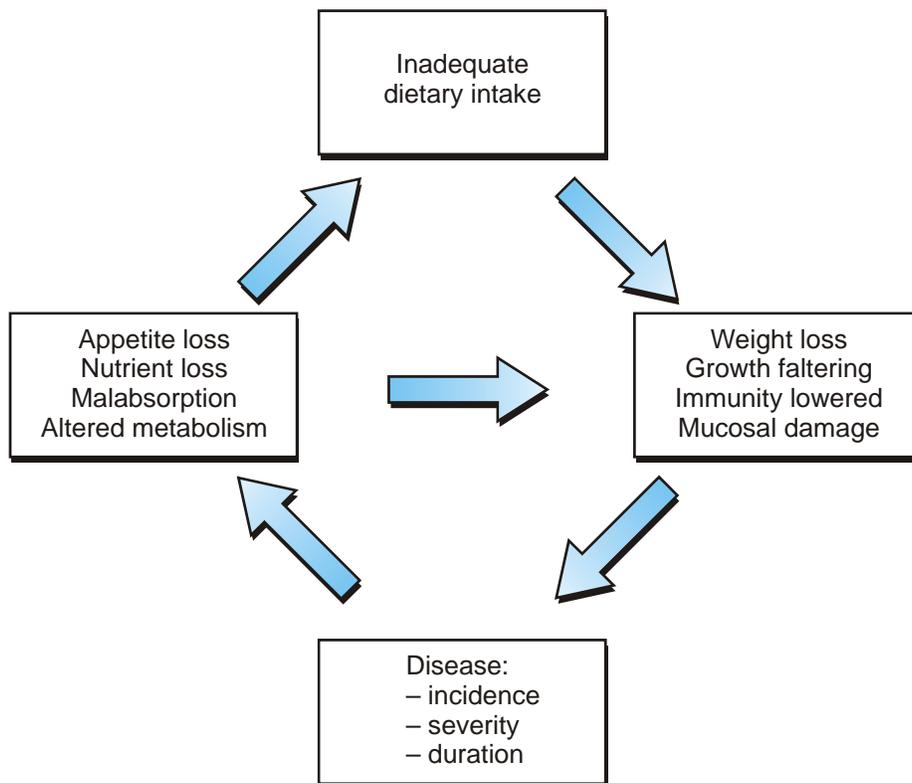
Malnutrition can bring the following health consequences to the health of a person:

- Poor physical growth
- Reduced physical activity
- Poor cognitive development
- Learning difficulties
- Lowered resistance to diseases
- Increased risk of mortality

❖ **FACILITATOR**

OPEN A DISCUSSION WITH PARTICIPANTS ABOUT EACH OF THE ABOVE CONSEQUENCES.

**Figure 9. Vicious Cycle of Malnutrition**



## **SIGNS (INDICATORS) OF MALNUTRITION**

Indicators of nutrition status are derived from body measurements such as length, height, weight, arm circumference, head circumference etc. Commonly used indicators are:

- Stunting
- Underweight
- Wasting
- Mid-upper arm circumference (MUAC)

To assess the nutritional status of an individual or population, the indicators are compared to international reference growth standards.

### **Stunting (height for age)**

This is when a child is too short for his or her age when compared to international reference standards. It indicates chronic malnutrition resulting from inadequate intake of food over a long period of time. This may be exacerbated by chronic illness.

### **Wasting (Weight for height)**

This is when a child is too thin for his or her height when compared to international reference standards. It is acute malnutrition resulting from inadequate dietary intake or an illness such as diarrhea and malaria. It is an indicator of the current nutritional situation as opposed to a chronic condition.

### **Underweight (Weight for age)**

This is when a child is too thin for his or her height when compared to international reference standards. This condition can result from either chronic or acute malnutrition or a combination of both. This is a composite of height-for-age and weight-for-height. Other measures that might indicate malnutrition, using local indicator specifics, include:

- Middle Upper Arm Circumference (MUAC)
- Bilateral oedema

Importance of growth monitoring and promotion include:

- Growth monitoring and promotion aims at promotion of child growth.
- It also aims at detecting growth faltering as early as possible so the caregiver can intervene before the infant/child becomes malnourished.
- It is important to differentiate between growth monitoring and growth promotion.
- Growth monitoring refers to weighing a child and plotting the weight on a graph

### **GROWTH MONITORING AND PROMOTION:**

This refers to the process of weighing a child, plotting the weight on the growth chart, assessing the growth, and providing counseling and motivation for other actions to improve growth. Health workers should use every encounter with a child to assess the nutritional status at that visit and growth can be assessed through a series of measurements over time since this is a change in weight. These encounters are important opportunities to provide the necessary counseling on infant and young child feeding according to the age of the child.

HCWs should provide counseling on infant and young child feeding to all mothers and caregivers, including those whose children are growing well.

## **GUIDE FOR DISCUSSION WITH MOTHERS OR CAREGIVERS AFTER WEIGHING**

As noted by UNICEF in October of 2007,

*“Child anthropometric measurements for assessing nutritional status are not growth monitoring (GM) or growth monitoring and promotion (GMP). GM and GMP thus should not be used for surveillance purposes, or to determine levels of under-nutrition, or to decide on eligibility for the correction of poor nutritional status (e.g. food supplementation, therapeutic feeding, etc).”*

### **Referral criteria for Nutrition Rehabilitation programs include the following;**

Children who are malnourished are indeed at a high risk of dying. However, even though the mortality risk for an *individual* is greater for severe wasting than it is for stunting, more of the *population* dies from stunting because a large number of children exposed to a smaller risk generate more deaths than a small number of children exposed to a higher risk. So, not all malnourished children are referred to nutritional rehabilitation—only severely (and/or moderately) acutely malnourished children are referred.

Cases of acute malnutrition become severe with complications due to delays in case-detection and care-seeking. Children who are severely or moderately acutely malnourished are at high risk of dying. These children

- should be referred to nutrition rehabilitation as soon as possible.
- respond to treatment better when cases are detected early
- Management of acute malnutrition is done in nutrition rehabilitation units and through community therapeutic care.

Therapeutic feeding Programmes are for the management of severe acute malnutrition. This can be done as inpatient care, through Nutrition Rehabilitation Units (NRUs) using therapeutic milk, or as outpatient Care through the Community Therapeutic Care Programmes (CTC) using Ready-to-Use-Therapeutic-Food.

- Supplementary Feeding programmes are for the management of moderate acute malnutrition

## **KEY MESSAGES FOR IMPROVING THE NUTRITION OF WOMEN AND YOUNG CHILDREN**

Effective Actions to Prevent Malnutrition among Children and Women are known as Essential Nutrition Actions (ENA), and include:

- immediate and exclusive breastfeeding for the first six months of life.
- **appropriate** (quality, quantity and frequency) complementary feeding from six months with continued breastfeeding **until at least the age of two years**
- **appropriate** nutritional care of the sick child. this includes continued feeding during illness, recuperative feeding following illness, and management of the child with severe malnutrition. it's not enough to say “feeding a sick or malnourished child”—everybody does that but almost nobody does it properly.
- women's nutrition during pregnancy and breastfeeding

- adequate intake of vitamin either from dietary sources or through supplementation.
- adequate intake of iron either from dietary sources or through supplementation.
- adequate intake of iodine.

## **ENA CONTACT POINTS**

The ENA approach is implemented through health worker counseling and interactions with pregnant and lactating women and mothers with children under two years of age at six key contact points in the lifecycle:

- antenatal
- delivery and immediate postpartum, postnatal
- family planning,
- immunization,
- growth monitoring AND PROMOTION and
- sick child consultations.

This is done through:

- Educational talks at health centers and during home visits, informal encounters with peers, and community festivals.
- Local mass media reinforce messages of health and community workers and encourage mothers and child caretakers to improve their nutritional practices.
- Individual counseling.

## **BREASTFEEDING**

- Breastfeeding remains the natural and best source of nutrition and child care practice
- Breastfeeding does not only save lives, but also greatly improves the quality of life of infants and young children through its nutritional, immunological, psychological and contraceptive benefits.
- A country should promote, protect and support breastfeeding for all children unless medically indicated.
- Promotion of breastfeeding is done through the Baby friendly Hospital Initiative (BFHI), and through Essential Nutrition Actions (ENA)

## **OPTIMAL BREASTFEEDING PRACTICES**

- Mother initiates breastfeeding within 30 minutes of delivery
- Mother breastfeeds on demand at least 8-12 times, day and night
- Mother expresses breast milk to feed the baby in case of separation longer than 1 hour
- Mother gives baby only breast milk for the first 6 months (exclusive breastfeeding)
- Mother continues breastfeeding even when either she or baby is sick
- Mother positions and attaches the baby correctly to the breast
- Mother feeds the baby on one breast first until it is empty before switching to the second

- The mother should eat one additional meal

### **EXCLUSIVE BREASTFEEDING**

- Means that the baby is fed on breast milk only from birth to 6 months unless medically indicated
- No other foods or fluids or other traditional drinks or solids are given to the child during this period (mixed feeding)

### **DANGERS OF MIXED FEEDING**

- Reduces the intake of breast milk
- May harm the lining of the infant's intestines, exposing the infant to pathogens (including HIV)
- Increases the risk of common childhood illnesses, such as diarrhoea and ARI
- Increases the risk of MTCT through breastfeeding
- Increases the risk of mortality

### **INFANT FEEDING AND HIV AND AIDS**

Mothers who are HIV positive should be given adequate information on the possible risk of HIV transmission to the child through breastfeeding, and they should be assisted to make an informed choice on how to feed their child. The most appropriate infant feeding option for a mother who is HIV positive depends on her individual circumstances, her health status and the local situation. It also depends on the availability and access to health care and support services. All mothers who are HIV positive, those who do not know their HIV status, and those who have babies that are confirmed as HIV-infected should exclusively breastfeed for the first six months and continue breastfeeding with appropriate complementary feeding from six months until the child is two years or beyond.

#### ***Quick facts:***

- Only children born to mothers with HIV can get HIV from the mother.
- Not all mothers with HIV give HIV to their babies.
- Out of every 10 mothers with HIV who breastfeed, only **3** will give the virus to their babies.
- Seven will not. And this is if there is no intervention to reduce transmission rates.
- The three babies could get the virus during pregnancy, labour, delivery or during breastfeeding.
- The longer an HIV infected mother breastfeeds, the higher the risk of transmission through breast milk.

The specifics about how HIV is transmitted were covered in the session on PMTCT.

### **REPLACEMENT FEEDING**

When an HIV-infected mother (and family) can meet AFASS (acceptable, feasible, affordable, sustainable, and safe) conditions, they should use Replacement Feeding as a source of food for their infant.

AFASS conditions include:

- Accept not to breastfeed and thus use an alternative feeds,

- Consider it **Feasible** given the extended family/community but also nature of work and lifestyle of the mother/family ---that is the mother has adequate time, skills, resources and support to correctly mix formula or milk and feed the infant up to 12 times in 24 hours for six months
- Can **Afford** to supply enough feeds for the duration the child needs the alternative e.g. 6 months + other 12-18 months when on complementary foods, including the costs of fuel to boil water, time missed from work, cleaning feeding materials, and avoiding consequences from the decreased resources for the rest of the family.
- Can **sustain** the supply of the alternative and all ingredients associated with its safe feeding; sustain support, and the environment. for up to one year of age or longer.
- Will maintain **Safe** conditions for the feeds, e.g. in that they have **SAFE** water, storage facilities and sanitation standards

**Replacement feeding** is the feeding of infants who are receiving no breast milk with a diet that provides the nutrients that the infant needs until the age at which he or she can feed on family foods. It completely eliminates the risk of MTCT through breastfeeding. However; it deprives the child and mother of the benefits of breastfeeding, and formula feeding carries an increased risk of child death from causes other than HIV. It lacks other nutritional factors found in breast milk that have been linked with optimal growth and development

Commercial infant formula is the recommended replacement feeding option when AFASS conditions are met. It is already modified to suit the physiological needs of the child. Commercial infant formula is fortified with vitamins and minerals that the baby requires. However, commercial formula is costly. For instance, an infant fed from birth to 6 months should consume approximately 40 X 500g tins of commercial formula.

#### ❖ FACILITATOR

BREAK PARTICIPANTS UP INTO GROUPS OF FIVE AND ASK THEM TO DISCUSS EACH ASPECT OF AFASS AND WHAT MIGHT MAKE IT EASY OR DIFFICULT FOR MOTHERS IN HOST COUNTRY TO BE ABLE TO IMPLEMENT FEEDING THAT MEETS THESE CRITERIA.

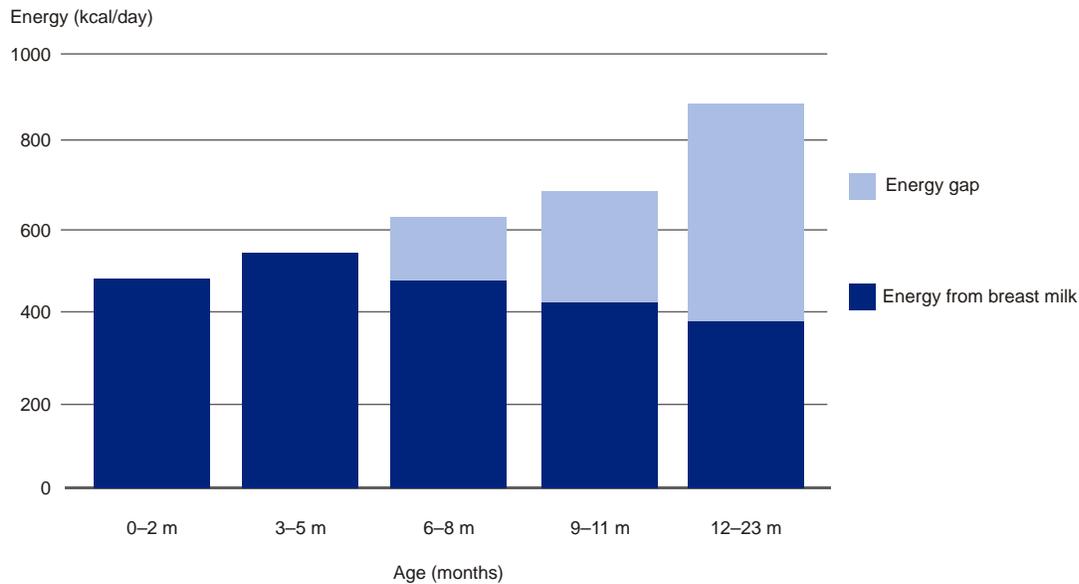
## COMPLEMENTARY FEEDING

By the time an Infants reaches (6-24 months) the mother should know that:

- Breast milk (or other animal milk) is still a major source of protein.
- Breast milk alone is not adequate as the only food from six months onward.
- The baby's gut is also developed enough to withstand other food from six months.
- Most food is not of adequate quality.
- Timely and appropriate complementary feeding should therefore start from 6 months of age
- Babies need foods enriched in energy and nutrients
- The six food groups should be used to select the foods for preparing meals
- Maintaining high levels of hygiene is key in child feeding.

- It is important to consider the nutrient density, frequency of feeding and amount of food intake.

**Figure 10. Energy Required by Age and the Amount Supplied from Breastmilk**



- 

## FEEDING A SICK OR MALNOURISHED CHILD

It is important to tell the mother that

- Sick children do not feed well. They lose their appetite and get nausea making it important that the mother take extra effort to get the child to eat.
- Sick children easily lose weight and need more food to build up their strength and growth.
- Sickness creates demands for more energy and nutrients. More food is needed for speedy healing
- Sick children need additional fluids during the episode, should be encouraged to eat with soft favorite foods, etc. Following the episode, the child needs additional food for recuperation—perhaps an extra meal per day for at least a week.

### BOX 4. FEEDING OF THE SICK CHILD DURING ILLNESS AND RECOVERY

GOOD FEEDING IS CRITICAL FOR CATCH-UP GROWTH. IN ORDER TO HELP THE CHILD CATCH UP:

- GIVE **EXTRA** BREASTFEEDS
- FEED **EXTRA** MEAL
- GIVE **EXTRA** AMOUNT
- USE **EXTRA** RICH FOODS
- FEED WITH **EXTRA** PATIENCE. GIVE EXTRA FOODS UNTIL THE CHILD HAS REGAINED LOST WEIGHT AND IS GROWING WELL AGAIN.

## MICRONUTRIENTS

Micronutrients are substances needed only in small amounts for normal body function (e.g., vitamins or minerals). Food is the best source of micronutrients but there are times when supplements are necessary.

Key points of information to share with the mother include:

- Breast milk and complementary food may not provide all the micronutrients that the baby needs making it necessary to supplement
- Pregnant (and lactating) women require supplementation with iron and folic acid
- Iodine lacks in most of our foods and eating salt fortified with iodine is best way to get iodine for the whole family.

## WOMEN'S NUTRITION

Pregnant and lactating mothers need more/additional energy and nutrients, and sufficient rest. Births that occur close in time to each other do not allow the mother time to restore used energy and nutrient stores.

Malaria during pregnancy can result in low weight births and increases the risk of anaemia which can cause death of the mother during delivery. Hookworm can also be a major cause of anaemia.

Antenatal clinics are in an ideal position to provide essential nutrition services to women during pregnancy. Knowing her HIV status during pregnancy and/or lactation will help women make informed choices on feeding their infants. Staying HIV negative will safeguard the baby from HIV knowing her status also allows for the mother to be sure to receive PMTCT services.

## PRINCIPLES OF NUTRITION COUNSELING AND NEGOTIATION

- **Counseling in the context of nutrition counseling refers to a process of negotiating** with the mother (or caregiver) to accept and implement behaviours to improve her nutrition and that of her baby. Counseling is different than educating or instructing and involves two-way communication.

## KEY PRINCIPLES IN COUNSELING

Counseling requires:

- Being easy to approach and talk to
- **Listening** to the person attentively
- **Communicating respect in verbal and non-verbal behaviors**
- **Facilitating the person's efforts to find solutions to their problems.**
- Referring to needed resources
- Assisting in identifying the barriers and opportunities to implement steps to solve the problem and decide what to do
- **Expressing a willingness to support them emotionally and to refer as needed.**
- **Giving accurate information**
- **Encouraging** the mother about what she is doing well Provide the opportunity for questions and clarification of information and instructions given
- Facilitating a rehearsal of the behaviors discussed.

- “Now let’s go over how you will prepare your breast for breastfeeding.” or
- “Let’s review what foods you will give the baby next month.”

### ❖ FACILITATOR

#### 10 MINUTES

ALLOW PARTICIPANTS TO ASK QUESTIONS AT THIS POINT.

BREAK INTO SMALL GROUPS AND, REFERRING BACK TO COMMON INFANT FEEDING PRACTICES, AND ASK THE GROUP TO DISCUSS

- (1) WHAT THEY HAVE LEARNED ABOUT OPTIMAL INFANT FEEDING PRACTICES AND
- (2) WHY IT MIGHT BE A CHALLENGE TO PROMOTE THESE IN THE CONTEXT OF CURRENT PRACTICES AND (3) WHAT THEY THINK CAN HELP THEM BE SUCCESSFUL IN SUPPORTING MOTHERS IN PRACTICING OPTIMAL INFANT FEEDING.

#### LOOK FOR INCLUSION OF

1. EXCLUSIVE BREASTFEEDING FOR THE FIRST 6 MONTHS OF LIFE
2. TIMELY INTRODUCTION TO QUALITY COMPLEMENTARY FEEDING WITH CONTINUED BREASTFEEDING UP TO 2 YEARS AND BEYOND
3. ON GOING GROWTH MONITORING AND PROMOTION
4. FEEDING OF THE SICK CHILD DURING ILLNESS AND RECOVERY
5. FREQUENT SUPPORT FOR MOTHERS IN THE POSTPARTUM PERIOD AND WHAT IS NEEDED TO DO THIS, E.G., MOTHERS’ SUPPORT GROUPS.

### Sample Guidelines for Infant Feeding in the Context of HIV (excerpts from Malawi PMTCT Guidelines)

- Mothers who are HIV positive should be given adequate information on the possible risk of HIV transmission to the child through breastfeeding, and should be assisted to make an informed choice on how to feed the child.
- The most appropriate infant feeding option for a mother who is HIV positive depends on her individual circumstances, her health status and the local situation. It also depends on the availability and access to health care and support services. The following recommendations, however, should be followed to guide the technical advice and support given to the mothers and other caregivers:
  - Exclusive breastfeeding is recommended for the HIV-exposed infants for the first 6 months of their life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS) for them and their infants before that time. Exclusive breast feeding means feeding the child breast milk only with no other foods or fluids, not even water during the first six months of the child’s life.
  - When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected women is recommended.
  - At six months, if replacement feeding is still **not** acceptable, feasible, affordable, sustainable and safe, continuation of breastfeeding with appropriate complementary foods is recommended, while the mother and baby continue to be regularly assessed. All breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided.

- Breastfeeding mothers of infants and young children who are known to be HIV-infected should be strongly encouraged to continue breastfeeding.
- Whatever the feeding decision, service providers should follow-up all HIV-exposed infants, their mothers or caregiver, and continue to offer infant feeding counseling and support at every contact point within the health service delivery system.
- All mothers that are HIV negative or those who do not know their HIV status, should exclusively breastfeed for the first six months and continue breastfeeding with appropriate complementary feeding from six months until the child is two years or beyond.

## **Breastfeeding Cessation**

- **Cessation is recommended as soon as replacement feeding is acceptable, feasible, affordable, sustainable and safety (AFASS)**
- If AFASS is met at 6 months, breastfeeding can cease using the transitioning process for a period of 2–4 weeks.
- Abrupt breastfeeding cessation is not recommended.
- If AFASS is not met, breast feeding should continue with introduction to complementary feeds.
- After 6 months of exclusive breastfeeding, the infants’ gut is mature enough to digest the food without being eroded and hence there is no risk of mixed feeding. The risk of MTCT is greatly reduced
- The Code of Marketing Infant and Young Child Foods should be adhered to in order to prevent spill over among the HIV negative women and those of unknown HIV status.
- All children aged 6–59 months receive vitamin A supplementation according to EPI schedule.
- Growth monitoring and health promotional activities are provided at all levels as a preventive strategy aimed at taking specific action to avert poor physical and psychosocial development of the child.
- The multimix principle based on the six food groups is promoted by all stakeholders for infants and child diets.

## **Infant feeding options**

All counseling on infant feeding options should be referred to the infant feeding counselors or mother support counselors or a HCW who has learned about breastfeeding.

Once a decision on the option has been made mothers should be supported to implement the choice all the way. It is important that family members are involved in decision making for support

## **Exclusive Breastfeeding for the first 6 months of life**

Exclusive breastfeeding has already been discussed under optimal breastfeeding practices, Exclusive breastfeeding means that the baby is fed on breast milk only from birth to 6 months unless medically indicated.

## **How to safely breastfeed**

Mothers who choose this method:

- Should Initiate breastfeeding within 30 minutes of birth
- Should practice exclusive breastfeeding

- Correct positioning and attachment to the breast can prevent breast problems.
- If has breast problem, feed on unaffected breast/express and heat treat the expressed milk to feed the infant.
- If mother has breast conditions or infant has oral lesions or diarrhea, give expressed heat treated breast milk using an open cup to maintain exclusive breast milk feeding. Breastfeeding should resume when the conditions are back to normal
- Early treatment of breast problems cracked/sore nipples etc
- Mother should have extra meals and foods rich in Vitamin A
- When AFASS conditions are met at 6 months, should stop breastfeeding.
- Attend monthly mother infant pair follow-up for her own health, infant feeding counseling, growth monitoring and immunization, infant's health appraisal, cotrimoxazole prophylaxis or and early infant diagnosis.
- Mixed feeding in the first 6 months increases the risk of MTCT greatly because the infants' gut is immature and is easily eroded with non-breast milk feeds
- Encourage HIV disclosure to the family for support of her decision to exclusively breastfeed.
- Attend for regular HIV disease monitoring and ensure continuation of cotrimoxazole prophylaxis, good nutrition and ART when needed
- Use condom for safe sex and prevention of re-infections

### **Heat-treated breast milk**

- Heating expressed breast milk kills the HIV virus.
- Expressed heat treated breast milk technique can be used in any of the following situations to sustain exclusive breastfeeding:
  - When the infant has diarrhoea and/or oral thrush or sores
  - When the mother has bilateral breast conditions (cracked nipples, sore nipples, blocked ducts, mastitis and breast abscess)
  - When the mother is too ill from possible infections that increase viral load
  - As a method during transitioning to complementary feeding
- It is important that family members support the mothers in expressing and heating breast milk.

### **How to heat-treat breast milk**

- Teach the mother and a support person how to express and heat-treat breast milk
- Heat the breast milk to the boiling point and then place the pot in a container of cool water so that it cools more quickly. If that is not possible, let the milk stand until it cools
- Only boil enough expressed milk for one feed. Store it in a clean covered container in a cool place and use it within one hour
- Discard any leftover heated milk
- Always use a clean open cup for feeding the baby, NEVER use a bottle
- Ideally give a multivitamin infant suspension to the infant (where available)

- Advice mothers to follow basic hygiene practices when expressing, preparing and feeding the baby.

**Table 11. Key Risk Factors that Increase Mother to Child Transmission**

Maternal	Infant
<ul style="list-style-type: none"> <li>• HIV status/ Immune status—high viral load</li> <li>• Recent HIV infection</li> <li>• Severity of HIV infection (Advanced HIV/AIDS)</li> <li>• No ARV Treatment</li> <li>• ARV prophylaxis provided during labor and to the infant shortly after birth does not provide long- term protection for the infant who is breastfeeding</li> <li>• STI infection</li> <li>• Breast conditions</li> <li>• (Cracked/sore nipples, breast engorgement mastitis breast abscess breast thrust)</li> <li>• Poor maternal Nutrition (vitamin A deficiency, iron deficiency)</li> <li>• Malaria infection</li> <li>• Social cultural factors</li> </ul>	<ul style="list-style-type: none"> <li>• Duration of breastfeeding</li> <li>• Mixed feeding i.e. exclusive breastfeeding.</li> <li>• Lesions in infants mouth oral thrust and intestines.</li> <li>• Prematurity/low birth weight</li> </ul>

### Replacement feeding

- Replacement feeding is the feeding of infants who are receiving no breast milk with a diet that provides the nutrients that the infant needs until the age at which he or she can feed on family foods.
- This option completely eliminates the risk of MTCT through breastfeeding, however; it deprives the child and mother of the benefits of breastfeeding. Replacement feeding also lacks other nutritional factors found in breast milk that have been linked with optimal growth and development.
- Commercial infant formula is the recommended replacement feeding option when AFASS conditions are met. The formula is already modified to suit the physiological needs of the child. Commercial infant formula is fortified with vitamins and minerals that the baby requires; however, it is costly.
- An infant fed from birth to 6 months should consume approximately 40 tins of commercial formula weighing 500g each (or 50 tins weighing 400g each). Mothers should cost this and check if they have resources for this.

### Advantages of replacement feeding

- No risk of HIV infection
- Family members may help

### Disadvantages

- Contamination
- May be out of sock
- Risk of diseases and malnutrition if not prepared correctly
- Need to have clean water and soap to wash utensils

- No antibodies to protect the infant
- No protection against pregnancy
- Time consuming
- Expensive. MK 6,000–8,000 per month for 6 months. (1,120–1,400 per tin (minimum))
- Commercial formula = 20 kg (40 tins x 500g)
- Risk of stigmatization
- Milk is still needed when a baby has complementary feeds

## COMPLEMENTARY FEEDING

- Breast milk and other forms of milk are essential up to 2 years or more; however, after six months of age, milk alone is not adequate to meet the baby's nutritional needs.
- From 6 months of age, the child should be given a variety of complementary foods in addition to breast feeding.
- Discuss the **FADUA (Feeding Frequency, Amount, Density, Utilization and Active feeding)** with the mother. This applies to all infants regardless of their HIV status and feeding method.
- The foods should be given to the child at the recommended
  - frequency (F),
  - in adequate amount (A) and
  - density (D) to meet the body's nutrient requirements.
  - The food should also be in the right form and consistency to facilitate proper digestion and to ensure proper utilization (U) of the nutrients in the body. T
  - The mother or other care givers should sit with the child and help him/her to eat adequately (Active feeding, (A)).
- Milk continues to be an important component of young child's diet. Therefore infants who stop breastfeeding any time after 6 months, other forms of milk to replace breast milk (250–500 ml per day according to the age of the baby) should be given to the infant
- The infant on formula feeds should continue to receive milk in addition to complementary feeds.

## MOTHER-INFANT PAIR FOLLOW-UP

Health workers need to follow-up mother-infant pairs or care givers from birth to 2 years or when the HIV status of the child has been established. Follow up helps to determine and decide on the course of action for care, nutrition counseling, growth monitoring and promotion, immunization, early identification of HIV infection and prevention of other infections. During each visit, assess both mother and infant or care givers on

- Sustaining the infant feeding of choice: breastfeeding or replacement feeding
- Ensure on going supply of cotrimoxazole prophylaxis for the baby
- AFASS for breastfeeding cessation at or after 6 months
- Timely introduction of complementary feeding at 6 months,

- Continuous assessment of AFASS for breastfeeding cessation after 6 months of exclusive breastfeeding
- Maternal general health status including general wellbeing and weight loss, ability to care for the baby, breastfeeding management skills and related problems and HIV disclosure to significant others. If a mother develops AIDS, counsel for alternative to breastfeeding
- Infant/child's health including possible signs of HIV infections such as oral thrush, persistent diarrhea, failure to thrive, present or past ear discharge, enlarged lymph nodes and recurrent pneumonia
- Infants with possible HIV infections should be referred to pediatric HIV clinic for consultations while continuing to breastfeed before decision on early breastfeeding cessation is made. *The infant feeding counselor should work hand in hand with the ART and pediatric HIV clinics.*

#### ❖ FACILITATOR

##### REFER PARTICIPANTS TO THE APPENDICES

- SUMMARY OF WHO STATEMENT ON BREASTFEEDING, 2006
- SAMPLE TABLE OF SUPPORTIVE INFORMATION TO PARENTS ON FEEDING OF CHILDREN DURING AND AFTER ILLNESSES
- TYPE, FREQUENCY, AND AMOUNTS OF COMPLEMENTARY FOODS REQUIRED BY AGE, AND
- THE SIX FOOD GROUPS FOR USE IN HOST COUNTRY

# SESSION VIII



## FOLLOW-UP AND REFERRAL OF MOTHERS AND INFANTS WITH HIV

**Time:** 1.5 hours or 90 minutes

**Activities:** Presentation, group exercises

**Materials:** PowerPoint presentation or flip charts prepared in advance

Handout:

## OBJECTIVES:

At the end of this session participants will be able to:

1. Discuss the importance of follow-up of HIV positive women, their exposed infants, and HIV positive children.
2. Identify follow-up mechanisms at health facility and community levels, and discuss advantages and disadvantages of different approaches.
3. Describe ways to improve approaches to mother-infant pair follow up.
4. Discuss the referral process and how to make sense of referrals between various sites in a hospital, the counseling unit, and the factors affecting the process.
5. Clarify the necessary elements to ensure effective follow-up and referral to meet the needs of mothers and infants.

## INTRODUCTION

- Follow-up and referral are essential elements in the management of HIV-exposed infants, infected infants and children and their mothers
- Follow-up ensures continuity of care and referral is often the only way of ensuring that mothers and children access the services they need.
- Referrals are often necessary both within a facility, between two or more facilities, or the community or other agencies.

## REFERRALS ARE MADE WHEN...

- The client has unmet needs
- Services are unavailable or inaccessible at the facility
- The client requests the referral

Functioning referral networks require that health workers be fully versed with the range of services provided at the facility and beyond. List all possible resources and create a directory of these services and create a directory of these services.

## COMPONENTS OF THE REFERRAL PROCESS

- Client needs assessment
  - Clients have individual care, treatment and support needs based on the status of their situation and circumstances
- **Documentation** of the referral, including date, to whom the client was referred and any information provided to facilitate the referral
- Issues of **confidentiality and privacy** should be made clear to the client as well as staff and partner organization

- **Feedback should be two-way**

❖ **FACILITATOR**

**20 MINUTES**

DIVIDE THE GROUP INTO GROUPS OF THREE THAT WILL WORK TOGETHER ON THIS NEXT EXERCISE. THOSE SITTING NEXT TO EACH OTHER IS THE MOST EFFICIENT WAY TO DO THIS.

**ASSIGN ONE CLIENT DESCRIPTION FROM THE LIST BELOW TO EACH GROUP.**

INSTRUCT PARTICIPANTS TO COMPLETE THE FOLLOWING TABLE BASED ON WHAT THEY HAVE LEARNED THUS FAR ABOUT THE COMPREHENSIVE CARE NEEDS OF INFANTS AND CHILDREN WITH HIV.

**30 MINUTES**

EACH GROUP REPORTS ON THE LIST THEY HAVE GENERATED FOR THEIR ASSIGNED CASE. OTHER GROUPS CAN ADD TO THE LIST IF THERE ARE MISSING ITEMS.

SHOW THE POWER POINT OF THE COMPLETED TABLE AND IDENTIFY WHAT WAS MISSED BY THE GROUPS FOR EACH CASE.

**Table 12. Managing Mothers and Infants for Prevention, Care and Treatment of HIV in Infants**

Client Description	Services that should be provided
HIV Positive mother during antenatal period	<ul style="list-style-type: none"> <li>• Provide ANC services</li> <li>• Counselling and testing for HIV</li> <li>• Provide ARV prophylaxis for mother and baby</li> <li>• Begin cotrimoxazole prophylaxis</li> <li>• Assess clinically and order lab work to determine HIV disease stage and need for ART.</li> <li>• Counsel to deliver at a health facility</li> <li>• Counsel about safe infant feeding</li> <li>• Discuss postnatal visit</li> <li>• Counsel about family planning</li> <li>• Assess for and treat opportunistic infections and STIs</li> <li>• Counsel regarding HIV, stress, etc.</li> <li>• Referral for legal, economic, psychological or other social services as needed</li> <li>• Provide information, encouragement regarding participation in support groups (including mother to mother groups) that promote proper diet exercise and other steps to promote wellness</li> </ul>
	<ul style="list-style-type: none"> <li>• Assess ART clinical eligibility</li> <li>• Order, get results and discuss results of lab tests</li> <li>• Provide ARVs</li> <li>• Conduct adherence sessions</li> <li>• Monitor use</li> <li>• Referral for legal, economic, psychological or other social services as needed</li> </ul>
HIV positive mother and infant post partum	<ul style="list-style-type: none"> <li>• Immediate newborn care and support for breastfeeding initiation</li> <li>• First visit at ? hours</li> <li>• Immunizations for the baby</li> <li>• Infant feeding counseling</li> <li>• Plan for infant HIV test and CPT</li> <li>• Counsel mother to seek immediate care for infant illnesses</li> <li>• Remind mother about infant ARV prophylaxis and be sure she has proper drug(s)</li> <li>• Referral for legal, economic, psychological or other social services as needed</li> </ul>

Client Description	Services that should be provided
HIV positive infant	<ul style="list-style-type: none"> <li>• Weight, growth and development assessment</li> <li>• CPT initiation at 4-6 weeks</li> <li>• Management of common illnesses</li> <li>• Immunizations</li> <li>• Clinical assessment for HIV</li> <li>• HIV virological test as soon as possible</li> <li>• If no virological test possible, rapid antibody test when finished breastfeeding for six weeks</li> <li>• Infant feeding assessment and counseling</li> <li>• Counsel mother and/or caregiver</li> <li>• Counseling and support for mother and family</li> <li>• Referral for legal, economic, psychological or other social services as needed</li> </ul>

❖ **FACILITATOR**

**15 MINUTES**

THIS EXERCISE IS INTENDED TO IDENTIFY MISSED OPPORTUNITIES FOR IDENTIFYING AND ENSURING ACCESS TO CARE AND TREATMENT SERVICES IN THE PARTICIPANT'S FACILITY. IT IS AN INVENTORY INTENDED TO BUILD AWARENESS ABOUT ALL OF THE POTENTIAL ENTRY POINTS FOR INFANTS AND CHILDREN WITH HIV.

INSTRUCT THE PARTICIPANTS TO IDENTIFY EACH AREA OF THE FACILITY WHERE THE ACTION/TASK/FUNCTION DESCRIBED IN THE LEFT COLUMN CURRENTLY TAKES PLACE.

FOR ITEMS THAT INDICATE A REFERRAL IS MADE, THE LAST COLUMN ON THE RIGHT SHOULD INDICATE TO WHERE THE REFERRAL IS MADE.

**Table 12. Actions and Tasks in Pediatric HIV Care and.....**

	OPD	U5 Clinic	NRU	CTC	ANC	Postnatal ward	TB	Maternity ward	Ped Ward	HTC	CPT	ARV clinic	Other: specify Note to where referrals made
Routine check with mom on her HIV status													
Routine HIV testing of children													
Referral for HIV test													
Diagnostic HIV testing													
Trained HTC counselors (#)													
Referrals for CD4													
Referrals for virological tests or DBS PCR													
Trained counselors in infant feeding													
Initiation of CPT													
Adherence counseling pre-ART													
ART prescribed													
Adherence counseling													

## **IMPORTANCE OF FOLLOW-UP**

Follow-up of HIV positive women, their exposed babies and HIV positive infants is very important in the management of HIV at facility level. This gives an opportunity to these women and their children to access services available at the health facility such as post natal check ups, immunization of babies, growth monitoring, infant feeding, and referral for clinical HIV staging, ARV therapy, cotrimoxazole preventive therapy (CPT), and clinical management of opportunistic infections along with other basic child health services.

## **ACTIVE FOLLOW-UP MECHANISM**

By all means patients who do not turn up for an appointment date should be followed-up by health surveillance assistants of that catchment area. Therefore all the details of the patient should be provided to the Health Surveillance Assistants.

The patient's details should include

- The name of the patient (request for alternative name or nick name of client)
- Name of next of kin
- Name of Village
- Physical location of the patient's (with specific landmarks in the city/village for easy identification)
- Traditional Authority
- Reasons for follow-up

The health care providers should provide details to Health Surveillance Assistants the moment they notice that clients are not coming for follow up.



# APPENDIX A

## WHO PEDIATRIC CLINICAL STAGES

**MEDICAL HISTORY AND PHYSICAL EXAMINATION SHOULD BE USED TOGETHER TO STAGE CLIENTS <14 YEARS OLD USING THE FOLLOWING CRITERIA<sup>1</sup>:**

### **PEDIATRIC CLINICAL STAGE 1**

- Asymptomatic
- Persistent Generalized lymphadenopathy

### **PEDIATRIC CLINICAL STAGE 2**

- Unexplained persistent hepatomegaly and splenomegaly
- Papular itchy skin eruptions
- Extensive skin warts (human papilloma virus)
- Extensive molluscum contagiosum
- Recurrent oral ulcerations
- Unexplained persistent parotid gland enlargement
- Lineal gingival erythema
- Herpes zoster
- Recurrent or chronic respiratory tract infections (sinusitis, otorrhoea, tonsillitis, otitis media)
- Fungal nail infections

### **PEDIATRIC CLINICAL STAGE 3**

- Moderate unexplained malnutrition not responding to standard therapy
- Unexplained persistent diarrhea for longer than 14 days
- Unexplained persistent fever above 37.5 (intermittent or constant for longer than one month)
- Persistent oral candida (outside the first 6-8 weeks of life)
- Oral hairy leukoplakia
- Acute necrotizing ulcerative gingivitis or periodontitis

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<sup>1</sup> WHO Case Definitions for HIV for Surveillance and Revised Clinical Staging and Immunological Classification of HIV-Related Disease in Adults and Children. Retrieved from URL <http://www.who.int/hiv/pub/guidelines/HIVstaging150307.pdf>

- TB lymphadenopathy
- Pulmonary tuberculosis
- Severe recurrent presumed bacterial pneumonia
- Symptomatic lymphoid interstitial pneumonitis
- Chronic HIV-associated lung disease, including bronchiectasis
- Unexplained anaemia
- HIV associated cardiomyopathy or HIV associated nephropathy

## **PEDIATRIC CLINICAL STAGE 4**

- Unexplained severe wasting, stunting, or severe malnutrition not responding to standard therapy
- *Pneumocystis carinii jiroveci* pneumonia
- Recurrent severe presumed bacterial infections (e.g. empyema, pyomyositis, bone or joint infections, meningitis, sepsis, but excluding pneumonia)
- Toxoplasmosis of the brain
- Cryptosporidiosis with diarrhea > 1 month
- Isosporiasis with diarrhea > 1 month
- Cryptococcosis, extrapulmonary
- Cytomegalovirus of an organ other than liver, spleen or lymph node
- Chronic herpes simplex infection (orolabial or cutaneous for > one month) or visceral at any site
- Progressive multifocal leucoencephalopathy
- Any disseminated endemic mycosis
- Candidiasis of oesophagus, trachea, and bronchus
- Atypical mycobacteriosis, disseminated or lungs
- Extrapulmonary tuberculosis, excluding TB lymphadenopathy
- Lymphoma (cerebral or B cell non-Hodgkin)
- Acquired HIV associated rectal fistula
- Kaposi's sarcoma
- HIV encephalopathy

## APPENDIX B

### HIV TESTING FOR THE CHILD WITH POSSIBLE HIV INFECTION/HIV EXPOSED

Table B-1. HIV Testing In Children Born To Known HIV Positive Women

Age	HIV testing	What results mean	Considerations
<18 months	HIV antibody test rapid test or lab based antibody test	<p>If positive, test shows either mother's antibody or child's HIV antibody is present.</p> <p><b>HIV antibody testing from 9-12 months of age if positive usually suggests child is infected.</b></p> <p>Do virological test if child is sick with signs or symptoms that suggest HIV infection.</p>	In first few months of life if positive confirms child has been exposed to HIV, as passive transfer of maternal antibodies can cause positive test results.
		<p>If negative and not breastfed = not infected</p> <p>If negative but still breastfed = repeat test once breastfeeding is discontinued for 6 weeks or more</p>	Negative test usually rules out infection acquired during pregnancy and delivery. But child can still be infected by breastfeeding.
	<b>HIV virological test</b> done to detect the virus itself	Positive virological test at any age = child is infected	Best to perform from 4-6 weeks of age or more
		Negative virological test and never breastfed or not breastfed in the last 6 weeks = child is not infected	<p>Negative results if still breast feeding need to be confirmed 6 weeks or more after breast feeding discontinued.</p> <p>If older than 9-12 months - by this time antibody testing can be used before doing another virological test, as only children who still have HIV antibody need another virological test.</p>
≥18 months	<b>HIV antibody test</b> rapid test or lab based antibody test	<p>Valid results as for adults.</p> <p>Negative = the child is not infected;</p> <p>Positive = the child is infected.</p>	If negative <u>and</u> still breastfed – repeat test once breastfeeding discontinued for 6 weeks or more.



# APPENDIX C

## RESOURCES ON COTRIMOXAZOLE PREVENTIVE THERAPY WITH EXAMPLES FROM MALAWI

### COTRIMOXAZOLE PREVENTIVE THERAPY (CPT)

1. Dosing card
2. Dose by age
3. Dispensing guidelines
4. Malawi CPT passport card
5. Malawi CPT pharmacy register card

**Table C-1. Cotrimoxazole Dosing Card**

<b>Cotrimoxazole Prophylaxis for Infants and Children Dosing Recommendations</b>		
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

**Table C-2. Dose by Age: What are the doses of CPT**

Children – aged 5 to 14 years	One tablet (480mg) in the morning
Children – aged 6 months to 4 years	Half a tablet (240mg) in the morning
Children – aged 6 weeks to 6 months	Quarter of a tablet (125 mg) in the morning
Children – less than 6 weeks	No CPT

#### **How is CPT distributed to patients:**

In tins of 120 tablets, each tablet being cotrimoxazole 480mg. These tins provide:-

- 2 months supply for adults

- 4 months supply for children aged 5–14 years
- 8 months supply for children aged 6 months to 4 years
- 16 months supply for children aged 6 weeks to 6 months

**CPT card in health passport (Table C-3)**

These cards are to be widely available in out-patient departments, under 5 clinics, Nutritional Rehabilitation Units, Ante-natal and Post-natal clinics and in Adult and Paediatric wards

- The clinician, who decides on CPT, must issue the CPT card to the patient with the instruction to keep it in the health passport. In the CPT card, the clinician must write the name of the patient, the name of the health facility, the reason for CPT and give his / her signature
- The patient takes the health passport and CPT card to the pharmacy
- The pharmacist must write on the CPT card the CPT number and the date and number of tins of CPT given to the patient
- Every time the patient comes for review the pharmacist must write the date and number of tins of CPT administered

**CPT register kept in the Pharmacy (Table C-4)**

- The pharmacist must write the CPT number and name of the patient in the CPT register
- Every time a tin of CPT is dispensed the pharmacist must indicate the date

**Table C-3. CPT Card to be kept in the Health Passport**

Name of Patient:									
Name of Health Facility:									
Reason for CPT:					Signature of Clinician:				
CPT Number (given by the pharmacist and entered to the CPT Register):									
Date	Tins CPT	Date	Tins CPT	Date	Tins CPT	Date	Tins CPT	Date	Tins CPT

**Table C-4. CPT register kept in the Pharmacy**

Pediatric Cotrimoxazole	Pediatric Cotrimoxazole
Prophylaxis	Prophylaxis
<p>Important prescribing information</p> <ul style="list-style-type: none"> <li>• Cotrimoxazole is usually well-tolerated but should be regularly monitored. Tolerance and adherence should be assessed at every visit.</li> <li>• Most common side effects are gastrointestinal (e.g. nausea, vomiting, diarrhea); these are usually seen within two weeks of initiation.</li> <li>• Rash and fever are rare but reported side effects in children.</li> <li>• Marrow suppression may lead to neutropenia and anemia, and caution is warranted when using cotrimoxazole with other drugs known to have hematologic toxicity. Where possible, initiation of cotrimoxazole and zidovudine (AZT, ZDV) should be separated by 4–6 weeks.</li> <li>• Cotrimoxazole can also cause hepatitis, or asymptomatic increase in liver enzymes (transaminitis). Where possible, initiation of cotrimoxazole and nevirapine-containing ART should be separated by 8-12 weeks.</li> <li>• <b>Contraindications</b> to cotrimoxazole include—Sulfa allergy—Severe renal insufficiency (creatinine &gt; 3 times normal)—Severe hepatic insufficiency (LFTs &gt; 5 times normal)</li> <li>• Dapsone may be used in place of cotrimoxazole when necessary. The appropriate dose for children &gt; 4 weeks of age is 2 mg/kg/day. Important information for parents:</li> <li>• Cotrimoxazole prevents serious infections in children with HIV and can help them feel better and live longer. It is not an antiretroviral drug, and does not treat or cure the HIV virus.</li> <li>• Cotrimoxazole may be given with or without food.</li> </ul>	<p>The prophylactic use of cotrimoxazole (Septrim®, Bactrim®, TMP/SMX, CTX, trimethoprim/sulfamethoxazole) is a critically important component of HIV care.</p> <p>Pneumocystis pneumonia is a common and deadly infection, frequently seen in infants with HIV. It generally occurs between three and six months of life, often as the first sign of HIV infection and before the child’s HIV status has been determined.</p> <p>Cotrimoxazole prophylaxis has been clearly shown to prevent Pneumocystis pneumonia and to save lives, and national and international treatment guidelines strongly support its use.</p> <p>Pediatric cotrimoxazole prophylaxis is recommended for:</p> <ul style="list-style-type: none"> <li>• All HIV-exposed infants (i.e. all infants 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</li> <li>• All HIV-infected infants &lt; 12 months • All HIV-infected children 1–4 years with:— Clinical stage 2, 3 or 4 disease—CD4 &lt; 25 %</li> <li>• All HIV-infected children &gt; 5 years with:— Clinical stage 3 or 4 disease—CD4 &lt; 350</li> <li>• All HIV-infected infants and children with prior Pneumocystis pneumonia.</li> </ul> <p>All programs providing HIV/AIDS care should follow local and national treatment guidelines, which remain the final authority for country-specific protocols.</p>

From  
**ICAP Infant Diagnosis Manual, Columbia**  
 Elaine J. Abrams • Ruby Fayorsey • Luis Felipe Gonzalez  
**Diagnosis of HIV Infection in Infants**  
 A Comprehensive Implementation and Clinical Manual  
 International Center for AIDS Care and Treatment Programs  
 Columbia University Mailman School of Public Health



# APPENDIX D

## TIPS: GIVING MEDICINES TO PEDIATRIC HIV/AIDS PATIENTS

**REMEMBER: Remind caregivers to keep medicines away from the other children to avoid a dangerous poisoning situation!**

### **How can we advise caregivers to give medicine to their babies and toddlers?**

1. Prepare and measure the medicine. Use a syringe or soft plastic dropper, or a spoon for medicine mixed in food.
2. With the baby on your lap, brace the baby's head close to your body so the head stays still. Tilt the head back a little.
3. Put the medicine into the corner of the baby's mouth towards the back, along the side of the tongue. This makes it harder for the baby to spit. Give little amounts at a time to prevent choking and spitting.
4. Gently keep the baby's mouth closed until he or she swallows.
5. Never yell or show anger. Speak softly and say kind things.
6. When all the medicine is finished hold the baby sitting up for a few minutes and cuddle and comfort the baby. Offer the baby water or juice only after the procedure is finished.

### **How can we advise caregivers to assist older children with taking their medicine?**

1. Keep trying different foods to cover the taste until you find the one that works.
2. Offer your child choices. What kind of food does the child want the medicine (if any) mixed with? What kind of spoon or cup does the child prefer? Which type of drink?
3. Some children do best when encouraged to take a deep breath and drink fast. Others take their medicine a step at a time with a drink in between. Sometimes it helps to count for your child while he or she takes it.
4. Offer a reward such as a sticker or maybe even something good to eat or a game to play afterward.
5. Never ask the child whether he or she *wants* or *will take* the medicine. Instead, be firm and state that the child must take it, but offer as many choices as possible.
6. Connect taking the medicine not only to feeling better or having the body to work better, but also to a desired activity or outcome.

### **What are some problems that arise with giving medicine?**

1. Vomiting the medicine: If your child vomits within ½ hour, you can repeat the medicine.

2. Missing a dose: If your child misses a dose, give it as soon as you remember and then continue the regular schedule. Do not give 2 doses at the same time.
3. Refusing the medicine: Let your child know that you understand that taking medicine is not fun. Do not threaten, punish, hit or yell at your child if he or she has a hard time taking the medicine. This will only make the situation worse and could make your child feel bad about him or herself.

### **How to mix medicines with food or drinks**

Both liquid medicines and powders can be mixed with drinks or food.

**Remember:** tell the caregiver not to put the medicine in a large amount of food or liquid, because if the child doesn't drink or eat the whole amount, he or she will not get all the medicine. For example, don't add medicine to a whole bottle of milk or juice, or a bowl of cereal or fruit. Do not mix the medicine with food that is essential to your child's diet, like formula. The child may associate that bad taste with all formula and stop drinking it, even if it doesn't contain medicine.

Coat the tongue with a sugary, sweet thick substance. Good things to mix with are juice, ice cream, chocolate syrup and other flavorful foods. The taste of some medicines is very hard to cover up and the caregiver should be told to not give up and keep trying different methods until she finds one that works.

Family Health International

30 August 2004

Adapted from *NYU Manual for Coast General Provincial Hospital, Mombasa, Kenya, 2001*

# APPENDIX E

## SUMMARY OF WHO STATEMENT ON BREASTFEEDING, 2006

The most appropriate infant feeding option for an HIV-infected mother should continue to depend on her individual circumstances, including her health status and the local situation, but should take greater consideration of the health services available and the counselling and support she is likely to receive.

- Exclusive breastfeeding is recommended for HIV-infected women for the first 6 months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe for them and their infants before that time.
- When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected women is recommended.
- At six months, if replacement feeding is still not acceptable, feasible, affordable, sustainable and safe, continuation of breastfeeding with additional complementary foods is recommended, while the mother and baby continue to be regularly assessed. All breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided.
- Whatever the feeding decision, health services should follow-up all HIV-exposed infants, and continue to offer infant feeding counseling and support, particularly at key points when feeding decisions may be reconsidered, such as the time of early infant diagnosis and at six months of age.
- Breastfeeding mothers of infants and young children who are known to be HIV-infected should be strongly encouraged to continue breastfeeding.
- Governments and other stakeholders should re-vitalize breastfeeding protection, promotion and support in the general population. They should also actively support HIV-infected mothers who choose to exclusively breastfeed, and take measures to make replacement feeding safer for HIV-infected women who choose that option.
- National programmes should provide all HIV-exposed infants and their mothers with a full package of child survival and reproductive health interventions<sup>10</sup> with effective linkages to HIV prevention, treatment and care services. In addition, health services should make special efforts to support primary prevention for women who test negative in antenatal and delivery settings, with particular attention to the breastfeeding period.
- Governments should ensure that the package of interventions referenced above, as well as the conditions described in current guidance<sup>11</sup>, are available before any distribution of free commercial infant formula is considered

From

*WHO HIV and Infant Feeding Technical Consultation*

Held on behalf of the Inter-agency Task Team (IATT) on Prevention of HIV

*Infections in Pregnant Women, Mothers and their Infants, Geneva, October 2–27, 2006*



# APPENDIX F

## SAMPLE TABLE OF SUPPORTIVE INFORMATION FOR PARENTS ON FEEDING OF CHILDREN DURING AND AFTER ILLNESSES

Infants 0 to 6 months	
<b>Care giver</b>	
Mother and father	During illness, increase the frequency of breastfeeding for your baby to recover faster.
Supporting information	<ul style="list-style-type: none"> <li>• Continue to breastfeed during diarrhea, even increasing the frequency, to replace the liquid lost.</li> <li>• Breastfeeding more during illness will help your baby to fight the sickness and not lose weight.</li> <li>• Breastfeeding also provides comfort to a sick baby.</li> <li>• Sick mothers can continue to breastfeed their baby</li> </ul>
Mother	After each illness increase the frequency of breastfeeding for the baby to regain health and weight.
Supporting information	<ul style="list-style-type: none"> <li>• Each time a baby is sick, s/he will lose weight so it is important to breastfeed as often as possible.</li> <li>• Your breast milk is the safest and most important food you can offer your baby to regain her/his health and weight.</li> </ul>
Children 6 to 24 months	
Mother and father	During illness, increase the frequency of breastfeeding and offer additional food to your child to help her/him recover faster.
Supporting information	<ul style="list-style-type: none"> <li>• Fluid and food requirements are higher during illness.</li> <li>• Take time to patiently encourage your sick child to eat as her/his appetite may be decreased because of the illness.</li> <li>• It is easier for a sick child to eat small frequent meals so feed the child foods s/he likes in small quantities throughout the day.</li> <li>• It is important to keep breastfeeding and feeding complementary foods to your child during illness to maintain her/his strength and reduce the weight loss.</li> </ul>
Mother and father	When your child has recovered from an illness, give her/him one additional meal of solid food each day during the two weeks that follow to help child recover quickly.
Supporting information	<ul style="list-style-type: none"> <li>• Children who have been sick need extra food and should be breastfed more frequently to regain the strength and weight lost during the illness.</li> <li>• Take enough time to actively encourage your child to eat this extra food as s/he still may not appear hungry due to the illness.</li> </ul>

### Type, Frequency, and Amounts of Complementary Foods Required By Age

Age	Texture and type	Frequency	Amount at each meal
6 months	Enriched soft porridge with sugar, oil and any of these: pounded groundnuts, beans meat/chicken/fish/ usipa well-mashed, egg yolk vegetable, or fruit	2 times a day plus frequent breastfeeds	2–3 tablespoons
7–8	Mashed foods. Enriched soft porridge/with sugar, oil & any of these: eggs pounded groundnuts, meat/chicken/fish/ usipa well-mashed vegetable, or fruit	3 times a day plus frequent milk feeds per day including yogurts plus frequent breast feeds per day	Increasing gradually to 2/3 of a 250 cup at each meal
9–11	Pounded enriched/finely chopped or mashed foods, and foods that baby can pick-up	3 to 4 meals plus 1 snack between meals plus frequent breast feeds per day	¾ of a 250ml cup or bowl
12–24	Family foods, chopped or mashed if necessary until the child has a full set of teeth	4–5 meals plus 1 snack between meals plus frequent breast feeds per day	A full 250ml cup/bowl

### Example of the Six Food Groups in Malawi

<p>Staples</p> <ul style="list-style-type: none"> <li>• Cereals – Maize, rice, sorghum, millet,</li> <li>• Starchy roots – cassava, potatoes, sweet potatoes</li> <li>• Starchy fruits – green bananas, plantains</li> </ul>	<p>Legumes and nuts</p> <ul style="list-style-type: none"> <li>• Soya beans</li> <li>• Groundnuts</li> <li>• Beans</li> <li>• Peas</li> </ul>
<p>Green leafy and yellow vegetables</p> <ul style="list-style-type: none"> <li>• Pumpkin</li> <li>• Pumpkin leaves</li> <li>• Carrots</li> <li>• Spinach</li> </ul>	<p>Food from animals</p> <ul style="list-style-type: none"> <li>• Meat, fish, poultry</li> <li>• Milk, eggs</li> <li>• Insects, rodents</li> </ul>
<p>Fruits</p> <ul style="list-style-type: none"> <li>• Mango</li> <li>• Pawpaw</li> <li>• Guava</li> <li>• Banana</li> <li>• Orange</li> <li>• Baobab</li> <li>• Custard apple</li> </ul>	<p>Fats and substitutes</p> <ul style="list-style-type: none"> <li>• Cooking oil</li> <li>• Margarine</li> <li>• Peanut butter</li> <li>• Avocado</li> <li>• Fat from meat</li> </ul>