

Prevention of Mother-to-Child Transmission of HIV



Generic Training Package Participant Manual



WHO Library Cataloguing-in-Publication Data

World Health Organization.

Prevention of mother-to-child transmission of HIV generic training package: participant manual.

1. Acquired immunodeficiency syndrome - therapy 2. HIV infections - therapy 3. Disease transmission, Vertical - prevention and control 4. Teaching materials 5. Manuals I. Title.

ISBN 92 4 159205 2

(NLM classification: WC 503.2)

© World Health Organization 2004

All rights reserved. Publications of the World Health Organization can be obtained from Marketing and Dissemination, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel: +41 22 791 2476; fax: +41 22 791 4857; email: bookorders@who.int). Requests for permission to reproduce or translate WHO publications—whether for sale or for noncommercial distribution—should be addressed to Publications, at the above address (fax: +41 22 791 4806; email: permissions@who.int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

The WHO/CDC Prevention of Mother-to-Child Transmission of HIV Generic Training Package is a comprehensive approach to the training of healthcare workers. The other components in this package are

- Training Programme and Course Director Guide
- Trainer Manual
- Presentation Booklet
- Pocket Guide
- Wall Charts
- CD-ROM containing MS® Word and Adobe Acrobat® (PDF) files for each programme component

Acknowledgment

This package was prepared by the Department of HIV/AIDS, World Health Organization (WHO) in collaboration with the United States Department of Health and Human Services, Centers for Disease Control and Prevention (HHS-CDC), Global AIDS Program (GAP), and is jointly published by WHO and HHS-CDC. Tin Tin Sint (WHO) and Omotayo Bolu, Cristiane Costa, Cheryl Mayo, and Andrea Swartzendruber (CDC) were the primary team responsible for supervising the development and field testing of the curriculum. René Ekpini and Isabelle de Zoysa (WHO) and Nathan Shaffer (CDC) provided overall guidance and support for this project.

WHO and CDC would like to thank Matthew Chersich, Inam Chitsike, Halima Dao, Ian Grubb, Peggy Henderson, Yvan Hutin, Rafael Lopezolarte, David Miller, Nozighu Tatiana Ndong, Kevin O'Reilly, Constanza Vallenias and Mayada Youssef Fox (WHO); George Bicego, Tracy Creek, Beth Dillon, Chris Galavotti, Joan Kraft, Joel Kuritsky, Michelle McConnell, Dorothy Mbori-Ngacha, Jan Moore, Serigne Ndiaye, Monica Nolan, Joseph Petraglia, Rose Pray, RJ Simonds, Monica Smith (CDC); and Ellen Piwoz (AED) for their review of draft materials.

Acknowledgments are also due to Thurma Goldman, from HHS-HRSA, and Estelle Quain (USAID) for their support and to UNICEF and UNFPA for their technical contributions.

WHO and CDC would like to thank the Ministries of Health and the CDC/GAP offices in Guyana, Ethiopia, Mozambique, and Cambodia for hosting the field tests.

WHO and CDC would also like to acknowledge the significant contribution of the François-Xavier Bagnoud (FXB) Center at the University of Medicine and Dentistry of New Jersey, who led this project from initial development through field tests and revisions along with JHPIEGO, an affiliate of Johns Hopkins University, through the University Technical Assistance Program (UTAP) with CDC. In addition to the curriculum development role, the FXB Center provided essential support for overall project coordination and final production of the training package. The FXB Center group include Mary Boland, Virginia Allread, Karen Forgash, Magaly Garcia, Nancy Lerner-Weiss, Nancy Paradis, Linda Podhurst, Anne Reilly, Monica Reiss, Natalia Rivera, and Deborah Storm. JHPIEGO staff who contributed to this project includes Jean Anderson, Linda Fogarty, Emmanuel Otolurin, and Kai Spratt.

Table of Contents

ABBREVIATIONS AND ACRONYMS	iii
INTRODUCTION	v
MODULE 1	Introduction to HIV/AIDS
Appendix 1-A	WHO staging systems for HIV infection and disease in adults, adolescents, and children1-14
Appendix 1-B	CDC AIDS surveillance case definitions for adolescents, adults, and children1-16
MODULE 2	Overview of HIV Prevention in Mothers, Infants, and Young Children
Appendix 2-A	MTCT services for the woman who is HIV-2 infected2-14
MODULE 3	Specific Interventions to Prevent MTCT
Appendix 3-A	Antiretroviral prophylaxis regimens to prevent MTCT3-19
Appendix 3-B	Clinical situations and recommendations for the use of antiretroviral drugs in pregnant women and women of child-bearing potential in resource-constrained settings3-21
MODULE 4	Infant Feeding in the Context of HIV Infection
Appendix 4-A	United Nations infant-feeding recommendations for mothers who are HIV-infected4-19
Appendix 4-B	Advantages of cup feeding4-20
Appendix 4-C	Feeding from 6-24 months4-21
MODULE 5	Stigma and Discrimination Related to MTCT
Appendix 5-A	International Guidelines on HIV/AIDS and Human Rights5-18
MODULE 6	HIV Testing and Counselling for PMTCT
Appendix 6-A	Training, roles, and responsibilities of HIV counsellors6-20
Appendix 6-B	Talking with parents about their child's HIV test results6-21
Appendix 6-C	Basic counselling skills6-23
Appendix 6-D	Providing pre-test information, exercise 6.36-25
Appendix 6-E	Post-test counselling checklist, HIV-negative result6-30
Appendix 6-F	Post-test counselling checklist, HIV-positive result6-31
Appendix 6-G	Role play scenarios for post-test counselling, exercise 6.4 and counselling checklist6-32
MODULE 7	Linkages to Treatment, Care, and Support for Mothers and Families with HIV Infection
Appendix 7-A	Tuberculosis (TB)7-14
Appendix 7-B	Community resource information worksheet7-16
Appendix 7-C	<i>Pneumocystis carinii</i> pneumonia prophylaxis in adults and infants7-17
Appendix 7-D	Suggestions to maximise food intake for PLWHA7-18
Appendix 7-E	WHO immunisation recommendations7-19

MODULE 8	Safety and Supportive Care in the Work Environment	
Appendix 8-A	Guidelines for cleaning, sterilisation, and disposal of infectious waste materials	8-18
Appendix 8-B	Managing occupational exposure to HIV: a sample protocol	8-21
MODULE 9	PMTCT Programme Monitoring	
Appendix 9-A	Examples of PMTCT performance indicators	9-11
Appendix 9-B	Sample PMTCT columns to add to standard ANC and maternity ward registers	9-12
THE FIELD VISIT (OPTIONAL)		Field Visit-1
GLOSSARY & RESOURCES		
	Glossary	Glossary-1
	Resources	Resources-1

Abbreviations and Acronyms

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
ARV	Antiretroviral
ART	Antiretroviral therapy
CDC	United States Centers for Disease Control and Prevention
CMV	Cytomegalovirus
ELISA	Enzyme-linked immunosorbent assay
FAO	United Nations Food and Agricultural Organisation
HAART	Highly active antiretroviral therapy
HIV	Human immunodeficiency virus
IMCI	Integrated management of childhood illness
MAC	<i>Mycobacterium avium</i> complex
MCH	Maternal and child health
MTCT	Mother-to-child transmission of HIV
NGO	Non-governmental organisation
NVP	Nevirapine
OI	Opportunistic infection
PCP	<i>Pneumocystis carinii</i> pneumonia
PEP	Post-exposure prophylaxis
PLWHA	People living with HIV/AIDS
PMTCT	Prevention of mother-to-child transmission of HIV

RCHS	Reproductive and child health services
STD/I	Sexually transmitted disease/infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
ZDV	Zidovudine, the generic name for azidothymidine (AZT)



Introduction: Prevention of Mother-to-Child Transmission of HIV

Background on mother-to-child transmission (MTCT) of HIV programmes

Of the 40 million people living with HIV/AIDS worldwide at the end of 2003, 2.5 million were children under 15 years old. Last year alone, 700,000 children were newly infected with the AIDS virus, or about 2,000 new infections in children each day. Most of these infections (90%) occurred in sub-Saharan Africa. The most significant source of HIV infection in children and infants is transmission of HIV from mother-to-child during pregnancy, labour and delivery, or breastfeeding. By integrating comprehensive Prevention of Mother-to-Child Transmission of HIV (PMTCT) programmes—including prevention and treatment interventions—as an essential part of maternal-child health (MCH) programmes, the PMTCT programme may significantly reduce the number of infants who are HIV-infected and promote better health for their mothers and families.

Unprecedented commitment by international organisations and national governments—and the availability of effective short-course and longer combination antiretroviral regimens—are now making effective national PMTCT programmes possible, even in countries most burdened by the HIV epidemic.

Because PMTCT programmes have broad access to the sexually active adult population and address key issues of family health, they provide an important foundation for national HIV prevention and treatment programmes. Beginning with primary prevention, PMTCT programmes recognise the importance of knowing one's HIV status and keeping parents-to-be HIV-negative. Testing and counselling in antenatal clinics and maternities allows for early identification of HIV infection. These settings serve as a gateway to comprehensive PMTCT services, including ARV treatment and prophylaxis, safer delivery practices, and safer infant-feeding practices for mothers who are HIV-exposed and their infants, who are also HIV-exposed.

National scale-up

Pilot projects in multiple countries have demonstrated the feasibility of implementing various PMTCT interventions, including ARV prophylaxis in resource-constrained settings. Most countries are now shifting from pilot projects to national programmes and are integrating PMTCT interventions as a component of standard antenatal care (ANC) and maternal and child health (MCH) services.

There is an increasing range of PMTCT interventions, based on capacity and policy at the country level. Policymakers must determine which PMTCT programme interventions can be supported for national scale-up and ensure that guidelines are in place to promote the success of implementing the programme. A coordinated, national plan for building capacity to train and strengthen maternal and child health services at the local level will ensure beneficial outcomes for communities and the people they serve.

International support

PMTCT remains central to global HIV/AIDS initiatives. Currently, scale-up of PMTCT programmes is recognised as an important gateway for scale-up of broader HIV prevention and care programmes. With the commitment of the international community to increasing access to treatment for persons living with HIV/AIDS, PMTCT programmes are seen as a central rallying point for enhanced treatment, care and support services for women, their children and families. This has resulted in growing support for PMTCT and new international initiatives to combat HIV/AIDS. The Global Fund for AIDS, TB and Malaria (GFATM) is providing significant international support for HIV/AIDS country programmes. The "3 by 5" World Health Organization (WHO)-led UNAIDS initiative aims to treat 3 million people in developing countries by 2005. In addition, the U.S. government now offers unprecedented support in the fight against HIV/AIDS with the President's Emergency Plan for AIDS Relief. The Emergency Plan provides large-scale funding to treat 2 million people, prevent 7 million infections, and provide care for 10 million people.

Key programme elements for all of these international efforts include increasing access to HIV testing and counselling, strengthening prevention interventions linked to treatment services, enhancing access to PMTCT programmes, and fostering community participation.

Training and capacity development

To achieve their goals, initiatives to combat HIV/AIDS need to address the challenge of human capacity building at all levels of the health system. Globally, up to 100,000 people need to be trained for the "3 by 5" initiative to reach the target. Meeting that training goal will require strong collaboration among communities, nations, and international organisations.

The rapidly growing HIV/AIDS pandemic requires global and in-country collaborative efforts to maximise the use of existing human resources and develop strengthened human capacity. Training is a key part of this strategy.

This generic PMTCT training package is designed to provide a template for the development of a national training plan and an appropriate national curriculum, based on a rapid adaptation process. For countries that already have begun PMTCT training and have draft materials, this generic training package can be used to update and strengthen the national curriculum and training plan. Providing appropriate information and training for the cadres of health workers at provincial, district, and local level is an important step for scale-up and sustainability of PMTCT programmes.

Overview of the PMTCT generic training package

This training package is an evidence-based course on PMTCT and is targeted to resource-constrained settings. It is intended to be one component of a training plan that reflects the policies and priorities of national strategies for combating HIV/AIDS.

The package content, provided in modular format, presents the basic components of PMTCT programming. The time frames suggested for each module are intended to be flexible to meet the requirements of each country or region.

PMTCT refers to a comprehensive, family-centred spectrum of clinical and supportive services—provided in conjunction with public health initiatives—to prevent the transmission of HIV from a woman to her infant.

Development of the PMTCT generic training package

The development of this package involved several activities:

- WHO conducted a systematic inventory of MTCT training materials, strategies, and plans for scale-up in East, Central, and Southern Africa.
- In 2001, visits were made to review pilot project sites, training strategies, and scale-up plans. PMTCT trainers, staff from the Ministry of Health, national AIDS programme, local NGOs, and funding agencies provided valuable input.
- In 2002, a WHO interregional workshop brought consultants together to arrive at a consensus on package components and implementation of training strategies, including in-country roles for the scale-up process.
- In November 2002, WHO invited the U.S. Centers for Disease Control and Prevention (CDC) to collaborate on the development of a comprehensive training package.¹ CDC asked two university technical assistance partners to help with the development of materials and field testing: the François-Xavier Bagnoud Center at the University of Medicine and Dentistry of New Jersey and JHPIEGO, an affiliate of Johns Hopkins University.
- Field tests were conducted in Guyana, Ethiopia, Mozambique, and Cambodia to evaluate the package and gauge its adaptability for use in resource-constrained settings.
- The package was reviewed by PMTCT and training experts from WHO, CDC, and country programmes.
- The package will be updated on an ongoing basis to reflect the most current information from WHO and CDC about PMTCT.

¹ A training package consists of a range of complementary components on a selected topic that serves as a resource for training. The components may include, for example, participant materials, slide sets, treatment guidelines, clinician support tools (eg pocket guide, wall charts), patient information materials, case studies, and trainer support materials.

Target audience

This training course is targeted to staff working in (or intending to work in) PMTCT programmes or healthcare settings that provide PMTCT services:

- Doctors
- Nurses
- Midwives
- Social workers
- Outreach workers
- Counsellors
- Programme managers

Every setting that provides PMTCT services can maximise the effectiveness of their programmes by involving staff in specialised training and encouraging other healthcare workers to expand their existing knowledge, defining them as key members of the PMTCT programme team.

Hands-on clinical training is strongly recommended. Where feasible, complementary onsite or offsite clinical training—especially in HIV testing and counselling and infant-feeding counselling—will greatly improve the capacity of healthcare workers to use their new knowledge.

A word on terminology

In these course materials, the term “healthcare worker” is intended to be synonymous with “healthcare provider.” It includes all staff working in the PMTCT service system (doctors, nurses, midwives, social workers, outreach workers, counsellors, programme managers). “Maternal and child health” (MCH) is used to refer to a variety of services, including maternal and newborn child health services and reproductive and child health services (RCHS). MCH encompasses the system of treatment, care, and support that aims to protect and improve the health of women of reproductive age and their infants, as well as young and adolescent children, and families.

Expectations for the course

This course offers basic information and introductory skills development in the following areas:

- Module 1 Introduction to HIV/AIDS
- Module 2 Overview of HIV Prevention in Mothers, Infants, and Young Children
- Module 3 Specific Interventions to Prevent MTCT
- Module 4 Infant Feeding in the Context of HIV Infection
- Module 5 Stigma and Discrimination Related to MTCT
- Module 6 HIV Testing and Counselling for PMTCT
- Module 7 Linkages to Treatment, Care, and Support for Mothers and Families with HIV Infection
- Module 8 Safety and Supportive Care in the Work Environment
- Module 9 PMTCT Programme Monitoring

This PMTCT training course is designed to provide healthcare workers with the information and introductory skills necessary to deliver core PMTCT services in an integrated manner.

Healthcare workers are encouraged to pursue additional training to expand the expertise available in their region or facility.

There is no substitute for hands-on experience when providing both clinical and social support. All participants are encouraged to view this curriculum as providing a foundation on which to build and develop additional skills.

This can be done through specialised training in areas such as HIV counselling, infant feeding, or networking within local communities. Many of these skills require practice to develop proficiency and participants can benefit by actively seeking opportunities for becoming comfortable with all aspects of programme implementation.

Structure of the training package

The training package, available in printed form and as a CD-ROM, consists of the following components:

- The **Training Programme and Course Director Guide** is divided into two sections. **Section 1: Training Programme Guide** is targeted to those with overall responsibility for developing the PMTCT National Training Plan, adapting the generic PMTCT curriculum, and developing the plan to evaluate training efforts. **Section 2: Course Director Guide** is a resource document targeted to the individual or team responsible for organising and conducting the PMTCT training courses.
- The **Trainer Manual** outlines the entire curriculum, describes the trainer role in course planning and offers the trainer directions to conduct each session.
- The **Participant Manual** is the main reference document for course participants. It includes an Introduction, nine content modules, each with a summary, clearly stated objectives, technical information, and exercises. It also contains a **Glossary** and a **Resources Guide**.
- The **Presentation Booklet** includes slides/overheads that summarise the main content areas of each module.
- The **Pocket Guide** provides clear, concise information to support the delivery of services and is a handy reference for healthcare workers.
- The **Wall Charts** can be posted in the health centre or facility and are a reference on key PMTCT content areas.

Course schedule

Although this PMTCT generic training programme was developed to be 6 days long including the optional field visit, it may be expanded or shortened, depending on the target population's learning needs, priorities, and resources. The syllabus for the generic course is presented below.

Course syllabus for PMTCT Generic Training Package

Day	Content
Pre-course session (2 hours)	Opening Ceremony and Introductions
Day 1	Module 1 Introduction to HIV/AIDS Module 2 Overview of HIV Prevention in Mothers, Infants, and Young Children
Day 2	Module 3 Specific Interventions to Prevent MTCT Module 4 Infant Feeding in the Context of HIV Infection
Day 3	Module 5 Stigma and Discrimination Related to MTCT Module 6 HIV Testing and Counselling for PMTCT
Day 4	Module 7 Linkages to Treatment, Care, and Support for Mothers and Families with HIV Infection Module 8 Safety and Supportive Care in the Work Environment
Day 5	Module 9 PMTCT Programme Monitoring Closing the Course
Day 6 (Optional half day session)	Field Visit and de-briefing

Ice Breaker and Ground Rules

Introduction Exercise 1: “Getting to know each other” card game	
Purpose	To explore concerns about taking care of women with HIV and objectives for this training and to provide an opportunity to get to know each other
Duration	30 minutes
Instructions	<ul style="list-style-type: none"> ▪ Review the card you have just received; the card has 3 columns labelled “Concerns,” “Objectives,” and “Strengths.” ▪ Think for a few minutes about your responses to each of the following questions: <ul style="list-style-type: none"> Concerns: What concerns you about taking care of women or children with AIDS? Objectives: What do you want to ensure you learn about PMTCT before the end of this course? Strengths: What three strengths do you bring to your work as a healthcare worker? ▪ Write your responses in the appropriate columns. ▪ Share your responses in the large group discussion.
Introduction Exercise 2: Determining the ground rules for the course	
Purpose	To develop and agree on a set of ground rules that will guide the development of an environment that facilitates learning.
Duration	20 minutes
Instruction	Participate in a discussion on the ground rules necessary to ensure a training environment that would make you feel more comfortable talking about the prevention of mother-to-child transmission of HIV. These ground rules will help guide the development of norms within this training.



Module 1 Introduction to HIV/AIDS

SESSION 1 Scope of the HIV/AIDS Pandemic

SESSION 2 Natural History and Transmission of HIV

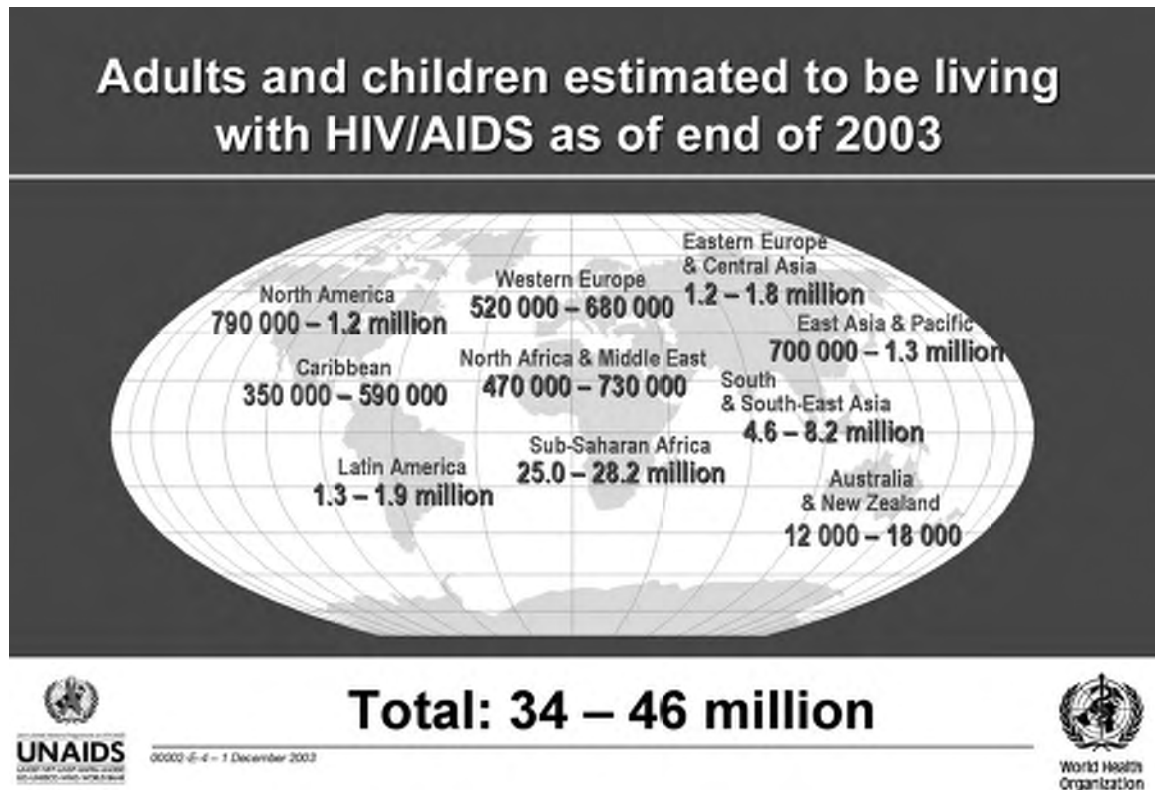
After completing the module, the participant will be able to:

- Describe the global and local impact of the epidemic.
- Answer basic questions about HIV/AIDS in women, children, and families.
- Discuss the natural history of HIV infection.
- Present information about HIV transmission.

Relevant Policies for Inclusion in National Curriculum
<p>Session 1</p> <ul style="list-style-type: none">▪ Brief summary of local/national/regional epidemiology of HIV▪ If available, a graph illustrating HIV prevalence among pregnant women at antenatal clinics (a local variation on Figure 1.2)

SESSION 1 Scope of the HIV/AIDS Pandemic

Figure 1.1 Worldwide epidemiology of HIV/AIDS



HIV in children, 2003

UNAIDS estimates that at the end of 2003:

- 40 million people worldwide were living with HIV/AIDS.
- 2.5 million people with HIV/AIDS were children younger than 15 years old.
- 90% of the children living with HIV/AIDS were from sub-Saharan Africa.
- 700,000 children worldwide were newly infected in 2003.
- 500,000 child deaths are estimated to have occurred from HIV/AIDS during 2003.

New infections, 2003

According to UNAIDS, about 14,000 new infections occurred each day in 2003. Of these new infections

- About 6,000 each day were among persons 15 to 24 years old
- Almost 2,000 each day were in children younger than 15 years old
- Most of the infections in children younger than 15 years old occurred through mother-to-child transmission (MTCT) of HIV

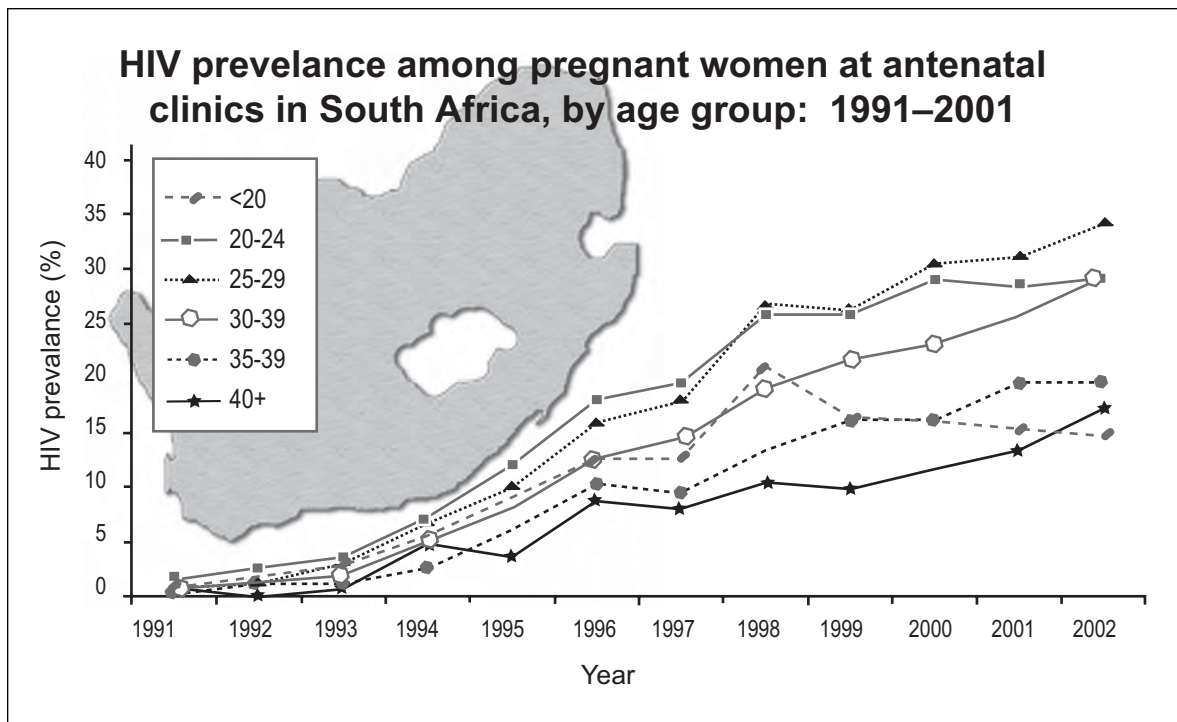
Table 1.1 Regional HIV/AIDS statistics and features, through 2003

Region	Adults and Children Living with HIV/AIDS	Adults and Children Newly Infected with HIV	Prevalence In Adults*	Adult and Child Deaths Due to AIDS
Sub-Saharan Africa	25.0–28.2 million	3.0–3.4 million	7.5–8.5	2.2–2.4 million
North Africa and Middle East	470,000–730,000	43,000–67,000	0.2–0.4	35,000–50,000
South and Southeast Asia	4.6–8.2 million	610,000–1.1 million	0.4–0.8	330,000–590,000
East Asia and Pacific	700,000–1.3 million	150,000–270,000	0.1–0.1	32,000–58,000
Latin America	1.3–1.9 million	120,000–180,000	0.5–0.7	49,000–70,000
Caribbean	350,000–590,000	45,000–80,000	1.9–3.1	30,000–50,000
Eastern Europe and Central Asia	1.2–1.8 million	180,000–280,000	0.5–0.9	23,000–37,000
Western Europe	520,000–680,000	30,000–40,000	0.3–0.3	2,600–3,400
North America	790,000–1.2 million	36,000–54,000	0.5–0.7	12,000–18,000
Australia and New Zealand	12,000–18,000	700–1,000	0.1–0.1	<100
Total	40 million (34–46 million)	5 million (4.2–5.8 million)	1.1 (0.9–1.3)	3 million (2.5–3.5 million)

* Percentage of adults age 15 to 49 years living with HIV/AIDS in 2003, using 2003 population data

The ranges in this table are based on the best available information. These ranges are more precise than in previous years, and work is under way to further improve the precision of the estimates to be published in mid-2004.

Figure 1.2 HIV prevalence: Pregnant women in South Africa, 1991–2002



Most of these estimates are based on surveillance systems that focus on pregnant women who attend selected antenatal clinics. This method assumes that HIV prevalence among pregnant women is a good approximation of prevalence among the adult population (aged 15–49 years). A direct comparison of HIV prevalence among pregnant women at antenatal clinics and the adult population in the same community in a number of African communities has provided evidence for this method of estimating HIV prevalence.

Global impact of HIV

The global impact of the HIV/AIDS pandemic is especially severe in resource-constrained settings and results in the following:

- Negative impact on countries' economic development
- Overwhelmed healthcare systems
- Decreasing life expectancy in many countries
- Deteriorating child survival rates
- Increasing number of orphans

Effects of the HIV/AIDS pandemic on individuals include the following:

- Illness and suffering
- Shortened life span
- Loss of work and income
- Death of family members, grief, poverty, and despair
- Barriers to health care related to stigma and discrimination
- Deteriorating child health and survival
- Weakened integrity and support structure of the family unit

Exercise 1.1 Hope exercise: group discussion	
Purpose	To begin the PMTCT training with optimism despite the devastation left by decades of HIV.
Duration	20 minutes
Instructions	<ul style="list-style-type: none"> ▪ Think for a few moments about positive responses to the HIV/AIDS pandemic in your country. ▪ Record your responses on paper and share in the large group discussion. <p>Examples:</p> <p>Groups in the community that have never worked together before have connected with each other to address HIV/AIDS.</p> <p>The global community has allocated increased funding for healthcare systems in the developing world, especially HIV/AIDS care systems.</p> <p>The Ministry of Health in many countries has become a stronger advocate for the healthcare needs of people in all sectors of society.</p> <p>The global community has become more attentive to TB because of its connection to HIV.</p> <p>There is increased awareness of safer sex practices that protect people from HIV and STIs.</p>

Overview of HIV and AIDS



Refer to *Pocket Guide*

Definitions of HIV and AIDS

HIV stands for *human immunodeficiency virus*, the virus that causes AIDS.

H: Human
I: Immunodeficiency
V: Virus

- HIV breaks down the body's defence against infection and disease—the body's immune system—by infecting specific white blood cells, leading to a weakened immune system.
- When the immune system becomes weak or compromised, the body loses its protection against illness.
- As time passes, the immune system is unable to fight the HIV infection and the person may develop serious and deadly diseases, including other infections and some types of cancer.

When a person is infected with HIV, the person is known as “HIV-infected.” “HIV-positive” is when person who is HIV-infected has tested positive for HIV.

AIDS is an acronym for *acquired immunodeficiency syndrome* and refers to the most advanced stage of HIV infection.

A: Acquired, (not inherited) to differentiate from a genetic or inherited condition that causes immune dysfunction

I: Immuno-, because it attacks the immune system and increases susceptibility to infection

D: Deficiency of certain white blood cells in the immune system

S: Syndrome, meaning a group of symptoms or illnesses that result from the HIV infection

Differences between HIV, HIV infection, and AIDS

- HIV is the virus that causes infection.
- The person who is HIV-infected may have no signs of illness but can still infect others.
- Most people who are HIV-infected will develop AIDS after a period of time, which may be several months to more than 15 years.
- AIDS is a group of serious illnesses and opportunistic infections that develop after being infected with HIV for a long period of time.
- A diagnosis of AIDS is based on specific clinical criteria and laboratory test results.

(See Appendix 1-A for information about the World Health Organization (WHO) staging systems for HIV infection and Disease and Appendix 1-B for the U.S. Centers for

Disease Control and Prevention (CDC) AIDS Surveillance Case Definitions.)

Types of HIV

HIV-1 and HIV-2 are types of HIV. Both types are transmitted the same way, and both are associated with similar opportunistic infections and AIDS. HIV-1 is more common worldwide. HIV-2 is found predominantly in West Africa, Angola, and Mozambique.

Differences between HIV-1 and HIV-2

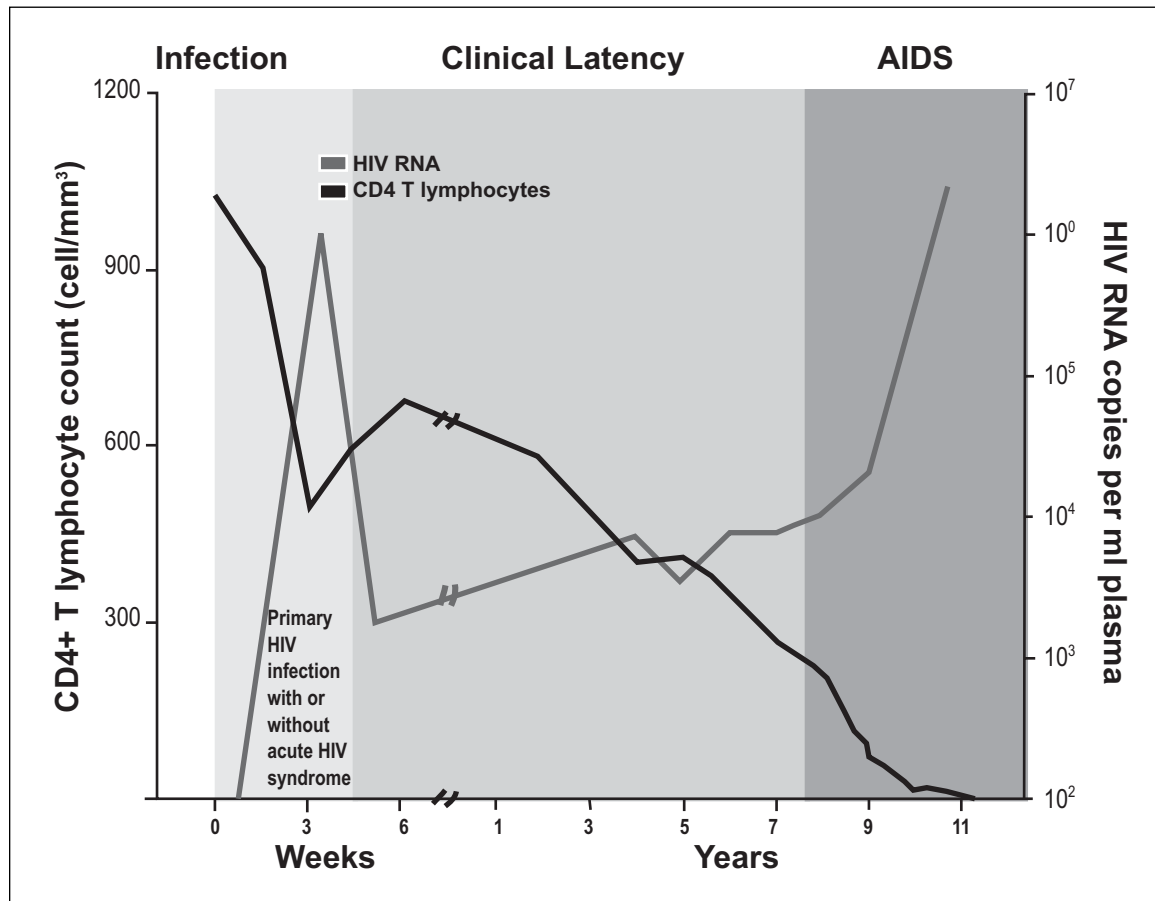
HIV-2 is less easily transmitted than is HIV-1, and it is less pathogenic, meaning that the period between initial infection and illness is longer. In some areas, a person may be infected with both HIV-1 and HIV-2. While HIV-2 can be transmitted from an infected mother to her child, this appears to be rare (0% to 5% transmission rate in breastfed infants in the absence of any interventions).

A discussion of preventing mother-to-child-transmission (PMTCT) from women who are infected with HIV-2 to their infants is included in *Module 2, Overview of HIV Prevention in Mothers, Infants, and Young Children, Appendix 2-A*. Women who are infected with both HIV-1 and HIV-2 should follow all PMTCT recommendations for HIV-1-infected women.

SESSION 2 Natural History and Transmission of HIV

Background information on CD4 count and viral load

Figure 1.3 Characteristic viral load and CD4 changes over time in HIV/AIDS



The CD4 count and viral load are two measures of the progression of HIV. When HIV actively multiplies, it infects and kills CD4 T cells—a specific type of white blood cell—that are the immune system's key infection fighters. The effects of HIV are measured by the decline in the number of CD4 cells.

The CD4 count is the number of CD4 cells in the blood and reflects the state of the immune system. The normal count in a healthy adult is between 600 and 1,200 cells/mm³. When the CD4 count of an adult falls below 200 cells/mm³, the risk of opportunistic and serious infection is high.

Viral load is the amount of HIV virus in the blood. It can be measured by the HIV ribonucleic acid polymerase chain reaction blood test (HIV-RNA PCR). The test is used as a marker of response to antiretroviral (ARV) treatment.

The viral load is very high shortly after primary HIV infection. It falls steeply when the body develops antibodies and rises again after a number of years as the CD4 count drops. High viral load leads to higher transmission risk. Most often, after a number of years, high viral load is also a sign of more severe disease as people develop AIDS (Figure 1.3).

Natural history (or course) of HIV infection

Seroconversion

People infected with HIV usually develop antibodies 4 to 6 weeks after being infected, but it may take as long as 3 months for antibodies to develop. The period of time between when a person is infected with HIV and when the antibody test result is positive is called the "window period."

Unlike for most diseases, having antibodies for HIV does not indicate protection but indicates infection.

When a recently infected person develops antibodies that can be measured using a laboratory test, seroconversion is occurring. Some people may experience a glandular illness (fever, rash, joint pains, and enlarged lymph nodes) at the time of seroconversion.

HIV testing detects antibodies or antigens associated with HIV in whole blood, saliva, or urine.

A person whose blood test results show HIV infection is said to be seropositive or HIV-positive.

A person whose blood test results do not show HIV infection is said to be seronegative or HIV-negative.

A person who tests HIV-negative but who has engaged in behaviour within the past 3 months that places him or her at risk for HIV should be tested again in 3 months.

Asymptomatic HIV infection

A person who is HIV-infected but looks and feels healthy is asymptomatic. None of the physical signs or symptoms that indicate HIV infection are present.

Whether they have symptoms or not, people who are HIV-positive can still pass the virus to others.

The duration of the asymptomatic phase varies greatly from person to person. Some adults may develop symptoms of HIV as quickly as a few months after primary infection; others may take as long as 15 years or more to develop symptoms.

For children infected with HIV through MTCT, during pregnancy, labour and delivery, and breastfeeding, the asymptomatic phase is shorter. A few infants who are HIV-positive will become ill within the first weeks of life. Most children start to develop symptoms before they are 2 years old; a few remain well for several years.

Symptomatic HIV infection

A person who has developed physical signs of HIV and reports symptoms related to HIV is *symptomatic*.

The immune system weakens and CD4 count decreases during this phase.

The progression of HIV depends on the type of virus and specific host characteristics including general health, nutritional, and immune status.

AIDS

Almost all people who are HIV-positive will ultimately develop HIV-related disease and AIDS, the end stage of HIV infection. As HIV infection progresses, the CD4 count continues to decrease and the infected person becomes susceptible to opportunistic infections.

An *opportunistic infection* is an illness caused by a germ that might not cause illness in a healthy person, but will cause illness in a person who has a weakened immune system. For example, co-infection with tuberculosis (TB) is very common in people infected with HIV.

People living with advanced HIV infection suffer from opportunistic infections of the lung, brain, eyes, and other organs. Other common opportunistic infections in persons diagnosed with AIDS are *pneumocystis carinii* pneumonia (PCP); cryptosporidiosis; histoplasmosis; other parasitic, viral and fungal infections; and some types of cancers, such as Kaposi's sarcoma.

ARV treatment and prophylaxis and treatment of opportunistic infections help preserve the CD4 cells, lower viral load, and prolong the time it takes for HIV to progress to the symptomatic phase and, ultimately, to AIDS.

Staging systems for HIV

Staging systems for HIV can:

- Contribute to the care of individuals who are HIV-infected
- Provide a framework for follow-up and management
- Help define prognosis and guide patient counselling
- Be used to help evaluate new treatments

World Health Organization (WHO) staging system for HIV

The WHO staging system groups HIV progression into four clinically relevant stages—Stages I to IV—that correspond to the natural history of HIV. (See Appendix 1-A.)

The staging system for HIV infection in children is scheduled to be revised by WHO in consultation with paediatric experts in 2004. In the interim, using the WHO staging system can help define parameters for initiating treatment in resource-constrained settings.

However, adapting the staging system at the country programme level may be appropriate.

U.S. Centers for Disease Control and Prevention (CDC) surveillance case definition

The CDC AIDS Surveillance Case Definitions include clinical and immunologic categories. (See Appendix 1-B.) This system uses a combination of symptoms and CD4 count levels to establish criteria for AIDS.

Routes of HIV transmission

HIV can be transmitted through blood, sexual contact, or injection drug use, and from mother to child (also known as perinatal or vertical transmission).

The most common route of HIV transmission is through sexual contact, especially heterosexual intercourse.

Blood-to-blood transmission

- Transfusion with HIV-infected blood
- Direct contact with HIV-infected blood

Sexual contact

- Unprotected sexual intercourse (vaginal, oral, or anal)
- Direct contact with HIV-infected body fluids such as semen, cervical and vaginal secretions

Women of childbearing age are at particular risk for acquiring HIV. The main behaviour that places them at risk is unprotected sex with an infected male partner.

Drug use

- Injection of drugs with needles or syringes contaminated with HIV

Perinatal transmission (MTCT)

- From mothers who are HIV-positive to their infants during pregnancy, labour, delivery, and breastfeeding

HIV CANNOT be transmitted by:

- Coughing or sneezing
- Insect bites
- Touching or hugging
- Kissing
- Public bath/pool
- Public toilet
- Shaking hands
- Working or going to school with a person who is HIV-infected
- Telephones
- Water or food
- Sharing cups, glasses, plates, or other utensils

Public health strategies to prevent HIV infection

Blood-to-blood transmission

- Screen all blood and blood products for HIV.
- Follow universal precautions which include:
 - Use of protective equipment
 - Safe use and disposal of sharps
 - Sterilisation of equipment
 - Safe disposal of contaminated waste products

Sexual contact

- Promote abstinence or being faithful to one uninfected partner.
- Provide instruction on the consistent and correct use of barrier methods.
 - Male or female condoms for vaginal intercourse
 - Non-lubricated condoms for oral intercourse on a male
 - Dental dams, plastic wrap, or latex panties for oral intercourse on a female
 - Condoms for anal intercourse
- Prevent, identify, and provide early treatment for sexually transmitted infections (STIs).
- Provide access to HIV testing and counselling.

Condoms provide protection from HIV transmission as well as other sexually transmitted infections (STIs) when used correctly and consistently.

Drug use

- Educate about the risks of infection through drug use with contaminated needles and syringes.
- Provide referral for treatment of drug dependence.

Drug use in any form may increase the risk of HIV infection by limiting judgment and facilitating engagement in risky behaviours. Even occasional use of alcohol, marijuana, and other “recreational” drugs may increase risk of HIV infection.

Perinatal transmission from mothers who are HIV-positive

- Provide ARV treatment when indicated and available.
- Provide ARV prophylaxis during labour and delivery.
- Provide ARV prophylaxis to the infant.
- Offer elective caesarean section when safe and feasible.
- Follow safer delivery practices.
- Provide linkages to treatment, care, and social support for mothers and families with HIV infection.
- Provide infant-feeding counselling.

(Module 2, Overview of HIV Prevention in Mothers, Infants, and Young Children contains detailed information on a comprehensive PMTCT approach.)

Module 1: Key Points

- *HIV is a global pandemic.*
- *The number of people living with HIV worldwide continues to increase.*
- *The HIV epidemic is especially severe in many resource-constrained countries.*
- *HIV is a virus that destroys the immune system, leading to opportunistic infections.*
- *The progression from initial infection with HIV to end-stage AIDS varies from person to person and can take more than 15 years.*
- *The most common route of HIV transmission worldwide is heterosexual transmission.*
- *Women of childbearing age are at particular risk for acquiring HIV. The main behaviour that places them at risk is unprotected sex with an infected male partner.*
- *Pregnant women who are HIV-infected are at risk of passing HIV infection to their newborn.*
- *Risk of HIV transmission from mother-to-child can be greatly reduced through effective PMTCT programmes.*

Exercise 1.2 HIV 1, 2, 3 Knowledge interactive game

Purpose	To provide an interesting, challenging way to review basic HIV/AIDS information and to present advanced HIV/AIDS information.
Duration	60 minutes
Instructions	<ul style="list-style-type: none"> ▪ Review the HIV/AIDS-related questions in Exercise 1.2 (located after the appendices). ▪ Select one member of your team to record the group's answers on the question sheet provided. ▪ You will be asked to choose a question from one of the categories above and answer it in 10 seconds. If the answer is correct, your team will be credited for a proper response. If the answer is not correct, the question will be passed on to the next team. ▪ You cannot choose a question that has already been answered. ▪ The first team to correctly answer 6 questions from 6 different categories wins. ▪ The winning team will receive a prize.

APPENDIX 1-A WHO staging systems for HIV infection and disease in adults, adolescents, and children

WHO staging system for HIV infection and disease in adults

Clinical stage I	
<ul style="list-style-type: none"> ▪ Asymptomatic ▪ Generalised lymphadenopathy <p>Performance Scale 1: asymptomatic, normal activity</p>	
Clinical Stage II	
<ul style="list-style-type: none"> ▪ Weight loss of less than 10% of body weight ▪ Minor mucocutaneous manifestations (seborrhoeic dermatitis, prurigo, fungal nail infections, recurrent oral ulcerations, angular cheilitis) ▪ Herpes zoster within the last 5 years ▪ Recurrent upper respiratory tract infections (e.g., bacterial sinusitis) <p>And/or Performance Scale 2: symptomatic, normal activity</p>	
Clinical Stage III	
<ul style="list-style-type: none"> ▪ Weight loss of more than 10% of body weight ▪ Unexplained chronic diarrhoea lasting for more than 1 month ▪ Unexplained prolonged fever (intermittent or constant) lasting for more than 1 month ▪ Oral candidiasis (thrush) ▪ Oral hairy leukoplakia ▪ Pulmonary tuberculosis ▪ Severe bacterial infections (e.g., pneumonia, pyomyositis) <p>And/or Performance Scale 3: bedridden less than 50% of the day during the past month</p>	
Clinical Stage IV	
<ul style="list-style-type: none"> ▪ HIV wasting syndrome^a ▪ <i>Pneumocystis carinii</i> pneumonia ▪ Toxoplasmosis of the brain ▪ Cryptosporidiosis with diarrhoea lasting more than 1 month ▪ Cryptococcosis, extrapulmonary ▪ Cytomegalovirus (CMV) disease of an organ other than liver, spleen or lymph node (e.g., retinitis) ▪ Herpes simplex virus (HSV) infection, mucocutaneous (lasting for more than 1 month), or visceral 	<ul style="list-style-type: none"> ▪ Progressive multifocal leukoencephalopathy (PML) ▪ Any disseminated endemic mycosis ▪ Candidiasis of the oesophagus, trachea, bronchi ▪ Atypical mycobacteriosis, disseminated or pulmonary ▪ Non-typhoid salmonella septicaemia ▪ Extrapulmonary tuberculosis ▪ Lymphoma ▪ Kaposi's sarcoma (KS) ▪ HIV encephalopathy^b
<p>And/or Performance Scale 4: bedridden more than 50% of the day during the last month</p>	

^a HIV wasting syndrome: weight loss of more than 10% body weight, plus either unexplained chronic diarrhoea (lasting longer than 1 month) or chronic weakness and unexplained prolonged fever (lasting longer than 1 month)

^b HIV encephalopathy: clinical findings of disabling cognitive and/or motor dysfunction interfering with activities of daily living progressing over weeks to months, in the absence of a concurrent illness or condition other than HIV infection that could explain the findings

Source: World Health Organization (WHO). 2004. *Scaling up antiretroviral therapy in resource-limited settings: Treatment guidelines for a public health approach, 2003 Revision*, Appendix D: WHO staging system for HIV infection and disease in adults and adolescents, p. 42

APPENDIX 1-A WHO staging systems for HIV infection and disease in adults, adolescents, and children

(continued)

WHO staging system for HIV infection and disease in children

Clinical Stage I
<ul style="list-style-type: none">▪ Asymptomatic▪ Generalised lymphadenopathy
Clinical Stage II
<ul style="list-style-type: none">▪ Chronic diarrhoea lasting more than 30 days in the absence of known etiology▪ Severe persistent or recurrent candidiasis outside the neonatal period▪ Weight loss or failure to thrive in the absence of known etiology▪ Persistent fever lasting longer than 30 days in the absence of known etiology▪ Recurrent severe bacterial infections other than septicaemia or meningitis (eg, osteomyelitis, bacterial (non-TB) pneumonia, abscesses)
Clinical Stage III
<ul style="list-style-type: none">▪ AIDS-defining opportunistic infections▪ Severe failure to thrive (wasting) in the absence of known etiology^a▪ Progressive encephalopathy▪ Malignancy▪ Recurrent septicaemia or meningitis

^a Persistent weight loss of more than 10% of baseline or less than 5th percentile on weight for height chart on 2 consecutive measurements more than 1 month apart in the absence of another etiology or concurrent illness.

Source: World Health Organization (WHO). 2004. *Scaling up antiretroviral therapy in resource-limited settings: Treatment guidelines for a public health approach, 2003 Revision*, Appendix E: WHO staging system for HIV infection and disease in children, p. 44

APPENDIX 1-B CDC AIDS surveillance case definitions for adolescents, adults, and children

I. CDC AIDS surveillance case definition for adolescents and adults

Clinical Categories			
CD4 Cell Categories	A	B	C*
mm³(%)	Asymptomatic, PGL or Acute HIV Infection	Symptomatic** (not A or C)	AIDS Indicator Condition (1987)
1 >500/mm ³ (≥29%)	A1	B1	C1
2 200 – 499/mm ³ (14–28%)	A2	B2	C2
3 <200/mm ³ (<14%)	A3	B3	C3
<p>* All patients in categories A3, B3 and C1-3 are defined as having AIDS, based on the presence of an AIDS-indicator condition (see the following table) and/or a CD4 cell count of less than 200/mm³.</p> <p>** Symptomatic conditions not included in Category C that are: a) attributed to HIV infection or indicative of a defect in cell-mediated immunity or b) considered to have a clinical course or management that is complicated by HIV infection. Examples of B conditions include but are not limited to bacillary angiomatosis; thrush; vulvovaginal candidiasis that is persistent, frequent or poorly responsive to therapy; cervical dysplasia (moderate or severe); cervical carcinoma in situ; constitutional symptoms such as fever (38.5° C) or diarrhoea lasting longer than 1 month; oral hairy leukoplakia; herpes zoster involving two episodes or more than 1 dermatome; idiopathic thrombocytopenic purpura (ITP); listeriosis; pelvic inflammatory disease (PID) (especially if complicated by a tubovarian abscess); and peripheral neuropathy.</p> <p>Source: U.S. Centers for Disease Control and Prevention. 1992. 1993 Revised classification system for HIV infection and expanded surveillance case definition for AIDS among adolescents and adults. MMWR 41(RR-17) http://www.cdc.gov/mmwr/preview/mmwrhtml/00018179.htm</p>			

II. CDC AIDS case surveillance definition for infants and children

CDC immunologic categories based on age-specific CD4 counts and percent of total lymphocytes

Immunologic category	<12 mos	1–5 yrs	6–12 yrs
	mm ³ (%)	mm ³ (%)	mm ³ (%)
Category 1: No evidence of suppression	≥ 1,500 (> 25)	≥1,000 (> 25)	≥ 500 (> 25)
Category 2: Evidence of moderate suppression	750–1,499 (15–24)	500–999 (15–24)	200–499 (15–24)
Category 3: Severe suppression	< 750 (<15)	< 500 (<15)	< 200 (<15)

APPENDIX 1-B CDC AIDS surveillance case definitions for adolescents, adults, and children *(continued)*

Clinical categories for children with HIV

CATEGORY N: NOT SYMPTOMATIC

Children who have no signs or symptoms considered to be the result of HIV infection or who have only one of the conditions listed in Category A.

CATEGORY A: MILDLY SYMPTOMATIC

Children with two or more of the conditions listed below but none of the conditions listed in Categories B and C.

- Lymphadenopathy (≥ 0.5 cm at more than two sites; bilateral = one site)
- Hepatomegaly
- Splenomegaly
- Dermatitis
- Parotitis
- Recurrent or persistent upper respiratory infection, sinusitis, or otitis media

CATEGORY B: MODERATELY SYMPTOMATIC

Children who have symptomatic conditions other than those listed for Category A or C that are attributed to HIV infection.

Examples of conditions in clinical Category B include but are not limited to:

- Anemia (<8 gm/dL), neutropenia ($<1,000/\text{mm}^3$), or thrombocytopenia ($<100,000/\text{mm}^3$) persisting ≥ 30 days
- Bacterial meningitis, pneumonia, or sepsis (single episode)
- Candidiasis, oropharyngeal (thrush), persisting (>2 months) in children >6 months of age
- Cardiomyopathy
- Cytomegalovirus infection, with onset before 1 month of age
- Diarrhea, recurrent or chronic
- Hepatitis
- Herpes simplex virus (HSV) stomatitis, recurrent (more than two episodes within 1 year)
- HSV bronchitis, pneumonitis, or esophagitis with onset before 1 month of age
- Herpes zoster (shingles) involving at least two distinct episodes or more than one dermatome
- Leiomyosarcoma
- Lymphoid interstitial pneumonia (LIP) or pulmonary lymphoid hyperplasia complex
- Nephropathy
- Nocardiosis
- Persistent fever (lasting >1 month)
- Toxoplasmosis, onset before 1 month of age
- Varicella, disseminated (complicated chickenpox)

APPENDIX 1-B CDC AIDS surveillance case definitions for adolescents, adults, and children *(continued)*

CATEGORY C: SEVERELY SYMPTOMATIC

- Serious bacterial infections, multiple or recurrent (i.e., any combination of at least two culture-confirmed infections within a 2-year period), of the following types: septicemia, pneumonia, meningitis, bone or joint infection, or abscess of an internal organ or body cavity (excluding otitis media, superficial skin or mucosal abscesses, and indwelling catheter-related infections)
- Candidiasis, esophageal or pulmonary (bronchi, trachea, lungs)
- Coccidioidomycosis, disseminated (at site other than or in addition to lungs or cervical or hilar lymph nodes)
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis or isosporiasis with diarrhea persisting >1 month
- Cytomegalovirus disease with onset of symptoms at age >1 month (at a site other than liver, spleen, or lymph nodes)
- Encephalopathy (at least one of the following progressive findings present for at least 2 months in the absence of a concurrent illness other than HIV infection that could explain the findings): a) failure to attain or loss of developmental milestones or loss of intellectual ability, verified by standard developmental scale or neuropsychological tests; b) impaired brain growth or acquired microcephaly demonstrated by head circumference measurements or brain atrophy demonstrated by computerized tomography or magnetic resonance imaging (serial imaging is required for children <2 years of age); c) acquired symmetric motor deficit manifested by two or more of the following: paresis, pathologic reflexes, ataxia, or gait disturbance
- Herpes simplex virus infection causing a mucocutaneous ulcer that persists for >1 month; or bronchitis, pneumonitis, or esophagitis for any duration affecting a child >1 month of age
- Histoplasmosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)
- Kaposi's sarcoma
- Lymphoma, primary, in brain
- Lymphoma, small, noncleaved cell (Burkett's), or immunoblastic or large cell lymphoma of B-cell or unknown immunologic phenotype
- Mycobacterium tuberculosis, disseminated or extrapulmonary
- Mycobacterium, other species or unidentified species, disseminated (at a site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
- Mycobacterium avium complex or Mycobacterium kansasii, disseminated (at site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
- *Pneumocystis carinii* pneumonia
- Progressive multifocal leukoencephalopathy
- Salmonella (nontyphoid) septicemia, recurrent
- Toxoplasmosis of the brain with onset at >1 month of age
- Wasting syndrome in the absence of a concurrent illness other than HIV infection that could explain the following findings: a) persistent weight loss >10% of baseline OR b) downward crossing of at least two of the following percentile lines on the weight-for-age chart (e.g., 95th, 75th, 50th, 25th, 5th) in a child \geq 1 year of age OR c) <5th percentile on weight-for-height chart on two consecutive measurements, \geq 30 days apart PLUS a) chronic diarrhea (i.e., at least two loose stools per day for >30 days) OR b) documented fever (for \geq 30 days, intermittent or constant)

Adapted from: US Centers for Disease Control and Prevention. 1994. *Revised classification system for human immunodeficiency virus infection in children less than 13 years of age*. MMWR (RR-22).

MODULE 1 Participant exercise

Exercise 1.2 HIV 1, 2, 3 Knowledge interactive game

Category 1: HIV/AIDS Transmission

Question	Answer
List at least three ways in which HIV infection is transmitted.	
Name the two types of HIV.	
What body fluids contain high concentrations of HIV?	
What is the major route of HIV transmission worldwide?	
What specific part of the human body does HIV attack and what does this cause?	

Category 2: Prevention

Question	Answer
What are the ABCs of prevention (on an individual level)?	
Universal precautions are a set of practices designed to protect health workers and patients from infection. Name at least four interventions that are universal precautions.	

Category 3: Infant Feeding

Question	Answer
Exclusive breastfeeding is defined by WHO as giving an infant only breastmilk (including expressed breastmilk), with the exception of _____ (fill in the blank).	
List two reasons why cup feeding is preferred over bottle feeding when the mother chooses replacement feeds (rather than breastfeeding).	
At what age does WHO recommend starting a child on complementary foods (food in addition to milk)?	
Name two reasons why a woman may choose to breastfeed rather than give a breastmilk substitute to her infant.	

MODULE 1 Participant exercise *(continued)*

Category 4: Testing

Question	Answer
What is specifically measured when an HIV screening test is done?	
With regard to HIV testing, what does the "window period" mean?	
Name two advantages of the HIV rapid test (compared with the traditional ELISA test).	

Category 5: Mother-to-Child Transmission

Question	Answer
If 100 women who were HIV-infected gave birth to 100 infants, how many of the infants will typically become infected during pregnancy?	
If 100 women who were HIV-infected gave birth to 100 infants, how many of these infants will typically become infected during labour and delivery?	
If 100 women who were HIV-positive gave birth to 100 infants, how many of these infants would typically become infected during breastfeeding?	
Name two maternal factors that may increase the risk of HIV transmission during pregnancy.	
Name two factors that may increase the risk of HIV transmission during breastfeeding.	

Category 6: Linkages to Treatment, Care and Social Support

Question	Answer
Name at least two activities that should be included in the 6-week postnatal visit for the woman who is HIV- infected.	
Name one test that will tell you if an infant is infected with HIV.	
Name one of the more common symptoms associated with HIV infection in the infant or child.	

MODULE 1 Participant exercise *(continued)*

Category 7: Prevention in Healthcare Settings

Question	Answer
Name one disinfectant that is capable of inactivating HIV.	
If a healthcare provider accidentally got stuck with a needle that had previously been used on a patient with HIV (and not cleaned), what is the chance that he or she would become HIV-infected? A. 1% B. 5% C. 3% D. 20%	
List two things that you can do when attending to a client in obstetrics to reduce risk of occupational exposure to HIV.	

Category 8: Wild Card

Question	Answer
AIDS is the _____ (choose number) cause of death in Africa? A. Number 1 B. Number 2 C. Number 3 D. Number 4	
The HIV/AIDS epidemic is growing fastest in what region of the world?	
In sub-Saharan Africa, women represent what percentage of all people living with HIV/AIDS? A. 78% B. 72% C. 58% D. 48%	
What is the difference between stigma and discrimination?	
What is the difference between monitoring and evaluation?	



Module 2 Overview of HIV Prevention in Mothers, Infants, and Young Children

SESSION 1	Comprehensive Approach to Reducing HIV Infection in Infants and Young Children
SESSION 2	Mother-to-Child Transmission of HIV Infection
SESSION 3	Comprehensive Approach to Prevention of HIV Infection in Infants and Young Children
SESSION 4	Role of Maternal and Child Health Services in the Prevention of HIV Infection in Infants, and Young Children

After completing the module, the participant will be able to:

- Describe the comprehensive approach to prevention of HIV infection in infants and young children.
- Discuss mother-to-child transmission (MTCT) of HIV infection.
- Describe the four elements of a comprehensive approach to prevention of HIV infection in infants and young children.
- Describe the role of maternal and child health (MCH) services in the prevention of HIV infection in infants and young children.

Relevant Policies for Inclusion in National Curriculum

Session 3

- Element 3: Prevention of HIV transmission from women infected with HIV to their infants
 - Local/national/regional summary of epidemiology of MTCT
 - Brief introduction to local/national PMTCT policy and programme including PMTCT targets
- Element 4: Provision of treatment, care, and support to women infected with HIV, their infants, and their families
 - Local/national PMTCT-Plus targets
- Appendices: copies of patient brochures on personal risk reduction strategies (if available)

SESSION 1 Comprehensive Approach to Reducing HIV Infection in Infants and Young Children

Exercise 2.1 Interactive discussion: local epidemiology	
Purpose	To learn about HIV- and PMTCT-related statistics for your region and share your understanding of the meaning of these data.
Duration	10 minutes
Instructions	<ul style="list-style-type: none">▪ Review the HIV-related statistics and contribute your perspective as a healthcare worker to the group discussion about factors that are fuelling the HIV epidemic.

Reducing HIV infection in infants and young children requires a comprehensive approach that includes the four elements listed below:

- Element 1: Primary prevention of HIV infection
- Element 2: Prevention of unintended pregnancies among women infected with HIV
- Element 3: Prevention of HIV transmission from women infected with HIV to their infants
- Element 4: Provision of treatment, care, and support to women infected with HIV, their infants, and their families

Definition

PMTCT (prevention of mother-to-child transmission) is a commonly used term for programmes and interventions designed to reduce the risk of mother-to-child transmission (MTCT) of HIV.

Access to comprehensive MCH services (ie, antenatal, postnatal and child health services) is central to efforts to reduce HIV infection in infants and young children.

The following sessions provide more details on the specific elements of the comprehensive approach.

SESSION 2 Mother-to-Child Transmission of HIV Infection

Exercise 2.2 Interactive discussion: local terminology

Purpose	To share knowledge about the local terms used in HIV/AIDS prevention, care, and treatment programmes.
Duration	10 minutes
Instructions	<ul style="list-style-type: none">▪ One person in the group will be asked to discuss the risks of HIV transmission from a mother to her baby during pregnancy, during labour and delivery, and when breastfeeding as she would explain these concepts to a patient.▪ Discuss the words/concepts used locally that are the useful and clear when working with pregnant women. Concepts where consensus might be important include: window period, condom, HIV, virus, ARVs, replacement feeding, stigma, disclosure.▪ Also share with the group your knowledge of local terms used to describe HIV disease or people with HIV.

The more technical term for MTCT is vertical transmission or perinatal transmission. The majority of children infected with HIV acquire the virus through MTCT.

Use of the term “MTCT” attaches no blame or stigma to the woman who gives birth to a child infected with HIV. It does not suggest deliberate transmission by the mother, who is often unaware of her own infection status and unfamiliar with the transmission risk to infants. Use of the term should not obscure the fact that HIV is often introduced into a family through the woman's sexual partner.



Refer to the *Pocket Guide*

MTCT can occur during:

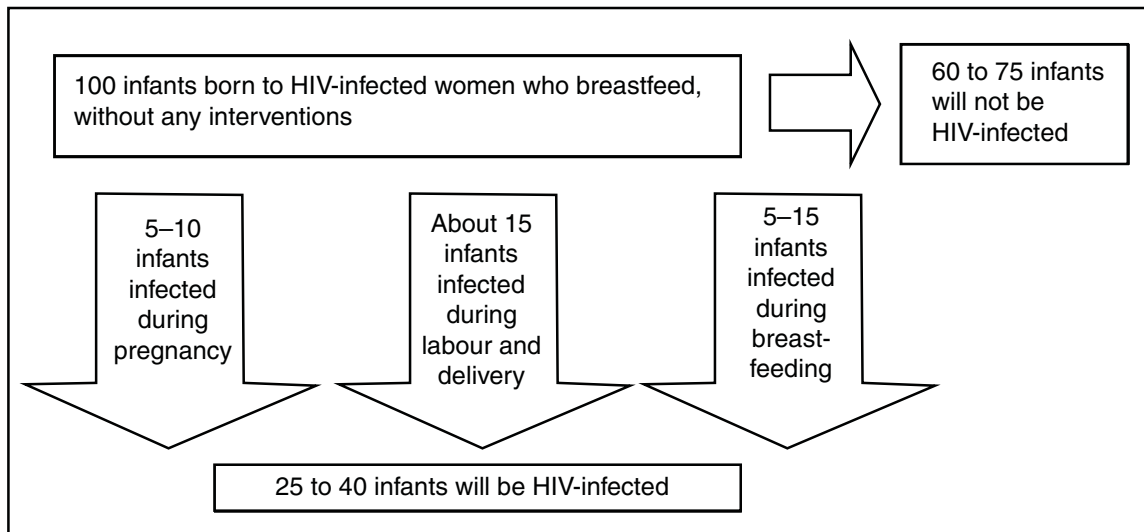
- Pregnancy
- Labour and delivery
- Breastfeeding

Risk of transmission without interventions

Most transmission occurs during labour and delivery, but depending on breastfeeding practices and duration there is also substantial risk of HIV transmission during breastfeeding.

Figure 2.1 shows that without intervention (ARV prophylaxis or treatment) up to 40% of infants born to mothers infected with HIV who breastfeed can become HIV-infected.

Figure 2.1 HIV Outcomes of Infants Born to Women infected with HIV



Note: Figure 2.1 gives an overall picture of possible outcomes, and there will be variability among different populations.

Risk factors for transmission

A great deal is known about specific factors that may put a woman at higher risk of transmitting HIV to her infant:

- Viral, maternal, obstetrical, foetal, and infant-related factors all influence the risk of MTCT.
- *The most important risk factor for MTCT is the amount of HIV virus in the mother's blood, known as the viral load. The risk of transmission to the infant is greatest when the viral load is high—which is often the case with recent HIV infection or advanced HIV/AIDS.*

Some of the risk factors for transmission are the same and some are different during pregnancy, labour and delivery, and breastfeeding. These similarities and differences are summarised in Table 2.1.

Table 2.1 Maternal factors that may increase the risk of HIV transmission

Pregnancy	Labour and Delivery	Breastfeeding
<ul style="list-style-type: none"> ▪ High maternal viral load (new or advanced HIV/AIDS) ▪ Viral, bacterial, or parasitic placental infection (eg, malaria) ▪ Sexually transmitted infections (STIs) ▪ Maternal malnutrition (indirect cause) 	<ul style="list-style-type: none"> ▪ High maternal viral load (new or advanced HIV/AIDS) ▪ Rupture of membranes more than 4 hours before labour begins ▪ Invasive delivery procedures that increase contact with mother's infected blood or body fluids (eg, episiotomy, foetal scalp monitoring) ▪ First infant in multiple birth ▪ Chorioamnionitis (from untreated STI or other infection) 	<ul style="list-style-type: none"> ▪ High maternal viral load (new or advanced HIV/AIDS) ▪ Duration of breastfeeding ▪ Early mixed feeding (eg, food or fluids in addition to breastmilk) ▪ Breast abscesses, nipple fissures, mastitis ▪ Poor maternal nutritional status ▪ Oral disease in the baby (eg, thrush or sores)

HIV and pregnancy

Pregnancy itself does not seem to have an effect on progression of HIV/AIDS. Women with HIV/AIDS, however, are more likely to experience pregnancy-related complications such as premature delivery.

SESSION 3 Comprehensive Approach to Prevention of HIV Infection in Infants and Young Children

Although PMTCT programmes often focus on ARV prophylaxis, a comprehensive approach to the prevention of HIV infection in infants and young children consists of four elements:

Element 1 Prevention of primary HIV infection

Decreasing the number of mothers infected with HIV is the most effective way of reducing MTCT. HIV infection will not be passed on to children if parents-to-be are not infected with HIV. Primary prevention strategies include the following components:

Safer and responsible sexual behaviour and practices.

Safe and responsible sexual behaviour and practices include, as appropriate, delaying the onset of sexual activity, practising abstinence, reducing the number of sexual partners and using condoms.

This approach has come to be known as the “ABC” approach.

A = Abstinence—Refrain from having sexual intercourse.

B = Be faithful—Be faithful to one partner not infected with HIV.

C = Condom use—Use condoms correctly and consistently.

Recent reports of increasing new HIV infections transmitted from husbands to wives indicate a continued need to educate people about safer sex practices and other behaviour changes. For example, being faithful to one partner not infected with HIV is a partner reduction behaviour that has proven significant in slowing the spread of HIV infection.

Behaviour change communication (BCC) efforts aim to change the behaviours that place individuals at risk for becoming HIV-infected or spreading HIV infection. BCC recognises that behaviour change is not simply a matter of increased knowledge. Many factors, including family, church and community, influence change. BCC attempts to create a household, community, and health facility environment whereby individuals can modify their behaviour to decrease risk.

Factors contributing to women’s vulnerability to HIV include poverty, lack of information, abuse, violence, and coercion by men who have several partners.

Especially among young women, the successful implementation of the “ABCs” outlined above may require support from organised programs. Healthcare workers can help women address these challenges through education and community linkages.

Provide access to condoms.

Condoms can help prevent HIV transmission when used correctly and consistently, especially in high-risk settings. Programmes that promote condom use for HIV prevention should also focus on condom use for PMTCT.

Provide early diagnosis and treatment of STIs.

The early diagnosis and treatment of STIs can reduce the incidence of HIV in the general population by about 40%. STI treatment services present an opportunity to provide information on HIV infection, MTCT, and referral for testing and counselling.

Make HIV testing and counselling widely available.

HIV testing and counselling services need to be made available to all women of childbearing age because PMTCT interventions depend on a woman knowing her HIV status.

Provide suitable counselling for women who are HIV-negative.

Counselling provides an opportunity for a woman who is HIV-negative to learn how to protect herself and her infant from HIV infection. It can also serve as powerful motivation to adopt safer sex practices, encourage partner testing, and discuss family planning.

Exercise 2.3 Interactive group game: STI handshake	
Purpose	To explore the concept of HIV and STI transmission when individuals are sexually active with multiple partners, either with or without the use of condoms
Duration	30 minutes
Instructions	<ul style="list-style-type: none">▪ Take a piece of paper from the basket and do not look at it.▪ Approach three other people in the group and shake hands with them. It is important to remember with whom you shook hands.▪ After you have shaken hands with 3 people, return to your seat and open up the sheet of paper.▪ The facilitator will give you specific directions about standing up or sitting down based on what is written on your piece of paper and the people with whom you shook hands.▪ Repeat this process again as requested by the facilitator.

Element 2 Prevention of unintended pregnancies among women infected with HIV

With appropriate support, women who know they are HIV-infected can avoid unintended pregnancies and therefore reduce the number of infants at risk for MTCT.

The rapid spread of HIV has made access to effective contraception and family planning services even more important throughout the world. Most women in resource-constrained settings are unaware of their HIV status. Access to family planning counselling and referral for women known or suspected to be HIV-infected and their partners is critical in preventing unintended pregnancies. Such counselling also provides an opportunity to discuss related risks, both present and future, and is a vital component to reducing maternal and child morbidity and mortality.

- *Effective family planning can help prevent unintended pregnancies and help women who are HIV-infected protect their own health while taking care of their families.*
- Providing safe and effective contraception and high-quality reproductive health counselling contribute to informed decision-making about pregnancy choices.

Element 3 Prevention of HIV transmission from women infected with HIV to their infants

PMTCT usually refers to specific programs to identify pregnant women infected with HIV and to provide them with effective interventions to reduce MTCT.

Element 3 in this module provides an overview of PMTCT. Module 3 discusses PMTCT interventions in detail.

Specific interventions to reduce HIV transmission from an infected woman to her child include HIV testing and counselling, antiretroviral prophylaxis and treatment, safer delivery practices, and safer infant-feeding practices. When an ARV drug is given to mother and infant to prevent MTCT, it is referred to as ARV *prophylaxis*.

Note: This curriculum focuses on women infected with HIV-1; *Appendix 2-A* provides information about PMTCT services for women infected with HIV-2.



Refer to *Pocket Guide*

PMTCT core interventions

- HIV testing and counselling
- Antiretroviral treatment and prophylaxis
- Safer delivery practices
- Safer infant-feeding practices

How these interventions work

- Identify women infected with HIV.
- Reduce maternal viral load.
- Reduce infant exposure to the virus during labour and delivery.
- Reduce infant exposure to the virus through safer feeding options.

Ways to reduce risk of MTCT

- HIV testing and counselling
- Antiretrovirals
- Elective cesarean section, where safe and feasible
- Safer delivery practices
- Infant-feeding counselling for safer feeding practice
- Early termination of pregnancy, where safe and legal

In industrialised countries where women infected with HIV receive triple drug ARV treatment and do not breastfeed—and where elective cesarean sections are safe, feasible, and commonly performed—the rate of MTCT has been reduced to about 2%.

ARV prophylaxis can reduce MTCT by 40–70%. The impact is greater (closer to 70%) when women do not breastfeed, because current ARV prophylaxis regimens only prevent HIV transmission during the early breastfeeding period. Studies are ongoing to determine whether ARV prophylaxis for mother or child during breastfeeding can help reduce the risk of HIV transmission during that period.



Refer to *Pocket Guide*

Partner involvement in PMTCT

PMTCT efforts should be as comprehensive as possible and acknowledge that both mothers and fathers have an impact on transmission of HIV to the infant:

- Both partners need to be aware of the importance of safer sex throughout pregnancy and breastfeeding.
- Both partners should be tested and counselled for HIV.
- Both partners should be made aware of and provided with PMTCT interventions.

ARV prophylaxis for the mother

ARV prophylaxis given to a pregnant woman who is HIV-infected does not confer long-term benefits to the woman herself. Pregnant women with advanced HIV infection require combination ARV treatment to reduce the risk of AIDS-related illness. As treatment becomes more available, there should be integration between prophylaxis and treatment services.

Element 4 Provision of treatment, care, and support to women infected with HIV, their infants and their families

Programmes for the prevention of HIV in infants and young children will identify large numbers of women infected with HIV who will need special attention. Medical care and social support are important for women living with HIV/AIDS to address concerns about both their own health and the health and future of their children and families.

If a woman is assured that she will receive adequate treatment and care for herself, her children, and her partner, she is more likely to accept HIV testing and counselling and, if HIV-positive, interventions to reduce MTCT.

It is important to develop and reinforce linkages with programmes for treatment, care, and support services to promote long-term care of women who are HIV-infected and their families.



Refer to *Pocket Guide*

HIV-related treatment, care, and support services for women

Services for women include the following:

- Prevention and treatment of opportunistic infections
- ARV treatment
- Treatment of symptoms
- Palliative care
- Nutritional support
- Reproductive health care, including family planning and counselling
- Psychosocial and community support

Care and support of the infant and child who are HIV-exposed

Children whose mothers are infected with HIV are at higher risk than other children for illness and malnutrition for multiple reasons:

- They may be infected with HIV and become ill—even when adequate health care and nutrition are provided.
- Those who receive replacement feeding lack the protective benefits of breastfeeding against gastroenteritis, respiratory infections, and other complications.
- If their mother is ill, she may have difficulty caring for them adequately.
- Their families may be economically vulnerable due to AIDS-related illnesses and deaths among adult relatives.

Nutritional support for the infant or child who is HIV-exposed

- Support the mother's infant-feeding choice.
- Provide education on hydration and early reporting of diarrhoea.
- Monitor for growth and development.
- Monitor for signs of infection that can alter feeding patterns.

Infants and children who are HIV-exposed require regular follow-up care—especially during the first 2 years of life—including immunisations, HIV testing, and ongoing monitoring of feeding, growth, and development (See *Module 7: Linkages to Treatment, Care and Support for Mothers and Families with HIV Infection*).

SESSION 4 Role of Maternal and Child Health Services in the Prevention of HIV Infection in Infants and Young Children

Maternal and child health services

HIV infection is one of the most important health problems for pregnant mothers and newborns in many developing countries. PMTCT programmes need to be integrated as an essential part of MCH care.

MCH care encompasses a broad range of educational and clinical services that help mothers, their children, and their families lead healthy lives. *Although all four elements of a comprehensive PMTCT programme are important, antenatal care is the most common entry point for women into those programmes.* MCH programmes facilitate PMTCT by providing:

- Essential antenatal care
- Family planning services
- ARV treatment and prophylaxis
- Safer delivery practices
- Counselling and support for the woman's chosen infant-feeding method

All mothers and infants will benefit from integrating PMTCT into existing MCH care services. Many elements of PMTCT programmes parallel and complement initiatives that are in development or are already offered by providers of quality antenatal care (eg, Safer Motherhood, Baby Friendly Hospitals, Baby Feeding and Saving Newborn Lives).

Comprehensive MCH services

- Recognise that the best approach to preventing HIV infection in infants and children begins with prevention of primary infection in parents-to-be.
- Provide information to prevent unintended pregnancies in both women who are HIV-positive and high-risk women with unknown status.
- Provide education in early recognition and treatment of STIs.
- Provide education about reducing the risk of MTCT.
- Link and refer patients to health care and community services that include the following:
 - HIV testing and counselling
 - Nutritional care
 - ARV treatment
 - Psychosocial and/or spiritual support (such as support groups for women with HIV)
 - Treatment of symptoms
 - Palliative care
 - Economic assistance
- Educate patients about how to recognise symptoms of opportunistic infections and measures they can take to prevent such infections.
- Educate patients about how to recognise early signs and symptoms of HIV infection in the infant or child.

Integration of PMTCT into postnatal MCH services

Effective integration of PMTCT into postnatal MCH services is likely to strengthen maternal care, infant care, and family care.

- MCH postpartum care services help protect the mother's health by providing medical and psychosocial supportive care.
- MCH postnatal care services offer assessment of infant growth and development, nutritional support, immunisations, and early HIV testing. If the infant is HIV-infected, additional support services may include ARV treatment.
- MCH services provide social support, HIV testing, and counselling for family members, referrals to community-based support programmes, and assistance with contending with stigma.

The PMTCT programme

A comprehensive PMTCT programme provides the continuum of care for mother and child.

The continuum begins with educating adolescent women about primary prevention of infection and continues through treatment, care, and support to women who are HIV-positive and their families.

PMTCT programmes ensure women receive education and services to reduce risk of MTCT throughout pregnancy, labour and delivery, and infant feeding. They also provide support for both mother and child, especially during the crucial years of childhood growth and development. This comprehensive approach ultimately provides linkages to existing community services to address the complex needs and issues involved in HIV prevention, treatment, and management.

Module 2: Key Points

- A comprehensive approach is needed to prevent HIV infection in infants and young children.
- The 4 elements of the comprehensive approach to PMTCT are:
 - Primary prevention of HIV infection
 - Prevention of unintended pregnancies in women infected with HIV
 - Prevention of HIV transmission from women infected with HIV to their infants
 - Provision of treatment, care and support to women infected with HIV, their infants and their families
- Without intervention the risk of MTCT is 25-40%.
- Combination interventions can reduce the MTCT rate by up to 40% in breastfeeding populations.
- Because ARV prophylaxis alone does not treat the mother's infection, ongoing treatment, care and support are needed.
- MCH services can act as an entry point to the range of services that provide treatment, care and support to the woman who is HIV-positive and affected family members.
- Linkages to community services can enhance treatment, care, and support.

APPENDIX 2-A MTCT services for the woman who is HIV-2 infected

The woman infected with HIV-2 should have access to the entire range of antenatal, labour and delivery, and postnatal services as well as linkages to other services designed for women infected with HIV-1. Offering the mother infected with HIV-2 short-course ARV prophylaxis to prevent MTCT should follow national and local policy, if such a policy statement exists.

The following information, adapted from the CDC (October 1998) provides pertinent background on HIV-2 for consideration:

- HIV-2 infections are predominantly found in West Africa.
- HIV-2 infections:
 - Have the same modes of transmission as HIV-1
 - Also progress to AIDS
 - Are associated with similar opportunistic infections
 - Appear to be less transmissible from mother to child than HIV-1
 - Develop more slowly and appear less virulent than HIV-1
- Testing for both HIV-1 and HIV-2 should be considered in the following situations:
 - In settings where HIV-2 is present
 - When illnesses (such as opportunistic infections) appear in someone whose HIV-1 test is negative
 - When an HIV-1 Western blot indicates certain indeterminate test band patterns
- The best approach to clinical treatment of HIV-2 is unclear. The following factors, however, should be considered:
 - Non-nucleoside reverse transcriptase inhibitors (NNRTIs), such as nevirapine, are not as effective against HIV-2. Therefore, zidovudine therapy should be considered for expectant mothers who are infected with HIV-2 and their newborn infants to reduce MTCT risk, especially for women who become infected during pregnancy.
 - Treatment response is more difficult to monitor than in women infected with HIV-1. CD4 counts and physical signs of immune deterioration are currently being used for monitoring.
 - The woman's wishes: the healthcare provider should have a frank discussion with the woman infected with HIV-2 to explain the prevailing policy and practice and to support her in making a decision with which she is comfortable.
 - Continued surveillance to monitor the spread of HIV-2 is necessary.

Infant Feeding

The woman infected with HIV-2 should be advised to follow national and local infant-feeding recommendations for women infected with HIV-1.



Module 3 Specific Interventions to Prevent MTCT

SESSION 1	Antiretroviral Treatment and Prophylaxis for the Prevention of MTCT
SESSION 2	Antenatal Management of Women who are Infected with HIV and Women with Unknown HIV Status
SESSION 3	Management of Labour and Delivery of Women who are HIV-Infected and Women with Unknown HIV Status
SESSION 4	Immediate Postpartum Care of Women who are HIV-Infected and Women with Unknown HIV Status
SESSION 5	Immediate Newborn Care of Infants who are HIV-Exposed and Infants with Unknown HIV Status

After completing the module, the participant will be able to:

- Name specific interventions for preventing mother-to-child transmission (PMTCT).
- List locally available and recommended antiretroviral (ARV) regimens.
- Discuss the antenatal management of women infected with HIV and women whose HIV status is unknown.
- Explain the management of labour and delivery in women infected with HIV and women whose HIV status is unknown.
- Explain postpartum care of women infected with HIV and women whose HIV status is unknown.
- Explain immediate newborn care of infants born to mothers who are HIV-infected and mothers whose HIV status is unknown.

Relevant Policies for Inclusion in National Curriculum

Session 1

- National policy/guidelines on antiretroviral treatment and prophylaxis for the prevention of MTCT (PMTCT)

Session 2

- National guidelines on antenatal care (ANC) for women infected with HIV
- ANC/PMTCT confidentiality policy, policy on recording HIV status in patient's medical record (if not included in national guidelines)

Session 3

- National policy on management of labour and delivery for women infected with HIV and women with unknown HIV status
- National policy on testing and counselling during labour

Session 4

- National guidelines on immediate postpartum care of women infected with HIV and women with unknown HIV status

Session 5

- National guidelines on immediate newborn care of infants who are HIV-exposed and infants with unknown HIV status



The *Pocket Guide* contains a summary of each session in this module.

SESSION 1 Antiretroviral Treatment and Prophylaxis for the Prevention of MTCT

ARV treatment: Long-term use of antiretroviral drugs to *treat* maternal HIV/AIDS and prevent PMTCT

ARV prophylaxis: Short-term use of antiretroviral drugs to *reduce HIV transmission* from mother to infant

ARV treatment

ARV drugs are effective for both treating maternal HIV infection and preventing MTCT. Several antiretroviral regimens reduce the risk of MTCT in both breastfeeding and non-breastfeeding women. The mechanisms by which these regimens prevent or reduce mother-to-child HIV transmission include decreasing viral replication in the mother, leading to a decrease in viral load in the infant and/or prophylaxis during and after exposure to the virus.

Pregnant women who are HIV-infected need ARV treatment for their own health should receive it, according to the treatment guidelines recommended by WHO. ARV treatment during pregnancy, when indicated, will improve the health of the woman and decrease the risk of transmission of HIV to the infant.

ARV treatment is recommended in the following situations: For detailed information, please refer to Appendix 1-A.

If CD4 testing is available, it is recommended that baseline CD4 counts be documented and ARV treatment offered to patients with:

- **WHO Stage IV disease, irrespective of CD4 cell count**
- **WHO Stage III disease** (including but not restricted to HIV wasting, chronic diarrhoea of unknown aetiology, prolonged fever of unknown aetiology, pulmonary TB, recurrent invasive bacterial infections, or recurrent or persistent mucosal candidiasis); **with consideration of using CD4 cell counts of less than 350/mm³ to assist with decision-making^a**
- **WHO Stage I or II disease with CD4 cell counts of 200/mm³ or lower^b**

^a CD4 count advisable to assist with determining need for immediate therapy. For example, pulmonary TB can occur at any CD4 level, and other conditions can be mimicked by non-HIV aetiologies (eg, chronic diarrhoea, prolonged fever).

^b The precise CD4 count above 200/mm³ at which ARV treatment should be initiated has not been established.

If CD4 testing is unavailable, it is recommended that ARV treatment be offered to patients with:

- **WHO Stage IV disease, irrespective of total lymphocyte count**
- **WHO Stage III disease** (including but not restricted to wasting, chronic diarrhoea of unknown aetiology, prolonged fever of unknown aetiology, pulmonary TB, recurrent invasive bacterial infections, or recurrent/ persistent mucosal candidiasis), **irrespective of total lymphocyte count^c**
- **WHO Stage II disease, with a total lymphocyte count of less than or equal to 1,200/mm^{3d}**

^c The recommendation to start ARV treatment in all patients with stage III disease, without reference to total lymphocyte counts reflects a consensus of experts. The discussion took into account the need for a practical recommendation that allows clinical services and TB programmes in severely constrained settings to offer access to ARVs to their patients. As some adults and adolescents with stage III disease will be presenting with CD4 counts above 200/mm³, some of them will receive antiretroviral treatment before the CD4 less than 200/mm³ threshold is reached. However, if CD4 counts cannot be determined, the experts did not consider starting ARVs earlier in these patients to be problematic.

^d A total lymphocyte count of less than or equal to 1200/mm³ can be substituted for the CD4 count when the latter is unavailable and HIV-related symptoms exist. It is not useful in the asymptomatic patient. Thus, in the absence of CD4 cell testing, asymptomatic HIV-infected patients (WHO Stage I) should not be treated because there is currently no other reliable marker in severely resource-constrained settings.

ARV treatment during pregnancy

For women diagnosed with HIV during pregnancy and eligible for treatment with ARVs, treatment should be initiated as soon as possible. The start of treatment may be delayed until after the first trimester. However, when the woman is severely ill, the benefits of treatment outweigh any potential risk to the foetus. Efavirenz (EFV), an antiretroviral drug that is considered potentially teratogenic is not recommended until after the first trimester of pregnancy and should be avoided in women of childbearing age unless effective contraception can be ensured. Module 3 Appendix 3-B provides guidance for the use of antiretroviral drugs in pregnant women and women of childbearing age.

Pregnant women receiving ARV therapy

Pregnant women receiving ARV therapy require ongoing care and monitoring within the local HIV/AIDS programme. When co-infection with TB exists, additional drug therapy and clinical management are required to minimise side effects that may occur when ARV drugs are coadministered with TB therapy.

ARV prophylaxis

Women who do not need treatment (ie, women who are not “eligible” for treatment based on the criteria above), or do not have access to treatment, should be offered prophylaxis to prevent MTCT using one of a number of ARV regimens known to be effective. ARV prophylaxis regimens vary and are selected based on efficacy, safety, drug resistance, feasibility, and acceptability. Please refer to Appendix 3-A for a complete listing of ARV prophylaxis regimens.

The first choice prophylaxis regimen for PMTCT

Zidovudine (ZDV) starting at 28 weeks of gestation, or as soon as possible thereafter and intrapartum every 3 hours until delivery plus single-dose nevirapine (NVP) at the onset of labour for the mother, and single-dose NVP plus one week of ZDV for the infant.

Drug information

Zidovudine (ZDV, AZT)

- Absorbed rapidly and completely after oral administration
- Prenatal and neonatal exposure to ZDV is generally well tolerated
- Mild anaemia may occur but usually resolves when treatment ends
- May be taken with or without food

Nevirapine (NVP)

- Absorbed rapidly and completely after oral administration and crosses the placenta quickly
- Long half-life that benefits the infant
- May be taken with or without food

Lamivudine (3TC)

- Absorbed rapidly and completely after oral administration
- May safely be taken with other medications that treat HIV-related symptoms
- May be taken with or without food

WHO recommendations on longer prophylaxis regimens

Until recently, the emphasis of PMTCT guidelines has been on short-course prophylaxis (eg short-course zidovudine or short-course nevirapine in resource-constrained settings). New recommendations from WHO (2004) emphasise longer, combination prophylaxis regimens, where feasible, while recognising the need for short-course prophylaxis where longer regimens have not been provided or are not feasible.

SESSION 2 Antenatal Management of Women who are HIV-Infected and Women with Unknown HIV Status

Antenatal care

Antenatal care improves the general health and well being of mothers and their families. Given the rapid spread of HIV infection worldwide, all pregnant women may be considered at risk for acquiring HIV infection.

The ANC setting is a main source of health care for women of childbearing age. By integrating PMTCT services into essential ANC services, healthcare programmes can improve care—and pregnancy outcomes—for all their clients.

This session addresses integrating PMTCT services for and antenatal management of women infected with HIV and women of unknown HIV status within the context of ANC programmes.

Antenatal interventions can reduce the risk of MTCT. Good maternal health care helps women with HIV infection stay healthy longer and care for their children better. When mothers die prematurely, their children face higher rates of illness and death.

For the successful implementation of PMTCT programmes, the following elements need to be included as part of ANC:

- Health information and education
- Education about safer sex practices and HIV
- HIV testing and counselling
- Partner HIV testing and counselling
- Interventions to reduce the risk of MTCT
- Infant-feeding counselling and support for Safe Motherhood including malaria and TB treatment
- Diagnosis and treatment of sexually transmitted infections (STIs)

Antenatal care of women infected with HIV

ANC for women infected with HIV includes the basic services recommended for all pregnant women. However, obstetric and medical care should be expanded to address the specific needs of women infected with HIV. (See Table 3.1.)

HIV infection in women of childbearing age presents a great challenge in resource-limited settings. Determining a woman's HIV status is the first step in providing appropriate treatment, care and support services, including access to antiretroviral prophylaxis when indicated. Availability of rapid testing allows women to be tested and receive their HIV test results at the first prenatal visit. When HIV status is known, mothers can be evaluated for ARV eligibility and offered the ARV treatment and prophylaxis indicated, if available.

In some situations, because of the lack of accessible testing services or because a woman refuses to be tested, her HIV status may remain unknown. In such circumstances, the woman should be considered at risk for MTCT, and she should be counselled accordingly during ANC. Women of unknown HIV status should be made aware that testing is available at later ANC visits and be reminded of the benefits of knowing their HIV status.

Preventing opportunistic infections

Preventing opportunistic infections (OIs) can reduce rates of illness and death among pregnant women who are HIV-infected. It also can reduce the risk of adverse pregnancy outcomes, such as preterm labour and delivery, which can increase the risk of MTCT.

Prevention, screening, and treatment for TB, a leading cause of mortality among persons who are HIV-infected, is particularly important. Module 7, Appendix 7-A contains information on tuberculosis.

Healthcare workers should pay special attention to signs and symptoms of possible opportunistic infections and follow protocols for prophylaxis of common problems. In Module 7, Appendix 7-C provides information about *pneumocystis carinii* pneumonia (PCP) prophylaxis.

Assessment and management of HIV-related illnesses

HIV-related illnesses can increase the risk of MTCT. Women should be monitored for signs or symptoms of progressive HIV/AIDS.

Recurrent or chronic infection

Women infected with HIV are susceptible to other infections that can be treated in keeping with local protocols. Examples include the following:

- TB
- Urinary tract infections
- Respiratory infections
- Recurrent vaginal candidiasis
- Malaria

Psychosocial and community support

Pregnancy is a time of unique stress, and healthcare workers may consider assessing the amount of support a woman is receiving from family and friends. Women with HIV usually have additional concerns related to their own health, their child's health, confidentiality, and the possibility that their HIV status might be disclosed to other people. Referrals to AIDS support organisations and clubs should be made.

Table 3.1 Essential Package of Integrated Antenatal Care Services	
Client history:	Obtain routine data including medical, obstetric, and psychosocial history. Determine drug history, known allergies, and use of alternative medicines such as herbal products.
Physical exam and vital signs:	Include visual and hands-on exam and assess for current signs or symptoms of illness including AIDS, tuberculosis (TB), malaria and sexually transmitted infections (STIs).
Abdominal exam:	Include speculum and bimanual exams, where acceptable and feasible.
Lab diagnostics:	Perform routine serology for syphilis including testing for anaemia. Perform HIV testing as per country protocol based on availability and informed consent. When woman is HIV-positive, obtain CD4 count and RNA polymerase chain reaction (PCR) (measures viral load, response to ARV treatment), when available.
Tetanus toxoid immunisations:	Administer when appropriate.
Nutritional assessment and counselling:	Include iron and folate supplementation, monitor for anaemia, adequate caloric and nutrient intake, and recommend realistic diet adjustments based on local resources.
STI screening:	Include risk assessment for STIs. Diagnose and treat early according to protocols. Counsel about STIs, signs and symptoms and increased risk of HIV transmission. Educate to avoid transmission or re-infection.
Opportunistic Infection (OI) Prophylaxis:	Provide prophylaxis based on country protocols.
Screening and care for other infections:	Screen and treat any locally prevalent parasitic, bacterial, or fungal infections, including helminth infections. Treat herpes, candidiasis, PCP, and any other AIDS-related OIs.
Tuberculosis (TB):	Co-infection with tuberculosis is the leading cause of HIV mortality. All women presenting for ANC services with a cough of more than 2 weeks' duration should be screened for TB, regardless of HIV status. Specific treatment protocols are recommended for women infected with HIV, pregnant women, and women already receiving antiretroviral therapy.
Antimalarials:	Malaria is a major cause of high maternal and infant morbidity and mortality and is linked to increased MTCT (via placental infection). Malaria prophylaxis is needed in endemic areas; identify acute cases and treat aggressively and promptly. Use insecticide on bed nets where possible.
ARV prophylaxis during pregnancy:	Provide in accordance with country PMTCT protocol.
ARV treatment during pregnancy:	Refer for treatment when indicated according to country protocols.
Counselling on infant feeding:	All women require infant-feeding counselling and support. When women do not know their HIV status, exclusive breastfeeding should be promoted and supported. Women infected with HIV should consider replacement feeding when it is feasible, acceptable, affordable, accessible, and safe; otherwise, exclusive breastfeeding with early cessation is recommended.
Counselling on pregnancy danger signs:	Provide women with information and instructions on seeking early care for pregnancy complications such as bleeding, fever and pre-eclampsia.
Counselling on HIV/AIDS danger signs:	Provide women with information and instructions on seeking health care for symptoms of HIV disease progression, such as opportunistic infections, chronic persistent diarrhoea, candidiasis, fever or wasting. Refer women to AIDS treatment programmes when indicated and available.
Partners and family:	HIV-related stress and lack of support have been linked to progression of HIV infection. Refer women, partners, and families to community-based support clubs or organisations when possible.
Effective contraception plan:	Counsel about consistent use of condoms during pregnancy, as well as throughout postpartum and breastfeeding periods to avoid new infection, re-infection and further transmission. Include long-term family planning with partner involvement when possible.

Exercise 3.1 Antenatal care: case studies	
Purpose	To review national or local policies on ANC and PMTCT. To review antenatal management practices for women infected with HIV.
Duration	25 minutes
Instructions	<p>Part 1</p> <ul style="list-style-type: none"> ▪ Take a few minutes to become familiar with the national or local policies on ANC and PMTCT. ▪ Review the key points of the policies that the facilitator has written on the flipchart. ▪ Share your perceptions of how these policies are/are not applied in your clinical setting. <p>Part 2</p> <ul style="list-style-type: none"> ▪ Review copies of the two antenatal case studies, Exercise 3.1, and think about your responses to the questions posed. ▪ Share your perceptions on the similarities and differences in these case studies and the situations you encounter in your work setting. ▪ Describe HIV/PMTCT-related experiences that you have found challenging in the ANC setting.

Case study 1

Selma, a 22-year-old single woman, tested HIV-positive at her first antenatal visit at 24 weeks gestation. At that time, she received post-test counselling and was encouraged to bring her partner in for testing. She is now 28 weeks pregnant with her first child.

What are the ANC management steps that should be taken?

Case study 2

You are an antenatal clinic midwife. Louisa, your patient, is 30 weeks pregnant. When you ask her about her delivery plans, she says that she wants to have the baby at home. She informs you that this is her third child and even though she is HIV-infected, this pregnancy (like her previous two) has been a healthy pregnancy. You can see that she is determined to have a home delivery.

What do you tell Louisa?

Consider how you would approach meeting ANC and PMTCT care needs in the context of home delivery. What would your next steps be?

SESSION 3 Management of Labour and Delivery of Women Infected with HIV and Women with Unknown HIV Status

A significant number of infants, who are born to women who are HIV-infected, become infected during labour and delivery. Adhering to standard practices for delivery and to procedures that reduce foetal exposure to maternal blood and secretions can reduce the risk of MTCT.

Interventions that can reduce MTCT include the following:

Administer ARV treatment and prophylaxis during labour in accordance with national protocols.

- Continue ARV treatment/prophylaxis or implement ARV prophylaxis at labour to reduce maternal viral load and provide protection to the infant.

Use good infection prevention practices for all patient care.

- Use universal precautions, which include use of protective gear, safe use and disposal of sharps, sterilisation of equipment, and safe disposal of contaminated materials. (For additional information, see *Module 8: Safety and Supportive Care in the Work Environment*.)

Minimise cervical examinations.

- Perform cervical examination only when absolutely necessary and with appropriate clean technique.

Avoid prolonged labour.

- Consider using oxytocin to shorten labour when appropriate.
- Use noninvasive foetal monitoring to assess need for early intervention.

Avoid routine rupture of membranes.

- Use a partogram to measure the progress of labour.
- Avoid artificial rupture of membranes, unless necessary.

Avoid unnecessary trauma during delivery.

- Avoid invasive procedures, including scalp electrodes or scalp sampling.
- Avoid routine episiotomy.
- Minimise the use of forceps or vacuum extractors.

Minimise the risk of postpartum haemorrhage.

- Actively manage the third stage of labour.
- Give oxytocin immediately after delivery.
- Use controlled cord traction.
- Perform uterine massage.
- Repair genital tract lacerations.
- Carefully remove all products of conception.

Use safe transfusion practices.

- Minimise the use of blood transfusions.
- Use only blood screened for HIV and when available syphilis, malaria, and hepatitis B and C.

Considerations regarding mode of delivery

Cesarean section, when performed before the onset of labour or membrane rupture, has been associated with reduced MTCT.

Consider the benefits and risks of vaginal delivery versus elective caesarean section, including the safety of the blood supply and the risk of complications.

Strategies to reduce MTCT risk in women with unknown HIV status

In some cases, a woman presents to the health service at the time of labour without knowing her HIV status. She may not have received ANC or been offered HIV testing and counselling, she may have refused HIV testing, or may not have received her test result. In order to prevent MTCT in women with unknown HIV status the following steps may be taken:

Testing and counselling during labour

If *rapid testing* is available (See *Module 6: HIV Testing and Counselling for PMTCT*):

- Offer rapid HIV testing with right to refuse.
- Mention benefits of the HIV test:
 - If positive, ARVs can be administered for PMTCT and referral for treatment and care can be made.
- Describe the testing process.
- Provide post-test counselling.

It may be difficult to offer counselling or obtain informed consent during labour. The healthcare worker should remain sensitive and supportive to the woman. Rapid testing can be done in labour with post-test counselling provided after delivery.

Providing ARVs at labour and delivery

ARV prophylaxis can be provided to the mother who is HIV-infected and the infant to prevent MTCT. (See Appendix 3-A for the complete listing of recommended regimens.)

Providing ARV prophylaxis without testing

- Consider only as a last resort in high prevalence areas when no rapid testing is available.
- Use single dose nevirapine as the prophylactic regimen.
- Provide testing, counselling, and related PMTCT services postpartum.

Exercise 3.2 Labour and delivery ARV prophylaxis: case studies	
Purpose	To review national policies on testing and counselling during labour and on ARV prophylaxis To discuss administering ARV prophylaxis during labour and delivery
Duration	25 minutes
Instructions	Part 1 <ul style="list-style-type: none">▪ Take a few minutes to become familiar with the national policies on testing and counselling in labour and on ARV prophylaxis.▪ Review the key points written on the flipchart.▪ Comment on how these policies are applied in your clinical setting and share the challenges and obstacles you face when applying these policies in your practice. Part 2 <ul style="list-style-type: none">▪ Review the 2 case studies below.▪ Think about the questions posed in the case studies and participate in the group discussion to answer the questions.▪ Review the key points written on the flipchart.▪ Share your perspective on the similarities and differences in these case studies and the situations you encounter in your clinical setting.▪ Describe challenging HIV/PMTCT experiences in the labour and delivery care setting.

Case study 1

Consuelo arrives at the labour and delivery unit. This is her first baby. She hands you her ANC card, which indicates that she was tested during pregnancy and is infected with HIV. Her water broke 4 hours ago and her contractions are now less than 3 minutes apart. Consuelo earlier received a NVP tablet to take at home. When you examine her, you find that she is 5 centimetres dilated.

After providing general support during labour, what is your first priority?

If you discover that she has not taken her NVP tablet, what do you do?

Case study 2

Deborah arrives to deliver. This is her fourth child and she tells you that she has had a good pregnancy. Deborah has received no antenatal care and was never tested for HIV. At this time, her contractions are regular and about 2 minutes apart. During your examination, you find that she is 7 centimetres dilated.

Considering your national policy on testing and counselling during labour and delivery, what are your next steps?

SESSION 4 Immediate Postpartum Care of Women who are HIV-Infected and Women with Unknown HIV Status

Postpartum care of women infected with HIV

When providing postpartum care to women infected with HIV, healthcare workers may follow routine protocols, but several areas require additional attention:

Continuing care

Encourage and make plans for continued health care in the following areas:

- Routine gynaecologic care, including pap smears, if available.
- Ongoing treatment, care and support for HIV/AIDS and opportunistic infections along with nutritional support.
- Treatment and monitoring of TB and malaria.
- Referral for antiretroviral treatment (or treatment eligibility)
- Referral for prophylaxis and treatment of OIs.

(For additional information, see *Module 7, Linkages to Treatment, Care and Support for Mothers and Families with HIV Infection.*)

Newborn feeding

- Ensure that the mother chooses feeding options before she leaves the facility or hospital after delivery.
- Support the mother's choice of feeding option. (See *Module 4, Infant Feeding in the Context of HIV Infection*, for additional information).
- Provide training and observe proper feeding technique prior to discharge.

Signs and symptoms of postnatal infection

Review the following symptoms of infection before the new mother leaves the clinic or hospital and provide her with information on where to seek treatment for:

- Burning with urination
- Fever
- Foul smelling lochia
- Cough, sputum, shortness of breath
- Redness, pain, pus, or drainage from incision or episiotomy
- Severe lower abdominal tenderness

Education

- Instruct the mother on perineal and breast care
- Ensure that the mother knows how to dispose of potentially infectious materials such as lochia and blood-stained sanitary pads

Family planning

Contraception and child spacing should be discussed with every woman during antenatal care and again in the immediate postpartum period. The main family planning goals for the woman who is HIV-infected are:

- Preventing unintended pregnancy
- Appropriate child spacing, which can help reduce maternal and infant morbidity and mortality

(See *Module 2, Overview of HIV Prevention in Mothers, Infants and Young Children* for additional information.)

Postpartum care of women with unknown HIV status

Women whose HIV status is unknown should receive the same postpartum care as women with HIV infection (outlined above). They should be encouraged to be tested for HIV and to follow national recommendations for feeding their infants.

HIV testing after delivery can assist women infected with HIV to:

- Initiate post-exposure ARV prophylaxis for the infant
- Choose safer infant-feeding options

Exercise 3.3 Immediate postpartum care of women who are HIV-infected: Case studies	
Purpose	To review postnatal management of the woman with HIV infection
Duration	25 minutes
Instructions	<ul style="list-style-type: none">▪ Take a few minutes to become familiar with the national policies on postpartum care.▪ Review the case studies below on immediate postpartum care of women infected with HIV and women with unknown HIV status.▪ Think about the questions posed in the case studies and participate in the group discussion to answer the questions.▪ Review the key points written on the flipchart.▪ Share your perspective on the similarities and differences in these case studies and the situations you encounter in your clinical setting.▪ Describe experiences that you have found challenging in the postnatal care setting.

Case study 1

Deborah presented to the labour and delivery ward without having had an HIV test during her pregnancy. The result of the rapid HIV test performed during labour was positive. When told of the test result, Deborah became upset but agreed to take the NVP tablet. Subsequently, she had an uneventful labour and delivered a 2.4 kg healthy boy she named William. Although breastmilk substitute is available at the clinic, Deborah is determined to breastfeed her baby. It is now two hours after her delivery and she is resting. Her mother and husband are staying with her.

What postpartum care does she require?

What HIV-specific services does she need?

What can you accomplish before she leaves the facility in 24 hours?

Case study 2

Consuelo, who is HIV-positive, has been following the ZDV and NVP regimen for herself and her child. After a short labour, she delivered a 2 kg girl named Samantha. Consuelo has chosen to use breastmilk substitute; she will be discharged in 48 hours.

What postpartum care does she require?

What HIV-specific services does she need?

What can you do to support her infant-feeding choice?

What services can you provide to her before she leaves in 24 hours?

What continuing support do you anticipate providing to her?

SESSION 5 Immediate Newborn Care of Infants who are HIV-Exposed and Infants with Unknown HIV Status

The immediate care of the newborn exposed to HIV follows standard practice. Regardless of the mother's HIV status, all infants are kept warm after birth and are handled with gloves until maternal blood and secretions have been washed off.

Immediate newborn care

- Maintain universal precautions throughout care and treatment. Wear gloves when giving injections, and clean all injection sites with surgical spirits. Dispose of all needles according to facility policy.
- Clamp cord immediately after birth, and avoid milking the cord. Cover the cord with gloved hand or gauze before cutting.
- Wipe infant's mouth and nostrils with gauze when the head is delivered.
- Use suction only when meconium-stained liquid is present. Use either mechanical suction at less than 100 mm Hg pressure or bulb suction, rather than mouth-operated suction.
- Wipe the infant dry with a towel.
- Determine the mother's feeding choice. If she is using breastmilk substitute, place the infant on her body for skin-to-skin contact and provide help with the first feeding. If she is breastfeeding, place the infant on the mother's breast.
- Administer vitamin K, silver nitrate eye ointment, and Bacille Calmette Guérin (BCG) according to national guidelines.

ARV prophylaxis

ARV prophylaxis should be administered to the newborn according to country protocol. (See Appendix 3-A).

Follow-up newborn care

Care of the newborn baby should follow standard practices. Care for babies exposed to HIV should follow the approach described in *Module 7, Linkages to Treatment, Care and Social Support for Mothers and Families with HIV Infection*.

Infants born to mothers with unknown HIV status

In the immediate postpartum period, the goal is to reduce MTCT by minimising newborn exposure to maternal blood and body fluids and by providing ARV prophylaxis to the newborn. When HIV testing is unavailable or the mother's HIV status is unknown, newborn care should follow national or local policy.

- Newborns of mothers with unknown HIV status should be tested as soon as possible after birth, if the mother consents.
- In some high-prevalence settings, national policy could recommend that all babies be given a single oral dose of nevirapine 2 mg/kg liquid suspension as soon as possible after birth, if the mother consents, whether or not the mother has been tested for HIV.
- The mother should receive counselling about feeding her infant, as described in *Module 4, Infant Feeding in the Context of HIV Infection*.

Exercise 3.4 Immediate newborn care of infants who are HIV-exposed: case studies	
Purpose	To review ARV prophylaxis for and newborn care of infants exposed to HIV
Duration	25 minutes
Instructions	<ul style="list-style-type: none"> ▪ Take a few minutes to become familiar with the national policies on newborn care of infants exposed to HIV. ▪ Read the 2 case studies below on immediate newborn care of infants exposed to HIV. ▪ Discuss your responses with other participants in the large group discussion.

Case study 1

Deborah has just delivered her son, William. She tested HIV-positive during labour.

What HIV-specific infant interventions are required after the birth?

What are the components of follow-up care for William?

How can you help Deborah manage ongoing HIV-related care for herself and her infant?

Case study 2

Samantha, the newborn daughter of Consuelo (who is HIV-positive), is irritable and cries often. Consuelo's mother-in-law, who is visiting her at the facility and will be helping care for the infant after discharge, is worried. You overhear her repeatedly telling Consuelo that the baby needs breastmilk and that the breastmilk substitute is not satisfying the baby.

What can you do to help Consuelo at this stressful time?

What support will Consuelo need from the PMTCT programme to continue using breastmilk substitute after discharge?

Home birth case study

Louisa was diagnosed as HIV-positive during her one ANC visit prior to delivery at home. She has returned to the health centre 6 days after the birth of Teresa, her daughter. The baby appears to be happy, well hydrated, and thriving. Louisa remains convinced she is not infected with HIV and that the baby is not at risk. In fact, she did not give the NVP syrup to Teresa because the baby "didn't need it" and Teresa is breastfeeding.

Is this a typical response in your setting?

What services would you offer this mother?

What follow-up and referrals are necessary for this mother and her infant?

How will you deal with her denial of her diagnosis and risk for her infant?

Module 3: Key Points

- Integrating PMTCT services into the essential package of ANC services promotes improved care for all pregnant women and provides the best opportunity for a successful PMTCT programme.
- Specific interventions to reduce MTCT include ARV treatment and prophylaxis, safer delivery procedures, and counselling and support for safe infant feeding.
- Using antiretroviral drugs for treatment and prophylaxis reduces the risk of MTCT. Longer-course combination regimens are more effective, but short-course prophylaxis regimens may be more feasible in some resource-constrained settings.
- PCP prophylaxis and the prevention and treatment of TB and malaria are part of comprehensive care for mothers infected with HIV and their infants.
- Safer delivery procedures include avoiding unnecessary invasive obstetrical procedures and offering the option of elective caesarean section when safe and feasible.
- Infant-feeding options to minimise the risk of MTCT require support and guidance throughout ANC, labour and delivery and postpartum.

APPENDIX 3-A Antiretroviral prophylaxis regimens to prevent MTCT

HIV-related treatment, care and support must be provided during the antenatal and postpartum periods. All HIV-exposed infants should be followed-up for diagnosis of HIV, prophylaxis of opportunistic infection and treatment, care and support.

All regimens are administered by mouth. Paediatric formulations are needed for all infant regimens. Efforts must be made to monitor for side effects and support maternal infant adherence.

COURSE	ANTENATAL	INTRAPARTUM	POSTPARTUM	POSTNATAL
Zidovudine (ZDV) and nevirapine (NVP)	Mother: ZDV 300 mg twice a day starting at 28 weeks or as soon as possible thereafter	Mother: ZDV 300 mg at onset of labour and every 3 hours until delivery and single-dose NVP 200 mg at onset of labour	None	Infant: NVP 2mg/kg oral suspension immediately after birth and ZDV 4 mg/kg twice a day for 7 days
		OR ZDV 600 mg at onset of labour		OR NVP 2 mg/kg oral suspension immediately after birth
ZDV	Mother: ZDV 300 mg twice a day starting at 28 weeks or as soon as possible thereafter	Mother: ZDV 600 mg at onset of labour OR ZDV 300 mg at onset of labour and every 3 hours until delivery	None	Infant: ZDV 4 mg/kg twice a day for 7 days OR ZDV 2 mg/kg 4 times a day for 7 days
ZDV and NVP for infant (when mother has received no ARV prophylaxis)	None	None	None	Infant: NVP 2 mg/kg oral suspension immediately after birth and ZDV 4 mg/kg twice a day for 7 days. When ZDV oral suspension not available NVP 2 mg/kg as soon as possible after delivery and a dose of NVP 72 hours after birth
NVP	None	Mother: Single-dose NVP 200 mg at onset of labour	None	Infant: NVP 2 mg/kg oral suspension immediately after birth
ZDV and lamivudine (3TC)	Mother: ZDV 300 mg and 3TC 150 mg twice a day starting at 28 weeks or as soon as possible thereafter	Mother: ZDV 300 mg every 3 hours until delivery and 3TC 150 mg every 12 hours until delivery	Mother: ZDV 300 mg and 3TC 150 mg twice a day for 7 days	Infant: ZDV 4 mg/kg and 3TC 2 mg/kg twice a day for 7 days

 = First choice regimen

APPENDIX 3-A Antiretroviral prophylaxis regimens to prevent MTCT *(continued)*

COURSE	ANTENATAL	INTRAPARTUM	POSTPARTUM	POSTNATAL
ZDV and 3TC	None	Mother: ZDV 600 mg and 3TC 150 mg at onset of labour followed by ZDV 300 mg every 3 hours and 3TC 150 mg every 12 hours until delivery	Mother: ZDV 300 mg and 3TC 150 mg twice a day for 7 days	Infant: ZDV 4 mg/kg and 3TC 2 mg/kg twice a day for 7 days
ZDV + 3TC + saquinavir (SQV/r) * (Consider for MTCT prophylaxis in women not needing ARV therapy)	Mother: ZDV 300 mg, 3TC 150 mg and SQV/r 1000 mg/100 mg twice a day starting at 36 weeks or as soon as possible thereafter	Mother: Continue antenatal dosing schedule	None	Infant: NVP 2 mg/kg oral suspension immediately after birth OR ZDV 4 mg/kg twice a day for 7 days OR NVP 2 mg/kg oral suspension immediately after birth and ZDV 4 mg/kg twice a day for 7 days
ZDV or stavudine (d4T) + 3TC + NVP⁺ (This treatment regimen in pregnant women also provides MTCT prophylaxis.)	Mother: ZDV 300 mg and 3TC 150 mg and NVP 200 mg twice a day OR d4T 40 mg, 3TC 150 mg and NVP 200 mg twice a day starting at 36 weeks or as soon as possible thereafter	Mother: Continue antenatal dosing schedule	None	Infant: NVP 2 mg/kg oral suspension immediately after birth OR ZDV 4 mg/kg twice a day for 7 days OR NVP 2 mg/kg suspension immediately after birth and ZDV 4 mg/kg twice a day for 7 days

* In women who do not require ARV, alternative triple-combination regimens for MTCT prophylaxis may be considered. If the woman is in the third trimester of pregnancy, these regimens may include ZDV + 3TC + nelfinavir (NFV) or ZDV + 3TC + efavirenz (EFV).

+ In women who require ART, this is the recommended first-line regimen. However, in the third trimester of pregnancy, a regimen consisting of ZDV (or d4T) + 3TC + EFV may be considered.

APPENDIX 3-B Clinical situations and recommendations for the use of antiretroviral drugs in pregnant women and women of child-bearing potential in resource-constrained settings

Clinical Situation	Recommendation
A: HIV-infected women with indications for initiating ARV treatment ¹ who may become pregnant	<p>First-line regimen: <i>ZDV + 3TC + NVP</i> or <i>d4T + 3TC + NVP</i></p> <p>Efavirenz (EFV) should be avoided in women of childbearing age, unless effective contraception can be assured. Exclude pregnancy before starting treatment with EFV.</p>
B: HIV-infected women receiving ARV treatment who become pregnant	<p>Women</p> <ul style="list-style-type: none"> ▪ Continue the current ARV regimen² unless it contains EFV. If it does, substitution with NVP or a PI should be considered if in the 1st trimester. ▪ Continue the same ARV regimen during the intrapartum period and after delivery. <p>Infants</p> <ul style="list-style-type: none"> ▪ If born to women receiving either 1st or 2nd-line ARV regimens: 1-week ZDV OR single-dose NVP OR 1-week ZDV and single dose NVP
C: HIV-infected pregnant women with indications for ARV treatment ¹	<p>Women</p> <ul style="list-style-type: none"> ▪ Follow the treatment guidelines as for non-pregnant adults except that EFV should not be given in the 1st trimester. ▪ First line regimens: <i>ZDV + 3TC + NVP</i> or <i>d4T + 3TC + NVP</i> ▪ Consider delaying therapy until after the 1st trimester, although in severely ill women the benefits of early therapy clearly outweigh the potential risks. <p>Infants</p> <ul style="list-style-type: none"> ▪ 1-week ZDV OR single-dose NVP OR 1-week ZDV and single-dose NVP.

APPENDIX 3-B Clinical situations and recommendations for the use of antiretroviral drugs in pregnant women and women of child-bearing potential in resource-constrained settings *(continued)*

Clinical Situation	Recommendation
D: HIV-infected pregnant women without indications for ARV treatment ¹	First-choice regimen: ZDV and NVP Women <ul style="list-style-type: none"> ZDV starting at 28 weeks or as soon as possible thereafter. Continue ZDV at the same dose in labour. In addition, women should receive single-dose NVP at the onset of labour. Infants <ul style="list-style-type: none"> Single-dose NVP and 1-week ZDV³
	Alternative regimen: NVP only Women <ul style="list-style-type: none"> Single-dose NVP Infants <ul style="list-style-type: none"> Single-dose NVP
	Alternative regimen: ZDV only Women <ul style="list-style-type: none"> ZDV starting at 28 weeks or as soon as possible thereafter. Continue in labour. Infants <ul style="list-style-type: none"> 1-week ZDV³
	Alternative regimen: ZDV + 3TC Women <ul style="list-style-type: none"> ZDV + 3TC starting at 36 weeks or as soon as possible thereafter. Continue in labour and for 1 week postpartum. Infants <ul style="list-style-type: none"> 1-week ZDV + 3TC
E: HIV-infected pregnant women with indications for starting ARV treatment ¹ but treatment is not yet available	Follow the recommendations in Situation D, but preferably use the most efficacious regimen that is available and feasible.
F: HIV-infected pregnant women with active tuberculosis	If ARV treatment is initiated, consider ⁴ : (ZDV or d4T) + 3TC + SQV/r. If treatment is initiated in the third trimester (ZDV or d4T) + 3TC + EFV can be considered. If ARV treatment is not initiated, follow the recommendations in Situation D.

APPENDIX 3-B Clinical situations and recommendations for the use of antiretroviral drugs in pregnant women and women of child-bearing potential in resource-constrained settings *(continued)*

Clinical Situation	Recommendation
G: Pregnant women of unknown HIV status at the time of labour or women in labour known to be HIV-infected who have not received ARV drugs before labour	<p>If there is time, offer HIV testing and counselling to women of unknown status and if positive, initiate intrapartum ARV prophylaxis.</p> <p>Women</p> <ul style="list-style-type: none"> Single-dose NVP. If in advanced labour do not give the dose but follow the recommendations in Situation H. <p>Infants</p> <ul style="list-style-type: none"> Single-dose NVP
	<p>Women</p> <ul style="list-style-type: none"> ZDV + 3TC in labour and 1-week ZDV + 3TC postpartum <p>Infants</p> <ul style="list-style-type: none"> 1-week ZDV+3TC <p>If there is insufficient time for HIV testing and counselling during labour, then offer testing and counselling as soon as possible postpartum. Follow the recommendations in Situation H for women testing positive postpartum.</p>
H: Infants born to HIV-infected women who have not received any ARV drugs	<p>Infants</p> <ul style="list-style-type: none"> Single-dose NVP as soon as possible after birth and 1-week ZDV <p>If the regimen is started more than 2 days after birth, it is unlikely to be effective.</p>

¹ WHO recommendations for initiating ARV treatment in HIV-infected adolescents and adults. If CD4 testing is available it is recommended to offer ARV treatment to patients with: WHO Stage IV disease irrespective of CD4 cell count, WHO Stage III disease with consideration of using CD4 cell counts less than 350 10⁶ cells/L to assist decision-making and WHO Stage I and II disease in the presence of a CD4 cell count less than 200 10⁶ cells/L. If CD4 testing is unavailable, it is recommended to offer ARV treatment to patients with WHO Stage III and IV disease irrespective of total lymphocyte count or WHO Stage II disease with a total lymphocyte count less than 1200 10⁶ cells/L.

² Conduct clinical and laboratory monitoring as outlined in the 2003 revised WHO treatment guidelines.

³ Continuing the infant on ZDV for four to six weeks can be considered if the woman received antepartum ARV drugs for less than four weeks.

⁴ ABC can be used in place of SQV/r; however, experience with ABC during pregnancy is limited. In the rifampicin-free continuation phase of tuberculosis treatment, an NVP-containing ARV regimen can be initiated.

Source: WHO. 2004. *Antiretroviral drugs for treating pregnant women and preventing HIV infection in infants: guidelines on care, treatment and support for women living with HIV/AIDS and their children in resource-constrained settings*. pp 39–41.



Module 4 Infant Feeding in the Context of HIV Infection

SESSION 1 Global Recommendations for Infant and Young Child Feeding

SESSION 2 Feeding Options

SESSION 3 Infant-Feeding Counselling and Support

After completing the module, the participant will be able to:

- Describe the current global recommendations for infant feeding in the context of HIV.
- Understand the importance of optimal infant and young child feeding for child health, nutrition, growth, and development.
- Define the main options for infant feeding and the advantages and disadvantages of each.
- Describe the steps for counselling mothers who are HIV-infected about infant feeding.
- Understand the importance of the postnatal follow-up and support required for appropriate infant feeding.

Relevant Policies for Inclusion in National Curriculum

Session 2

- National HIV infant-feeding policy and recommendations

Session 3

- National guidelines on infant-feeding counselling and support



The *Pocket Guide* contains a summary of each session in this module.

SESSION 1 Global Recommendations for Infant and Young Child Feeding

Antiretroviral (ARV) treatment and prophylaxis has substantially reduced mother-to-child transmission (MTCT) of HIV. ARV prophylaxis, however, does not provide long-term protection for the infant who is breastfeeding.

Without intervention, 5% to 20% of infants breastfed by mothers who are HIV-positive may acquire HIV-infection through breast-feeding. Infant-feeding practices that carefully follow national or UN guidelines can reduce the likelihood of MTCT through breastfeeding and reduce the risk of infant death from diarrhoea and other childhood infections.

Basic facts on malnutrition, infant feeding, and child survival

- Malnutrition is the underlying cause of death in about 60% of children younger than 5 years old worldwide and in about 50% of children that age in Africa.
- Being underweight was associated with 3.7 million deaths worldwide in the year 2000, and most of the deaths occurred in children younger than 5 years old.
- Poor feeding practices, such as those that provide insufficient nutritional balance or contribute to diarrhoea, are a major cause of low weight and morbidity and mortality in children.
- Counselling and support for infant feeding can improve feeding practices and, in turn, prevent malnutrition and reduce the risk of death in children.
- For mothers who are HIV-positive, counselling and support may lead to improved infant-feeding practices that may also help prevent MTCT.

Infant-feeding recommendations for mothers who are HIV negative and mothers with unknown HIV status

- Breastfeed exclusively (see definition below) for the first six (6) months of life.
- Continue breastfeeding for up to 2 years or longer.
- After the infant reaches 6 months of age, introduce complementary foods that provide sufficient nutritional balance and are safe.

Mothers should also receive information about the risk of becoming infected with HIV late in pregnancy or during breastfeeding. Women with unknown HIV status should be encouraged to be tested for HIV.

Definition

Exclusive breastfeeding: The mother gives her infant only breastmilk except for drops or syrups consisting of vitamins, mineral supplements, or medicines. The exclusively breastfed child receives no food or drink other than breastmilk—not even water.

Infant-feeding recommendations for mothers who are HIV-positive

- When replacement feeding is acceptable, feasible, affordable, sustainable, and safe, mothers who are HIV-infected should avoid all breastfeeding. (Please see “Definitions” below.)
- Otherwise, exclusive breastfeeding is recommended during the first months of life.
- To minimise HIV transmission risk, mothers who are HIV-positive should discontinue breastfeeding as soon as feasible, taking into account local circumstances, the individual woman’s situation, and the risks of replacement feeding (which include malnutrition and infections other than HIV).
- All mothers who are HIV-positive should receive counselling, which includes general information about the risks and benefits of infant-feeding options and specific guidance on selecting the option most likely to be suitable for their situation.
- Whatever choice a mother makes, she should be supported.

There is no evidence indicating a specific time for early cessation of breastfeeding for all mothers—as it depends on each mother’s individual situation.

It is recommended that countries establish their own guidelines taking into account these recommendations.

Definitions

Acceptable: The mother perceives no significant barrier(s) to choosing a feeding option for cultural or social reasons or for fear of stigma and discrimination.

Feasible: The mother (or other family member) has adequate time, knowledge, skills, and other resources to prepare feeds and to feed the infant as well as the support to cope with family, community, and social pressures.

Affordable: The mother and family, with available community and/or health system support, can pay for the costs of the replacement feeds—including all ingredients, fuel and clean water—without compromising the family’s health and nutrition spending.

Sustainable: The mother has access to a continuous and uninterrupted supply of all ingredients and products needed to implement the feeding option safely for as long as the infant needs it.

Safe: Replacement foods are correctly and hygienically stored, prepared and fed in nutritionally adequate quantities; infants are fed with clean hands using clean utensils, preferably by cups.

International Code of Marketing Breastmilk Substitutes

The importance of supporting safer infant-feeding practices is exemplified in the International Code of Marketing of Breastmilk Substitutes. This code helps provide safe and adequate nutrition for children by:

- Protecting and promoting breastfeeding
- Supporting proper and informed use of breast-milk substitutes when necessary
- Promoting acceptable marketing and distributing practices

Even in countries that have decided to provide infant formula to HIV-positive mothers, health workers should resist all commercial promotion of formula under the Code, for example by removing advertisements from health facilities; refusing to accept free samples of formula and equipment (e.g. bottles), refusing to accept or use other gifts or equipment with brand names, and making sure that any formula used in a health facility is kept out of sight of mothers who do not need it.

Exercise 4.1 Strategies for optimal feeding: large group discussion	
Purpose	<p>To review strategies for optimal feeding of infants and young children.</p> <p>To apply the national HIV infant-feeding policy or protocol.</p>
Duration	15 minutes
Instructions	<ul style="list-style-type: none"> ▪ Identify the national HIV infant-feeding policy or protocol. ▪ Is it clear, is it consistent with international recommendations, and does it provide guidance for your healthcare setting? ▪ Read aloud the following criteria on the flipchart, whiteboard, or blackboard: <ul style="list-style-type: none"> ▪ Acceptable ▪ Feasible ▪ Affordable ▪ Sustainable ▪ Safe ▪ Consider the mothers you have met in your work. Would they be prepared to implement replacement feeding based on the above criteria? ▪ What other things can you think of that influence a mother's choice of feeding options? Example: cultural influences

Guidance and support for implementing infant-feeding recommendations

- Provide all mothers who are HIV-positive with counselling that includes general information about the advantages and disadvantages of various infant-feeding options as well as specific guidance for selecting the option most suitable for their situations.
- Support the mother's choice, whichever feeding option she chooses.
- Conduct local assessments to identify the range of feeding options that are acceptable, feasible, affordable, sustainable, and safe in particular contexts.
- Develop information and education about MTCT, including facts about transmission through breastfeeding, and target the material to the public, affected communities, and families.
- Train, supervise, and support adequate numbers of people who can counsel women who are HIV-positive about infant feeding.
- Provide updated training to counsellors when new information and recommendations emerge.
- Extend the services of healthcare workers into the community using trained lay or peer counsellors.

SESSION 2 Feeding Options During the First 6 Months

Making decisions about infant feeding

Mothers with HIV infection must consider many factors when deciding on a feeding option that is best for their infants. Healthcare workers play an important role in guiding their decision-making process by providing infant-feeding counselling that includes the following:

- Information about the risk of HIV transmission through breastfeeding
- Advantages and disadvantages of each available option
- Respect for local customs, practices, and beliefs when helping a mother make infant-feeding choices

Healthcare workers share in the responsibility to protect, promote, and support safe and appropriate feeding practices. In addition to supporting women's infant-feeding decisions, referral is needed to trained infant-feeding counsellors for continued support during the first two years of a child's growth and development. Programs such as the Baby Friendly Hospital Initiative have played a vital role in this important task as well. (See Session 3 HIV Infant-Feeding Counselling and Support.)

An HIV-positive pregnant or newly-delivered woman will have to make a decision among the locally-appropriate options available.

Replacement feeding during the first 6 months of life

Replacement feeding means feeding infants who are receiving no breastmilk with a diet that provides most of the nutrients infants need until the age at which they can be fully fed on family foods. Unlike breastfeeding, it does not provide immune protection against other diseases. During the first 6 months of life, replacement feeding should be with a suitable breast-milk substitute. After six months the suitable breast-milk substitute should be complemented with other foods.

If a woman is considering replacement feeding for the first six months there are two types of breastmilk substitutes: commercial infant formula or home-modified formula with micronutrient supplements. Cup feeding is recommended over bottle feeding. (Refer to Appendix 4-B.)

Option 1: Commercial infant formula

Advantages and disadvantages of using commercial infant formulas are presented in Table 4.1. Table 4.2 summarises how many tins of commercial infant formula are required to feed infants each month.

Table 4.1 Commercial infant formula**Advantages**

- Commercial formula poses no risk of transmitting HIV to the infant.
- Commercial formulas are made especially for infants.
- Commercial formula includes most of the nutrients that an infant needs.
- Other family members can help feed the infant.
- If the mother falls ill, others can feed her infant while she recovers.

Disadvantages

- Commercial formula does not contain antibodies, which protect infants from infection. An infant who is fed commercial formula exclusively is more likely to get diarrhoea and pneumonia and may develop malnutrition.
- A continuous, reliable formula supply is required to prevent malnutrition.
- Commercial formula is expensive.
- Families need soap for cleaning cups and utensils used in preparing the formula.
- Safe preparation of commercial formula requires clean water, boiled vigorously for 1-2 seconds; this also requires fuel.
- Formula should be made fresh for each feed, according to directions, day and night, unless she has access to a refrigerator.
- The infant needs to drink from a cup, which may take time to learn.
- The mother must stop breastfeeding completely, or she will continue to be at risk of transmitting HIV to her infant.
- In some settings, family, neighbours, or friends may question a mother who does not breastfeed about her HIV status. (See Session 3 of this module.)
- Formula feeding offers the mother no protection from pregnancy.

Table 4.2 Commercial infant formula requirements in first 6 months

Month	500 g Tins/Month	450 g Tins/Month
1	4	5
2	6	6
3	7	8
4	7	8
5	8	8
6	8	9
Total	40	44

Option 2: Home-modified animal milk

Home-modified animal milk is only suitable when commercial formula is not available. Infants require about 15 litres of modified animal milk formula per month for the first 6 months. Babies also require multi-nutrient supplements, in liquid or powder form, to help prevent anaemia and other forms of malnutrition. Safe preparation and storage of the home-modified animal milk is also essential for preserving nutritional value and minimising the risk of malnutrition.

Formula may be prepared at home using fresh animal milks, dried milk powder, or evaporated milk. Preparing formula with any of these types of milk involves modifications to make the formula suitable for infants up to 6 months old. Modifications include diluting the milk with boiled water in precise amounts to reduce the formula's concentration and adding sugar to increase the formula's energy density. The required dilution amount varies for different animal milks. Dilution is not required for infants 6 months and older who should also be receiving complementary foods.

Table 4.3 lists the advantages and disadvantages of using home-modified infant formulas.

Suitable and unsuitable milks

Not all milks are suitable for use in home-modified infant formula.

The following milks are suitable for home-modified animal milk:

- Fresh (full-cream or whole) cow, goat, sheep, buffalo, or camel milk
- Full-cream or whole dried milk powder
- Evaporated milk
- Ultra-heat treated (UHT) milk

The following milks and liquids are not suitable for home-modified animal milk:

- Fresh animal milk already diluted by an unknown amount
- Skimmed or low-fat milk powder
- Sweetened or condensed milk
- Thin cereal-based gruels
- Fruit juice, teas, or sodas

Infants who are fed home-modified animal milk formulas require micronutrient supplements because animal milks are relatively low in iron, zinc, vitamin A, vitamin C, and folic acid.

Table 4.3 Home-modified animal milk**Advantages**

- Home-modified formula presents no risk of HIV transmission.
- Home-modified formula may be less expensive than commercial formula and is readily available if the family has milk-producing animals.
- Mothers and caretakers already using commercial formula can use home-modified formula when commercial formula is not available.
- Other family members can help feed the infant.
- If the mother falls ill, others can feed her infant while she recovers.

Disadvantages

- Home-modified formula does not contain antibodies, which protect infants from infection.
- An infant who is fed home-modified formula exclusively is more likely to get diarrhoea and pneumonia and may become malnourished.
- Home-modified formula does not contain all of the nutrients and micronutrients that infants need.
- Formulas based on animal milks are more difficult for infants to digest.
- The mother or caretaker may need to make fresh formula for each feeding, day and night, unless she has access to a refrigerator.
- The mother or caretaker must dilute home-modified formula with clean water (boiled vigorously for 1–2 seconds) and add sugar in the correct amount.
- The mother must stop breastfeeding completely, or the risk of transmitting HIV to her infant will continue.
- Families will need access to a regular supply of animal milk, sugar, multi-nutrient syrup or powder, fuel for boiling water, and soap for cleaning feeding cups and utensils used in preparing the formula.
- Cup feeding is recommended but may take time to learn. (See Appendix 4-B.)
- In some settings, a mother who does not breastfeed may be questioned about her HIV status by family, neighbours, or friends. (See Session 3 of this module.)
- Formula feeding offers the mother no protection from pregnancy.

Breastmilk feeding options

Mothers who choose to breastfeed should be made aware that:

- From 5% up to 20% of infants breastfed by HIV-positive mothers may acquire HIV-infection through breastfeeding.
- ARV prophylaxis provided during labour and to the infant shortly after birth does not provide long-term protection for the infant who is breastfeeding.
- The risk of transmitting HIV to her infant during breastfeeding is greater:
 - When the woman is more ill (by clinical or laboratory measures)
 - When she has mastitis, breast abscess or other similar conditions
 - When the child has ulcers in the mouth

Option 1: Exclusive breastfeeding

Advantages and disadvantages of exclusive breastfeeding are presented in Table 4.4.

Table 4.4 Exclusive breastfeeding
<p>Advantages</p> <ul style="list-style-type: none"> ▪ Breastmilk is easily digestible and gives infants all the nutrients and water they need. They do not need any other liquid or food for the first 6 months. ▪ Breastmilk is always available and does not need any special preparation. ▪ Breastmilk protects infants and children from diseases, particularly diarrhoea and pneumonia. ▪ Breastfeeding provides the close contact that deepens the emotional relationship or bond between mother and child. ▪ Compared to mixed feeding, exclusive breastfeeding may lower the risk of passing HIV. ▪ Breastfeeding reduces mother's risk of some cancers and helps space her pregnancies. <p>Disadvantages</p> <ul style="list-style-type: none"> ▪ Risk of MTCT exists as long as the mother who is HIV-infected breastfeeds because breastfeeding exposes the infant to HIV. ▪ The risk of transmitting HIV through breastfeeding is increased if the mother has a breast infection (eg, mastitis) or cracked and bleeding nipples. ▪ Family, friends, or neighbours may pressure mothers to give water, other liquids, or foods to the infant. ▪ Although nearly all mothers have sufficient milk to feed their infants, some are concerned that they do not have enough milk to breastfeed exclusively. ▪ Breastfeeding requires feeding on demand at least 8–10 times per day. ▪ Working mothers may need to find a strategy to continue to breastfeed exclusively once they return to work, eg privately expressing milk during the workday and arranging to store milk in a cool place. ▪ Breastfeeding mothers require an additional 500 kcal/day to support exclusive breastfeeding during the infant's first 6 months.

Option 2: Exclusive breastfeeding with early cessation

Mothers who are HIV-positive and choose to breastfeed should discontinue breastfeeding as soon as replacement feeding is acceptable, feasible, affordable, sustainable, and safe for them and their babies, given local circumstances, the individual woman's situation, and the risks of replacement feeding for the infant's age.

Before entering the period of breastfeeding cessation, which may take from a few days to two weeks, mothers who are HIV-positive should receive support and guidance to maintain breast health, psychosocial support, and infant nutritional support.

Advantages and disadvantages of exclusive breastfeeding with early cessation are presented in Table 4.5.

Table 4.5 Exclusive breastfeeding with early cessation**Advantages**

- Early cessation of breastfeeding terminates the infant's exposure to HIV through breastfeeding.

Disadvantages

- Infants may become malnourished after breastfeeding stops if suitable breastmilk substitutes are unavailable or are provided inappropriately.
- Infants may be at increased risk of diarrhoea if breastmilk substitutes are not prepared safely.
- Cup feeding requires caregiver patience and time. If possible, mothers should be taught how to feed infants, using a cup and expressed breastmilk, before breastfeeding cessation. (See Appendix 4-B for a summary of the advantages of cup feeding and practical suggestions for cup feeding an infant.)
- Infants may become anxious and even dehydrated if breastfeeding cessation is too rapid.
- After six months, a milk source should continue to be given along with appropriate other foods, see Appendix 4-C.
- Mothers' breasts may become engorged and infected during the transition period if some milk is not expressed and discarded.
- Mothers are at risk of becoming pregnant if they are sexually active.
- Early breastfeeding cessation is not recommended for infants who are already infected with HIV.

Option 3: Wet nursing

Mothers who are HIV-positive, in keeping with local custom, may consider using a wet nurse as a breastmilk feeding option. It is important that mothers receive counselling about the potential risk of HIV transmission from a wet nurse who is HIV-infected or a wet nurse whose HIV status is unknown. Table 4.6 presents advantages and disadvantages of wet nursing.

Table 4.6 Wet nursing**Advantages**

- Use of a wet nurse poses no risk of HIV transmission provided the wet nurse is not HIV-infected.
- Many of the other advantages of breastfeeding described above also apply to breastfeeding using a wet nurse.

Disadvantages

- The wet nurse must be tested and found to be free of HIV infection.
- The wet nurse must protect herself from HIV infection during the entire time she is breastfeeding.
- The wet nurse must be available to breastfeed the infant frequently throughout the day and night, or she must express milk to be provided when she is away from the infant.
- People might ask the mother why someone else is breastfeeding her infant.

Note: Additional education and support may be necessary to assist mothers who choose to use wet nurses. For example, mothers and wet nurses should be familiar with techniques for breastmilk expression, use of heat-treated breastmilk, and the option of using breastmilk banks.

Option 4: Expressing and heat-treating breastmilk

Table 4.7 presents advantages and disadvantages of expressing and heat-treating breastmilk.

Table 4.7 Expressing and heat-treating breastmilk**Advantages**

- The HIV virus is killed by heating the milk.
- Breastmilk is the perfect food for babies, and most nutrients remain in breastmilk after heating.
- Breastmilk is always available.
- Other responsible family members can help feed the baby.

Disadvantages

- Although heat-treated breastmilk does not contain HIV, it may not be as effective as unheated breastmilk in protecting the baby from other diseases, but it is still better than formula.
- Expressing and heating breastmilk takes time and must be done frequently.
- The baby will need to drink from a cup, which may take time to learn.
- The breastmilk needs to be stored in a cool place and used within one hour of heating.
- Families will need clean water and fuel to wash the baby's cup and the container used to store the breastmilk.
- People may wonder why the mother is expressing her milk.

Exercise 4.2 National and local policies on infant feeding: large group discussion	
Purpose	<p>To review feeding options for infants and mothers who are HIV-infected.</p> <p>To convey an understanding of the advantages and disadvantages of feeding options and how to make each option safer and healthier for the infant and mother.</p>
Duration	20 minutes
Instructions	<ul style="list-style-type: none"> ▪ Review Tables 4.1 to 4.6 in the Participant Manual. Share perceptions of the advantages and disadvantages of the infant-feeding options. Write the responses on the flip chart. ▪ Review the responses written on the flipchart. ▪ Review the barriers to meeting the following criteria as discussed in the previous exercise (Exercise 4.1). <ul style="list-style-type: none"> ▪ Acceptable ▪ Feasible ▪ Affordable ▪ Sustainable ▪ Safe ▪ For each feeding option, share your perspective on strategies to minimise the barriers to safe infant-feeding practices. ▪ For each feeding option, record on the flipchart the strategies for minimising the barriers to safe infant-feeding practices.

SESSION 3 Infant-Feeding Counselling and Support

Counselling about infant feeding

A woman who is HIV-positive should receive counselling that includes:

- Information about the risk of HIV transmission through breastfeeding
- Information about the advantages and disadvantages of various infant-feeding options
- Guidance in selecting and adhering to the option most suitable for her situation
- Respect for local customs, practices, and beliefs when presenting infant-feeding choices

How to prepare non-breastfeeding women for questions

In many cultures, women are expected to breastfeed their infants for one year or longer. If the infant is not breastfed or if breastfeeding is discontinued early, questions about the mother's HIV status may arise. Once a woman decides how she plans to feed her infant, ideally during the antenatal period, the healthcare worker should help her prepare to answer questions about her choice.

During the counselling process, healthcare workers should ask women specific questions, such as “What will you say when your mother-in-law or neighbour asks you why you are not breastfeeding or why you have stopped breastfeeding?” or “What will you tell your husband when he tells you to give the baby porridge when you have chosen to breastfeed exclusively?” The healthcare worker may help the mother prepare to answer these questions. The counselling session may also be an opportunity to further discuss issues that relate to disclosure of the mother's HIV status to the family.

As PMTCT programmes expand, community education and mobilization activities should be developed to help women undertake the choice of not breastfeeding or stopping breastfeeding early. They should also be aimed at helping mothers who choose to exclusively breastfeed to maintain that choice.

For information on stigma related to replacement feeding or early cessation of breastfeeding, see *Module 5: Stigma and Discrimination Related to MTCT*.

The final decision about her infant-feeding strategy should be the woman's, and she must receive support for her choice.

Additional training in infant-feeding counselling and support

Infant-feeding counselling for women who are HIV-positive is an integral part of every PMTCT programme and requires that counsellors have many specific skills. Special WHO training courses exist about general breastfeeding and infant-feeding counselling and support (a 40-hour course) and for HIV and infant-feeding counselling (a 3-day course). Healthcare workers who are expected to provide infant-feeding counselling should have this type of training. Specific infant-feeding counselling skills include listening and learning, building the client's confidence, giving support, and providing information.

Infant-feeding counselling, education, and support is:

- Provided during both the antenatal and postnatal periods
- Based on country or local guidelines and includes an understanding of the sustainable resources accessible to the mother and her family
- Based on the individual woman's circumstances, including her health, social, and financial status as well as her customs and beliefs

Infant-feeding counselling, education, and support also

- Includes information on various feeding options, including the advantages and disadvantages of each
- Provides women with the skills needed to feed their infants safely
- Includes demonstrations and/or opportunities for practice
- Encourages partner or family involvement in infant-feeding decisions
- Supports women when they disclose their HIV status to loved ones

Counselling visits

Mothers who are HIV-positive should receive infant-feeding counselling over the course of several sessions. At least one counselling session should take place during the antenatal period. If possible, do this some time after post-test counselling, but not immediately after the mother learns her test results.

The counsellor should visit the mother and infant immediately after the birth and schedule another visit within 7 days to monitor postpartum and infant-feeding progress.

It is advisable to schedule monthly follow-up sessions whenever the mother brings the child to the clinic for well-baby checkups or immunisations. Additional sessions may be required during special high-risk periods, such as when the:

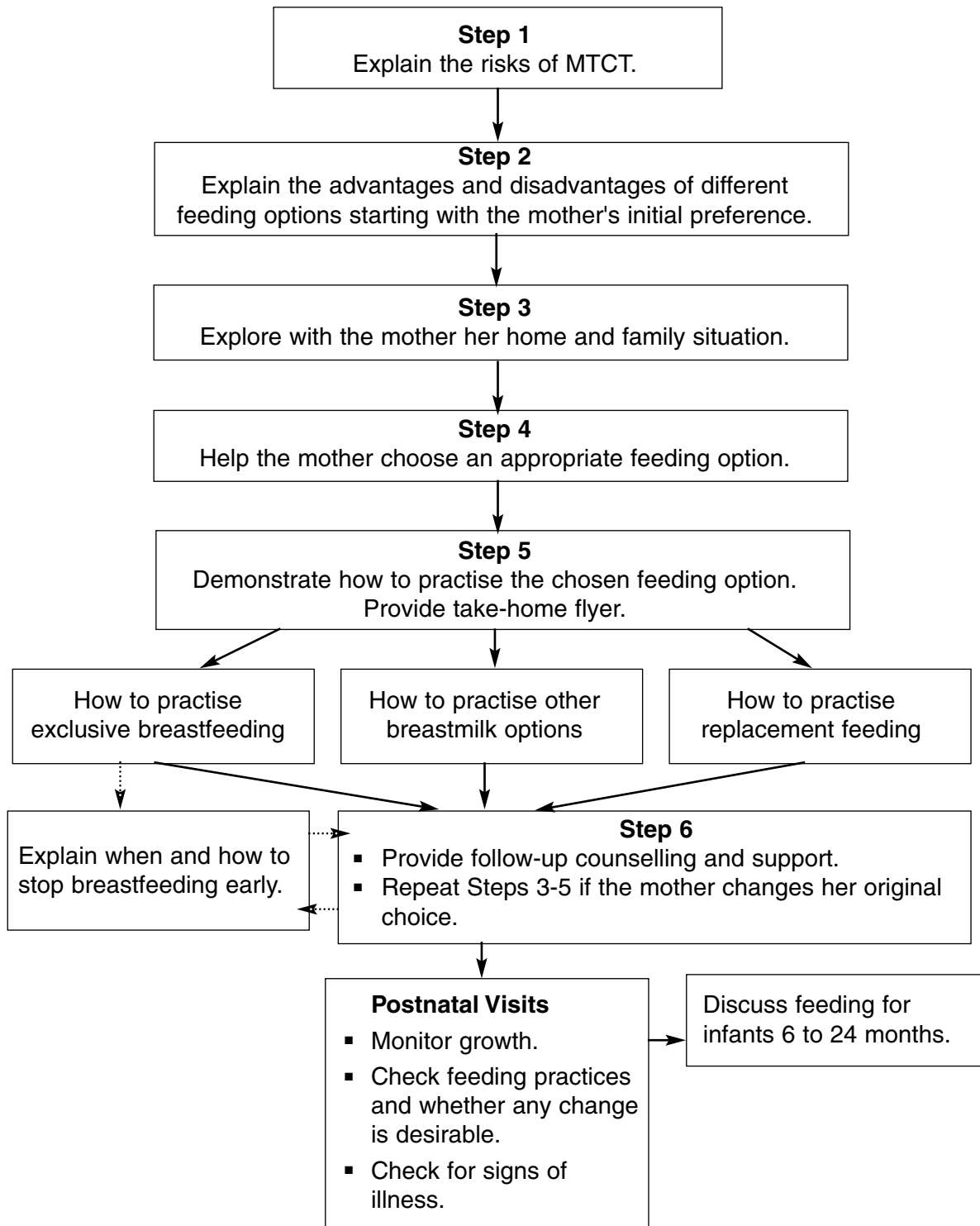
- Child is sick
- Mother returns to work
- Mother decides to change feeding methods

Infant-feeding counselling steps for women who are HIV-infected

The flow chart in Figure 4.1 illustrates the six steps for counselling mothers infected with HIV about infant feeding. Use the flow chart on the next page as follows:

1. If this is the mother's first infant-feeding counselling session and...
<p><i>She is early in her pregnancy:</i></p> <ul style="list-style-type: none"> ▪ Do Steps 1–4. ▪ Ask her to return in her third trimester to learn how to implement the feeding method (Step 5). <p><i>She is late in her pregnancy:</i></p> <ul style="list-style-type: none"> ▪ Do Steps 1–5. <p><i>She already has a child and is breastfeeding or mixed feeding:</i></p> <ul style="list-style-type: none"> ▪ Do relevant parts of Steps 1–5. <p><i>She already has a child and is using only replacement feeding:</i></p> <ul style="list-style-type: none"> ▪ Do relevant parts of Step 5 and Step 6.
2. If the mother has already been counselled and chosen a feeding option and...
<p><i>She is still pregnant or newly delivered, but has not yet been counselled on how to succeed in her selected feeding method</i></p> <ul style="list-style-type: none"> ▪ Begin with relevant parts of Step 5. <p><i>If she already has a child:</i></p> <ul style="list-style-type: none"> ▪ Begin with Step 6.
3. If this is a follow-up visit...
<ul style="list-style-type: none"> ▪ Begin with Step 6.

Figure 4.1 Infant-feeding counselling for women who are HIV-positive counselling flowchart



Postnatal visits

During each postnatal visit, clinic staff should review information from the infant-feeding counselling session and focus on issues most relevant to the mother. Reinforcing essential and relevant information supports optimal infant nutrition, growth, and development while minimising risks.

Exercise 4.3 Infant-feeding counselling and support: role play	
Purpose	To provide information on issues that may arise when counselling for infant feeding.
Duration	70 minutes
Instructions	<ul style="list-style-type: none"> ▪ Join with one other person as requested by facilitator and review the “Infant-feeding counselling for women who are HIV-positive” flowchart in Figure 4.1. ▪ Decide which member of your pair will play the role of the infant-feeding counsellor and which will play the role of the mother. ▪ The participant who will play the role of the mother will meet with the facilitator in a separate section of the training room to receive the role-play scenario. ▪ The “mothers” will then introduce themselves to the “infant-feeding counsellors” while the latter will take the lead in following the flow chart steps. ▪ Change roles to repeat the role-play as requested by the facilitator. ▪ After 30 minutes, join the entire group and share your experiences by answering the following questions: <ul style="list-style-type: none"> ▪ “Infant-feeding counsellors” <ul style="list-style-type: none"> ▪ Were there difficulties with any of the steps? ▪ Which steps were most troublesome? ▪ What can you do to become more competent in providing infant-feeding support? ▪ Did you feel that you had the skills to work with a “mother” who was fearful, anxious, or upset about her own or her child’s welfare? ▪ “Mothers” <ul style="list-style-type: none"> ▪ What were the main points you learned in the session? ▪ How has the session changed the way you would feed your infant? ▪ If you will not make any changes, why not? ▪ What issues came up in the counselling session that no one anticipated? ▪ How would you have liked to address those issues?

Module 4: Key Points

- All women who are HIV-infected need infant-feeding counselling and support.
- HIV transmission risk continues the entire time a mother who is HIV-infected breastfeeds her child.
- The mother has the right to choose how she wants to feed her infant; the healthcare worker's job is to support her choice.
- Mothers who are HIV-positive should avoid breastfeeding when replacement feeding is acceptable, feasible, affordable, sustainable, and safe.
- Exclusive breastfeeding and early breastfeeding cessation are appropriate when breastfeeding is the chosen option.
- Counselling, education, and support are key to establishing and maintaining safer infant-feeding practices.
- Postnatal counselling and infant follow-up are required throughout the first 2 years of the infant's life.
- PMTCT staff can prevent spillover or misuse of replacement feeding in three ways:
 - Promote exclusive breastfeeding for the general population
 - Discourage use of replacement milk supplies by mothers whose infants do not need them
 - Respect the International Code of Marketing of Breast Milk Substitutes

APPENDIX 4-A United Nations infant-feeding recommendations for mothers who are HIV-infected

UN infant-feeding recommendations (2001) for mothers who are HIV-infected are as follows:

- When replacement feeding is acceptable, feasible, affordable, sustainable, and safe (terms defined in Session 1), avoidance of all breastfeeding by HIV-infected mothers is recommended.
- Otherwise, exclusive breastfeeding is recommended during the first months of life.
- To minimise HIV transmission risk, HIV-positive mothers should discontinue breastfeeding as soon as feasible, taking into account local circumstances, the individual woman's situation, and the risks of replacement feeding (which include malnutrition and infections other than HIV).
- The UN suggests early cessation of breastfeeding with safe transition (over a period of a few days or up to 2 weeks), recognising that this is difficult and that the mother and infant will require support.
- When HIV-positive mothers choose not to breastfeed from birth or stop breastfeeding later, counsellors or healthcare workers should provide them with specific guidance and support for at least the first 2 years of the child's life to ensure adequate replacement feeding.
- Programmes should make replacement feeding safer for HIV-positive mothers and families.
- All HIV-infected mothers should receive counselling, which includes promotion of general information about the risks and benefits of various infant feeding options, and specific guidance in selecting the option most likely to be suitable for their situation.
- Whatever a mother decides, she should be supported in her choice.

This appendix was adapted from the following:

- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf

APPENDIX 4-B Advantages of cup feeding

Breastmilk substitutes should be given from a cup.

Healthcare workers should explain to mothers and families that cup feeding is preferable for the following reasons:

- Cups are safer, as they are easier to clean with soap and water than bottles.
- Cups are less likely than bottles to be carried around for a long time (which gives bacteria the opportunity to multiply).
- Cup feeding requires the mother or other caregiver to hold and have more contact with the infant and provides more psychosocial stimulation than bottle feeding.
- Cup feeding is better than feeding with a cup and spoon because spoon feeding takes longer and the mother may stop before the infant has had enough. However, some caregivers prefer to use a cup and spoon.

Feeding bottles are not necessary and for most purposes they are not the preferred option.

Using feeding bottles and artificial teats should be actively discouraged because:

- Bottle feeding increases the infant's risk of diarrhoea, dental disease, and ear infections.
- Bottle feeding increases the risk that the infant will receive inadequate stimulation and attention during feedings.
- Bottles and teats need to be thoroughly cleaned with a brush and then boiled for sterilisation; this takes time and fuel.
- Bottles and teats cost more than cups and are less readily available.

Healthcare workers should receive training to show mothers and families how to cup feed.

How to feed an infant with a cup

- Hold the infant sitting upright or semi-upright on your lap.
- Hold the cup of milk to the infant's lips.
- Tip the cup so that the milk just reaches the infant's lips and it rests lightly on the infant's lower lip.
- The infant will become alert and open its mouth and eyes.*
- **Do not pour** the milk into the infant's mouth. Hold the cup to the infant's lips and let the infant take it.
- When the infant has had enough, he/she will close its mouth and take in no more milk.
- Measure the infant's intake at each feeding over 24 hours.

* Low-birthweight infants will start to take milk with the tongue. A full-term or older infant will suck the milk, spilling some.

This appendix was adapted from the following:

- WHO, UNICEF and USAID. 2004. *HIV and infant feeding counselling tools*. Currently in print, to be available in late 2004 from http://www.who.int/child-adolescent-health/NUTRITION/HIV_infant.htm
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*, Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf

APPENDIX 4-C Feeding from 6–24 months

All infants, including infants who continue to be breastfed, require nutritious foods beginning at about 6 months of age. The term *complementary food* refers to any food, whether manufactured or locally prepared, suitable as a complement to breastmilk or a breastmilk substitute. This term is preferred because it implies that the newly introduced foods are provided in addition to the milk feeds; they are *not* intended to replace milk at this point. Replacement feeding describes the use of alternative foods when there is no breastfeeding, such as a commercial or home-modified breastmilk substitute.

Infants should receive continued frequent breastfeeding or cup feeding with commercial infant formula or other milk into the second year of life.

Recommendations for complementary feeding should be based on locally available foods and feeding practices. General principles for complementary feeding include the following:

Introducing complementary foods

- Begin introducing complementary foods in small amounts at 6 months of age. The amount of food required will increase as the child gets older. (See table on following page.)
- After complementary foods have been introduced, the infant will continue to need breastmilk or milk in some form frequently throughout the day.
- For infants who are not breastfed, animal milk requirements after 6 months are about 1 to 2 cups per day.
- Infants older than 6 months do not require dilution of animal milks. However, fresh animal's milk should still be boiled.
- No special preparation is needed for processed, pasteurised, or ultra-heat treated (UHT) milk. However, the mother or caregiver should increase the number of complementary feedings as the child gets older. The appropriate number of feedings depends on the energy density of the local foods and the usual amounts consumed at each feeding. When no milk is available, the diet should include other animal-source foods and/or enriched foods.
- The table on the next page shows the type, frequency, and amounts of complementary foods that the average healthy infant requires at different ages. If the energy density or the amount of food per meal is low, more frequent feedings may be required.
- Energy requirements are higher for unhealthy infants because of the metabolic effects of infections. Energy requirements also are higher for infants who are severely malnourished and undergoing nutritional rehabilitation.

APPENDIX 4-C Feeding from 6–24 months *(continued)*

Age	Texture	Frequency	Amount at each meal+
6 months	Soft porridge; well-mashed vegetable, meat, or fruit	2 times a day plus frequent milk feeds	2–3 tablespoons
7–8 months	Mashed foods	3 times a day plus frequent milk feeds	2/3 cup [‡]
9–11 months	Finely chopped or mashed foods, and foods that baby can pick up	3 meals plus 1 snack between meals plus milk feeds	2/3 cup [‡]
12–24 months	Family foods, chopped or mashed if necessary	3 meals plus 2 snacks between meals plus milk feeds	1 full cup [‡]
If baby is not breastfed, give in addition: 1-2 cups of milk per day, and 1-2 extra meals per day			

+ This chart should be adapted to the local context, using local utensils to show the amount

‡ One cup = 250 ml

- Gradually increase food consistency and the variety of foods offered as the infant gets older, adapting to the infant's nutritional requirements and physical abilities.
- Offer children 6 months and older an increasing variety of nutrient-dense foods. On a daily basis, or as often as possible, they should eat animal foods such as meat, poultry, fish, eggs, dairy products, or other adequate local sources of protein. Children should also eat fruit and vegetables that are rich in vitamin A daily. Satisfying the nutritional needs of children in this age group through a vegetarian diet is difficult.
- If nutritionally adequate complementary foods or fortified complementary foods are not available locally, consider giving the child a vitamin-mineral supplement to avoid growth and development deficiencies.
- Mothers and caregivers should avoid giving drinks with low nutrient value, such as tea and coffee (which interfere with iron absorption) and sugary drinks such as soda. The amount of juice offered should be limited to avoid displacing more nutrient-rich foods.
- Avoid offering foods that may cause choking, such as those that have a shape or consistency that could cause the food to become lodged in the trachea. Foods to avoid include nuts, grapes, and raw carrots.

APPENDIX 4-C Feeding from 6–24 months *(continued)*

Responsive feeding

- Feed infants directly and assist older children when they feed themselves, being sensitive to when the infant or child is hungry or full.
- Feed slowly and patiently, encouraging the child to eat, but do not force food.
- Encourage food intake by experimenting with different food combinations, tastes, and textures, especially if the child refuses to eat.
- Minimise distractions during meals if the child loses interest easily.
- Remember that feeding times are periods of learning and love: talk to children during feeding, using eye-to-eye contact.

Good hygiene and proper food handling

- Wash hands before food preparation and eating.
- Store foods safely and serve foods immediately after preparation.
- Use clean utensils to prepare and serve food.
- Use clean cups and bowls to feed children.
- Avoid using feeding bottles, which are difficult to keep clean.

Feeding children with allergies and illnesses

Mothers and caregivers of infants and young children with a family history of allergies or food sensitivities should delay introducing cow's milk, egg whites, and fish until after the infant reaches 12 months of age, and should not feed the child peanuts or other nuts until after the child is 3 years old.

When the child's age permits, mothers and caregivers should give the child increased amounts of fluids when they are ill, and encourage them to eat semisolid or solid foods. After the illness, mothers and caregivers should offer their children at least one extra meal a day and encourage them to eat more.

This appendix was adapted from the following:

- WHO, UNICEF, and USAID. 2004. *HIV and infant feeding counselling tools*. Currently in print, to be available in late 2004 from http://www.who.int/child-adolescent-health/NUTRITION/HIV_infant.htm
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*, Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf



Module 5 Stigma and Discrimination Related to MTCT

- SESSION 1** Introduction to the Concepts of Stigma and Discrimination and International Human Rights
- SESSION 2** Values Clarification (Individual Perspective)
- SESSION 3** Dealing with Stigma and Discrimination in Healthcare Settings and Communities
-

After completing the module, the participant will be able to:

- Define and identify HIV/AIDS-related stigma and discrimination.
- Better understand international and national human rights issues.
- Clarify personal values and attitudes with regard to HIV/AIDS prevention and care.
- Know how to address stigma and discrimination in the context of providing PMTCT services.

Relevant Policies for Inclusion in National Curriculum
<p>Session 1</p> <ul style="list-style-type: none">▪ National policies on discrimination, equal rights, and human rights▪ National policies on discrimination, equal rights, and human rights relevant to people with HIV▪ Local or national policies regarding patient rights within PMTCT and ANC services



The *Pocket Guide* contains a summary of Sessions 1 and 3.

SESSION 1 Introduction to the Concepts of Stigma and Discrimination and International Human Rights

Exercise 5.1: “Labels” interactive game	
Purpose	To help recognise the role of stereotypes in stigma.
Duration	20 minutes
Instructions	<ul style="list-style-type: none"> ▪ A “label” will be attached to your back using tape as you enter the room. Please do not look at the label that has been attached to you. ▪ Move around the room and engage in conversation with other participants. With each participant, react as a member of society might react to a person with the label the participant is wearing. It is important to talk with other participants clearly, conveying societal attitudes toward the label they are wearing without telling them what their labels are. ▪ After 5–7 minutes, return to your seats and comment on your feelings as you circulated in the room talking to each other. ▪ Try to guess the label you were wearing based on the reactions of the other participants to you. ▪ Take the label off your back and look at it. ▪ In the large group discussion, share your thoughts about the following questions: <ul style="list-style-type: none"> ▪ Did you guess what your label was? ▪ How did it feel to be treated in a stereotyped way? ▪ What was the experience like for you? ▪ Were you puzzled or surprised by how you were treated? ▪ Identify some specific ways to combat stereotypes and help decrease stigma in your clinical setting.

Introduction to the concepts of stigma and discrimination

HIV/AIDS is not only the greatest health challenge of our time, but it is also the greatest human rights challenge. Those aware they are HIV-infected shoulder the twin burdens of stigma and discrimination. Fear of becoming infected underlies stigma and discrimination, which remain major impediments to preventing HIV transmission and providing treatment, care, and support to people who are HIV-infected and their families.

HIV/AIDS-related stigma is increasingly recognised as the single greatest challenge to slowing the spread of the disease at the global, national, and community/provider level.

The most effective responses to the HIV/AIDS epidemic are those that work to prevent the stigma and discrimination associated with HIV, and to protect the human rights of people living with HIV and those at risk of infection.

What is stigma?

Stigma refers to unfavourable attitudes and beliefs directed toward someone or something.

HIV/AIDS-related stigma

HIV/AIDS-related stigma refers to all unfavourable attitudes and beliefs directed toward people living with HIV/AIDS (PLWHA) or those perceived to be infected, and toward their significant others and loved ones, close associates, social groups, and communities.

Stigmatising attitudes are often directed not only toward the person with HIV, but also toward behaviours believed to have caused the infection. Stigma is particularly pronounced when the behavior linked to the origin of a particular disease is perceived to be under the individual's control, such as prostitution or injection drug use.

People who often are already socially marginalised—poor people, indigenous populations, men who have sex with men, injection drug users, and sex workers—frequently bear the heaviest burden of HIV/AIDS-related stigmatisation. People who are HIV-infected are often assumed to be members of these groups, whether they are or not.

What is discrimination?

Discrimination is the treatment of an individual or group with partiality or prejudice. Discrimination is often defined in terms of human rights and entitlements in various spheres, including healthcare, employment, the legal system, social welfare, and reproductive and family life.

Stigmatisation and discrimination

Stigmatisation reflects an attitude, but *discrimination* is an act or behaviour. Discrimination is a way of expressing, either on purpose or inadvertently, stigmatising thoughts.

Stigma and discrimination are linked. Stigmatised individuals may suffer discrimination and human rights violations. Stigmatising thoughts can lead a person to act or behave in a way that denies services or entitlements to another person.

Stigma and discrimination have been documented in association with other disfiguring or incurable infectious diseases, including tuberculosis, syphilis, and leprosy. However, HIV/AIDS-related stigma appears to be more severe than the stigma associated with other life-threatening infectious diseases.

Three phases of the HIV/AIDS epidemic

Three phases of the HIV/AIDS epidemic have been identified: the epidemic of HIV; the epidemic of AIDS; and the epidemic of stigma, discrimination, and denial. The third phase is as central to the global AIDS challenge as the disease itself.

Examples of discrimination

- A person with HIV is denied services by a healthcare worker.
- The wife and children of a man who recently died of AIDS are ostracised from the husband's familial home or village after his death.
- An individual loses his job because it becomes known that he/she is HIV-infected.
- A person finds it difficult to get a job once it is revealed that he/she is HIV-infected.
- A woman who decides not to breastfeed is assumed to be HIV-infected and is ostracised by her community.

International human rights and HIV-related stigma and discrimination

Freedom from discrimination is a fundamental human right founded on principles of natural justice that should be universally applied to people everywhere. According to recent United Nations Commission on Human Rights resolutions, "discrimination on the basis of HIV/AIDS status, actual or presumed, is prohibited by existing human rights standards." In other words, discrimination against PLWHA or people thought to be infected is a clear violation of human rights.

The forms of stigma and discrimination faced by people with HIV/AIDS are varied and complex. Individuals are stigmatised and discriminated against not only because of their HIV-positive status but also because of what that status implies. UNAIDS-sponsored research in India and Uganda showed that women with HIV/AIDS may be doubly or triply stigmatised—as women, as PLWHA, as the spouse of a person who is HIV-infected, or the widow of a person who died of AIDS. A woman may face additional stigmatisation as a "woman who is HIV-infected and is pregnant and/or has children." For example, she may be treated poorly or denied medical and psychosocial support services.

Protect, respect, and fulfill human rights in relation to HIV

- All women and men, irrespective of their HIV status, have a right to determine the course of their sexual and reproductive lives and to have access to information and services that allow them to protect their own and their family's health.
- Children have a right to survival, development, and health.
- Women and girls have a right to information about HIV/AIDS and access to the means of protecting themselves against HIV infection.
- Women have the right to access to HIV testing and counselling and to know their HIV status.
- Women have a right to choose not to be tested or to choose not to be told the result of an HIV test.
- Women have a right to make decisions about infant feeding, on the basis of full information, and to receive support for the course of action they choose.

A summary of the International Guidelines on HIV/AIDS and Human Rights, as adopted by the Second International Consultation (July 2002), can be found in Appendix 5-A. These 12 guidelines urge governments to review laws, policies, systems, and practices to ensure protection of the human rights of people at-risk for or infected with HIV.

SESSION 2 Values Clarification (Individual Perspective)

The face of stigma

HIV/AIDS-related stigma is complex, dynamic, and deeply ingrained. The points below may provide PMTCT programmes with a framework for developing and implementing interventions to address HIV/AIDS-related stigma and discrimination.

Attitudes and actions are stigmatising.

People are often unaware that their attitudes and actions are stigmatising. A word, action or belief may be unintentionally stigmatising or discriminatory toward an individual who is HIV-infected. People often exhibit contradictory beliefs and behaviours. For example, consider the following:

- A person who is opposed to stigmatisation or discrimination may simultaneously believe that PLWHA indulge in immoral behaviours, deserve what they get, or are being punished by God for their sins.
- A person who claims to know that HIV cannot be transmitted through casual contact may still refuse to buy food from a vendor who is HIV-infected or allow his family to use utensils once used by a PLWHA.

Choice of language may express stigma.

Language is central to how stigma is expressed. People may not realise that they are stigmatising with their choice of words in referring to HIV disease or PLWHA. One way that language can be stigmatising is in the use of derogatory references to those with HIV/AIDS. In some countries people refer to HIV, not by name, but rather indirectly as, for example, "that disease we learned about" and refer to PLWHAs as "walking corpse" and "expected to die".

Lack of knowledge and fear foster stigma.

Knowledge and fear interact in unexpected ways that allow stigma to continue. Although most people have some understanding of HIV transmission and prevention, many lack in-depth or accurate knowledge about HIV. For example, many do not understand the difference between HIV and AIDS, how the disease progresses, the life expectancy of PLWHA, or that HIV/AIDS-related opportunistic infections (such as tuberculosis) are treatable and curable. Others equate an HIV-positive test result with imminent death. The fear of death is so powerful that many people will avoid individuals suspected to have HIV—even though they know that HIV is not transmitted through casual contact.

Shame and blame are associated with HIV/AIDS.

Sexuality, morality, shame, and blame are associated with HIV/AIDS. Stigmatisation often centres on the sexual transmission of HIV. Many people assume that individuals who are HIV-infected must have been infected through sexual activities deemed socially or religiously unacceptable. People who are HIV-infected are often presumed to be promiscuous, careless, or unable to control themselves, and therefore responsible for their infection.

Stigma makes disclosure more difficult.

Disclosure, the sharing of HIV status with others, is advocated but often difficult—and uncommon—in practice. Most people believe that disclosure of HIV infection should be encouraged. Yet many people infected with HIV avoid disclosing their HIV status for fear that doing so will subject them to unfair treatment and stigma. Some of the benefits of disclosure are the following:

- Disclosure can encourage partner(s) to be tested for HIV.
- Disclosure can help prevent the spread of HIV to partner(s).
- Disclosure allows individuals to receive support from partner(s), family, and/or friend(s).

Stigma can exist even in caring environments.

Care and support can coexist with stigma. Caregivers who offer love and support to family members living with HIV/AIDS may also exhibit stigmatising and discriminatory behaviour (such as blaming and scolding). In many cases, the caregivers don't recognise this behaviour as stigmatising.

- Stigmatising attitudes exist even among those individuals, communities and health-care workers who are opposed to HIV/AIDS-related stigma.
- People can have both correct and incorrect information about HIV at the same time. For example, an individual's understanding of the routes of HIV transmission may be accurate in some respects but inaccurate in others.
- People express both sympathetic and stigmatising attitudes toward PLWHA.
- Families that provide genuine and compassionate care may sometimes stigmatise and discriminate against a family member with HIV/AIDS.

Exercise 5.2: Examples of stigma and discrimination: large group discussion

Purpose	To consider examples of stigma and discrimination from your setting.
Duration	15 minutes
Instructions	<ul style="list-style-type: none">▪ Share examples of stigmatising and discriminatory messages or attitudes that you have seen in each of the following places:<ul style="list-style-type: none">▪ Media (newspapers, television, or radio programmes)▪ Health services▪ Workplace▪ Religion▪ Family▪ Community

Examples of stigmatisation and discrimination

In the media

- Suggesting in the media that there are specific groups of people with HIV who are guilty (such as sex workers or injection drug users) whereas others (such as infants) are innocent
- Depicting HIV/AIDS as a death sentence, which perpetuates fear and anxiety, and labels HIV as a disease that cannot be managed like any other chronic disease
- Using stereotypical gender roles, which may perpetuate women's vulnerability to sexual coercion and HIV infection

In health services

- Refusing to provide care, treatment, and support to PLWHA
- Providing poor quality of care for PLWHA
- Violating confidentiality
- Providing care in stand-alone settings (such as clinics for sexually transmitted infections) that further stigmatise and segregate PLWHA
- Using infection-control procedures (such as gloves) only with patients thought to be HIV-positive, rather than with all patients
- Advising or pressuring PLWHA to undergo procedures, such as abortion or sterilisation, that would not be routinely suggested for others

In the workplace

- Requiring testing before employment
- Refusing to hire people who are HIV-infected and HIV-affected
- Mandating periodic HIV testing
- Being dismissed because of HIV status
- Violating confidentiality
- Refusing to work with colleagues who are HIV-infected because of fear of contagion

In the context of religion

- Denying participation in religious/spiritual traditions and rituals (such as funerals) for PLWHA
- Restricting access to marriage for PLWHA
- Restricting participation of PLWHA in religious activities

In the family and local community

- Isolating people who are HIV-infected
- Restricting participation of PLWHA in local events
- Refusing to allow children who are HIV-infected or HIV-affected in local schools
- Ostracising of partners and children of PLWHA
- Using violence against a spouse or partner who has tested HIV-positive
- Denying support for bereaved family members, including orphans

Effects of stigma

Stigma is disruptive and harmful at every stage of the HIV/AIDS continuum, from prevention and testing to treatment and support. For example, people who fear discrimination and stigmatisation are less likely to seek HIV testing while persons who have been diagnosed may be afraid to seek necessary care. PLWHA also may receive suboptimal care from workers who stigmatise them.

- Stigma may reduce an individual's choices in healthcare and family/social life.
- Stigma may limit access to measures that can be taken to maintain health and quality of life.

HIV/AIDS-related stigma fuels new HIV infections.

- Stigma may deter people from getting tested for the disease.
- Stigma may make people less likely to acknowledge their risk of infection.
- Stigma may discourage those who are HIV-infected from discussing their HIV status with their sex partners and/or those with whom they share needles.
- Stigma may deter PLWHA from adopting risk-reduction practices that may label them as HIV-infected.

Stigma and discrimination can lead to social isolation.

A study in South Africa found that both men and women who are HIV-infected face social isolation, rumours and gossip, ejection from the home, rejection by the community, and verbal abuse. One person in the study stated, "There are those who will tell you face-to-face that you are no longer needed in their friendship, those who will just isolate you." Another said, "People make jokes about HIV-infected people and point fingers at them."

Stigma and discrimination can limit access to services.

HIV/AIDS-related stigma and discrimination may discourage individuals from contacting health and social services, thereby increasing the risk of transmission to partners or children. In many cases, those people most in need of information, education and counselling will not benefit from these services—even when they are available.

Secondary stigma (stigma by association)

The effects of stigma often extend beyond the infected individual to stigma by association also known as secondary stigma. **Secondary stigma** is evidenced in statements like "If I sit near someone with AIDS, others will think that I have AIDS too." HIV/AIDS programme social workers and peer educators in South Africa reported that they were sometimes stigmatised because of their work with PLWHA.

Stigma and PMTCT services

Stigma and discrimination pose distinct challenges to the delivery of PMTCT services. Notably, in many areas women may avoid replacement feeding because they know that they will be labelled as HIV-infected if they are not breastfeeding. The children of mothers who participate in PMTCT programmes may experience secondary stigmatisation because people assume that they are HIV-infected.

Consequences of stigma in PMTCT programmes

- Discourages women from accessing antenatal care services
- Prevents people from receiving HIV testing and, as a result, PMTCT services
- Discourages women from discussing their HIV tests and disclosing results to their partner(s)
- Discourages women from accepting PMTCT interventions eg, ARV treatment and prophylaxis.
- Discourages the use of recommended PMTCT safer infant-feeding practices (replacement feeding or early cessation of breastfeeding).

SESSION 3 Dealing with Stigma and Discrimination in Healthcare Settings and Communities

Addressing stigma in PMTCT programmes

To increase participation in PMTCT services, programmes should implement interventions that address HIV/AIDS-related stigma. These efforts should occur at all levels:

- National
- Community, social, and cultural
- PMTCT site
- Individual

Stigmatisation is a social process that must be addressed on the community level. Because PMTCT healthcare workers and patients are influenced by the community and culture in which they live, it is essential that PMTCT programmes collaborate with the community to address HIV/AIDS-related stigma and discrimination. This session presents various interventions that may be implemented by PMTCT programmes and the communities they serve. These interventions cover a wide range of activities; each programme should set priorities for initial interventions and phase in additional efforts over time.

National level

High-level political support for national HIV/AIDS initiatives and policies that address the human rights of PLWHA is important. High-ranking politicians and other high-profile individuals, such as television stars and musicians, may serve as leaders and role models in these efforts. It is essential to secure both formal and informal support at the national level, without which local initiatives will struggle to succeed.

National level activities that affect HIV/AIDS and PMTCT-related legislation and healthcare practice may include the following:

- Support and advocate legislation that protects the rights of PLWHA as human beings and patients.
- Support legislation that protects the legal rights of women in health care, education, and employment.
- Advocate for laws supporting anti-discrimination policies—at the administrative, budgetary, and judicial levels.
- Support national efforts to scale-up treatment of HIV with antiretroviral (ARV) drugs for those in need.
- Advocate for quality treatment programmes for people with drug addictions.
- Involve consumers in national advocacy and elicit their help in designing, developing and evaluating programmes and policies.
- Advocate for sufficient funding for PMTCT services and staff training.
- Publicise programme successes by inviting national and local politicians to clinics to see how PMTCT programmes work.
- Ensure that the problems—and solutions—are communicated to those who have the power and authority to address them when issues require national level solutions (such as national shortages in ARV prophylaxis and shortages in the supply of breastmilk substitutes).

- Educate national leaders about the importance of PMTCT programmes.
- Encourage national leaders to serve as role models in their professional and personal lives.
 - Encourage leaders to hire staff that are HIV-infected.
 - Encourage leaders to praise the good work of PMTCT clinics to the public and to the press.
 - Encourage leaders to visit an AIDS service organisation.
 - Encourage leaders to speak out against emotional, verbal and physical abuse directed at women infected with HIV.
 - Remind leaders to promote funding of HIV/AIDS care programmes.
 - Suggest that leaders be tested for HIV.

Community level

HIV/AIDS education and training

Provide HIV/AIDS education and training to members of the community, especially key opinion leaders, traditional birth attendants, traditional healers, healthcare staff in referring organisations, religious leaders, and managers in private industry. Educational and informational initiatives can accomplish the following:

- Increase knowledge about HIV
- Increase awareness of issues faced by PLWHA
- Increase awareness of domestic violence faced by newly diagnosed women
- Communicate, through community leaders, that violence against women is inappropriate, immoral, and/or illegal
- Encourage leaders to make their workplaces HIV-friendly
- Promote PMTCT activities as an integral part of healthcare and HIV/AIDS prevention and treatment
- Educate the community about PMTCT interventions (including ARV prophylaxis and safer infant-feeding practices), stressing the importance of community and family support in PMTCT initiatives
- Increase referrals to and from PMTCT services
- Secure the involvement of community members and PLWHA in organising, developing, and delivering HIV education, prevention, and support programmes.

Community awareness of PMTCT interventions

Increase community awareness of PMTCT interventions to help men and women recognise their roles and responsibilities in protecting themselves and their families against HIV infection.

Greater community awareness should also strengthen social support for the partner, extended family, and community. The people who cope the best with their HIV infection tend to be those who have social and family support.

For example, families and close friends can help remind those with HIV infection take their medicines on time. If the person with HIV is pregnant, family members often help ensure that she gives birth at the health centre and that she takes her ARV prophylaxis. They can also help ensure that the baby receives ARV prophylaxis and support infant-feeding methods that reduce the risk of HIV transmission.

Community partnerships

Build partnerships with churches, schools, and social or civic organisations when developing PMTCT services. Promoting PMTCT services in community organisations will enhance sustainability and will help develop a broad base of support for the PMTCT initiative.

Other community level interventions

Additional community level interventions may include the following:

- Facilitating the exchange of information and ideas among healthcare professionals and other caregivers of PLWHA through roundtable case discussions and social activities
- Providing input into curricula for students in healthcare professions (nurses, midwives, physicians)

PLWHA involvement

Invite PLWHA to become involved in national and local initiatives. Doing so will empower them. It will also help the community realise that PLWHA are not the cause of the HIV/AIDS problem but are part of the solution. Involving PLWHA in initiatives will:

- Help PLWHA gain and practise life skills in communication, negotiation, conflict resolution, and decision-making, which empowers them to challenge HIV/AIDS-related stigma and discrimination
- Encourage PLWHA to join together to challenge stigma and discrimination.
- Promote the active involvement of PLWHA in national and local activities to foster positive perceptions of people living with HIV
- Support the establishment of PLWHA organisations and networks, including those that enable people to demand recognition and defend their rights

Training programmes for PLWHA

Develop and implement training programmes for PLWHA to help them advocate for their rights and take an active role in their own healthcare. By participating in interventions (such as PMTCT services or HIV prevention and care education) as volunteers, advisors, board members, or paid employees, PLWHA will demonstrate their ability to remain productive members of the community. This normalises the experience of living with HIV infection.

PMTCT programme level

PMTCT services should be integrated into and supported by the local community. Although PMTCT programmes often reflect the communities in which they are based, they can take the lead in challenging long-held community perceptions and practices, including stigmatisation of and discrimination against PLWHA and PMTCT patients.

Integration of PMTCT interventions into antenatal care (ANC) services

Integrate all PMTCT interventions into mainstream antenatal care (ANC) services for all women. Offer voluntary HIV testing and education to all clinic attendees, regardless of their perceived HIV risk. Mainstreaming (or bundling) HIV services with routine ANC services helps normalise HIV/AIDS.

Participation of partners

Develop ways to increase the participation of partners in all aspects of PMTCT services. Educate partners about PMTCT interventions (including ARV treatment and prophylaxis and modified infant-feeding practices) and stress the importance of partner testing, partner and family support in PMTCT, particularly with respect to ARV prophylaxis and infant feeding.

As an example, two sites in Kenya invited men to visit the PMTCT clinic for counselling and testing and PMTCT education designed specifically for a male audience. As a result of these interventions, the programme:

- Improved spousal communication about PMTCT
- Increased HIV testing among male partners of PMTCT patients
- Increased HIV test disclosure rates for both partners

Educational sessions

Offer group or individual education sessions (onsite and offsite), which can help draw attention to the role that partners play in HIV transmission and reduce stigmatisation of women.

- Couples counselling offers another opportunity to reduce the blame that can be directed at women and emphasise the couple's shared responsibility in PMTCT.

When male partners do not normally attend ANC clinics, PMTCT programmes should reach out to them in male-friendly settings (eg workplaces, barber shops, bars, cafeterias).

Healthcare worker training

Educate and train healthcare workers. The success or failure of a PMTCT programme depends upon the attitudes, skills, and experience of its employees. Training healthcare workers at all levels (manager, nurse, midwife, physician, social worker, counsellor and outreach worker) is critical to the success of PMTCT initiatives. Employee training should include:

- Complete and accurate information about the transmission of HIV and the risks factors for infection
- Activities that address HIV/AIDS-related stigma

Understanding the perspectives and rights of PLWHA and their families

In addition to presenting information, it is important for educational initiatives to address employee attitudes, correct misinformation, and assess skills.

Educate healthcare workers to better understand the perspectives and rights of PLWHA and their families. Without adequate HIV-related education, staff may have irrational fears, practise inappropriate care, and use stigmatising language and behaviour. Accordingly, training healthcare workers to reduce stigmatising behaviour will address assumptions about the educational, social, economic, and class status of PLWHA and encourage participants to examine their prejudices.

During training activities, strive to increase awareness of the language used to describe HIV/AIDS and PLWHA. The training should include:

- Exercises designed to encourage participants to explore personal attitudes and prejudices that might lead them to use stigmatising language
- Summaries of institutional confidentiality, anti-discrimination, and infection control policies as well as the consequences of policy breaches and grievance procedures

Infection control

Ensure infection control by providing all healthcare workers with the necessary equipment and supplies (including high-quality, well-fitting gloves) needed to adhere to infection control policies and prevent transmission of HIV in the workplace (See *Module 8: Safety and Supportive Care in the Work Environment*). Apply universal precautions to all patients regardless of assumed or established HIV status.

Patient confidentiality

Safeguard patient confidentiality by developing policies and procedures and establishing discrete plans for implementing them. Confidentiality in healthcare facilities is also discussed in *Module 6, HIV Testing and Counselling for PMTCT*. Confidentiality policies should include:

- Directions on how to record and securely store patient information
- Assurances that neither PLWHA nor their medical files (whether paper or electronic) will be labelled to reveal HIV status
- Assurances that all patient consultations, from the initial contact with the receptionist to the consultation with the physician, will respect personal information

The confidentiality policy should emphasise that all personal conversations and consultations should take place in private settings. It should also establish:

- Policies for disclosure of medical information to a patient's family (which should only occur with the patient's informed consent)
- Policies for addressing and disciplining breaches of confidentiality
- Steps patients can take to address breaches of confidentiality
- Requirements for staff confidentiality training
- The critical importance of confidentiality and the effects that breaches may have on individual patients and the PMTCT service as a whole

Role models

Encourage PMTCT staff to serve as role models by treating PLWHA just as they would treat patients assumed to be HIV-negative. Healthcare workers are role models, and their attitudes toward PLWHA are often imitated in the community. Staff should aim to normalise all casual contacts with PLWHA.

Knowing the local community

Get to know the local community, which will help to identify local HIV-related stereotypes and rumours. Ensure that these misconceptions are addressed at appropriate times during PMTCT services. In many cultures, for example, women who bottle-feed or cup-feed their infants may be labelled as HIV-infected. In such cultures, PMTCT workers should address this stereotype during counselling and educational sessions and emphasise the importance of safer infant-feeding practices for reducing MTCT.

Women's rights

Advocate for women's rights. Ensure that women diagnosed with HIV are educated about their rights and know where to turn for help, including legal advice, to challenge discrimination and stigmatisation.

Peer and community support

Facilitate peer and community support. Recognise that support groups in the ANC setting provide an opportunity for pregnant women who are HIV-infected to share experiences and be linked to other support services. PMTCT programmes can facilitate such support groups by:

- Supporting mentoring programmes. South Africa's Mothers-to-Mothers-to-Be is a mentorship programme for pregnant women who are HIV-infected. Mothers who are HIV-infected and have recently given birth return to the ANC facility as mentors to educate, counsel, and support pregnant women who are HIV-infected.
- The mother-mentors share personal experiences to encourage adherence to treatment, help with making infant-feeding decisions, and assist with negotiating care and support services. The mentoring has resulted in better understanding and greater acceptance of interventions to reduce MTCT.
- Encouraging peer support. Encourage PLWHA to pair up with another person—HIV-positive or negative—who can provide friendship, companionship, advice, or mentoring.

Involving PLWHAs in PMTCT programmes can help address stigma and discrimination issues and promote better understanding of and support for those with HIV infection.

Counselling and education for PLWHA

Counselling and education for PLWHA, provided either within the PMTCT service or through linkages to other services, can address HIV-related stigma in a number of ways:

- Counsellors can encourage, empower, and support PLWHA to disclose their HIV status to family and eventually to friends. As more people disclose their HIV status, PLWHA become more visible, which encourages community acceptance of PLWHA.
- Counsellors should be trained to ask all their patients, particularly women, about domestic violence. Women found to be at risk of physical, verbal, or emotional abuse should receive support and referrals.

Role of PMTCT programme managers

It is vital for PMTCT programme managers to ensure that policies and procedures are in place to protect individuals from discrimination and stigmatisation. PMTCT programme managers also play an important role in the development, implementation, and enforcement of confidentiality policies. Some of the actions managers can take to reduce stigma and discrimination include the following:

- Maintain policies against discriminatory recruitment and employment practices.
- Support workers who are HIV-infected so they continue to perform optimally in their positions.
- Offer flexible hours and access to healthcare services.
- Establish policies that guarantee all patients equal treatment regardless of HIV status.
- Ensure procedures for reporting discrimination and protocols for disciplining staff who breach the non-discrimination policy.
- Promote the programme's policies to staff and patients, and remind patients that they can file a complaint if they feel they have been the target of discrimination.

In addition, programme managers can also help ensure that all staff follow universal precautions, which may reduce the stigma associated with fear of infection. The manager can:

- Update the facility's infection control policy as necessary.
- Ensure ongoing access to infection control supplies and equipment.
- Make sure that staff members apply universal precautions at all times.
- Discipline employees who breach the universal precautions policy.
- Make post-exposure prophylaxis (PEP) accessible to staff in cases of accidental exposure to blood and body fluids as per national/local policy where it exists.

Exercise 5.3: PLWHA panel	
Purpose	To learn about PLWHA experiences in the healthcare system.
Duration	60 minutes
Instructions	<ul style="list-style-type: none"> ▪ Observe the interaction between the moderator and the panellists. Pay special attention to the remarks of the PLWHA about their experiences with stigma and discrimination in the healthcare setting, family, and/or community. ▪ When the moderator indicates, please ask questions of the panellists. Be especially aware that questions should be non-judgemental.

Module 5: Key points

- While stigmatisation reflects an attitude, discrimination is an act or behaviour.
- Discrimination is often defined in terms of human rights and entitlements in health care, employment, the legal system, social welfare, and reproductive and family life.
- Stigma and discrimination are interlinked. Stigmatising thoughts can lead to discrimination and human rights violations.
- International and national human rights declarations affirm that all people have the right to be free from discrimination on the basis of HIV/AIDS status.
- PMTCT programme staff have a responsibility to respect the rights of all women and men, irrespective of their HIV status.
- HIV/AIDS-related stigmatisation and discrimination may discourage PLWHA from accessing key HIV services. It may also:
 - Discourage disclosure of HIV status
 - Reduce acceptance of safer infant-feeding practices
 - Limit access to education, counselling, and treatment even when services are available and affordable
- PMTCT programme staff can help reduce stigma and discrimination in the healthcare setting, in the community, and on the national level.
- Encourage PMTCT staff to serve as role models by treating PLWHA just as they would treat patients assumed to be HIV-negative.
- Involve PLWHAs in every aspect of the PMTCT programme.
- Promote partner participation and community support.

APPENDIX 5-A International Guidelines on HIV/AIDS and Human Rights

GUIDELINE 1:

States should establish an effective national framework for their response to HIV/AIDS, which ensures a coordinated, participatory, transparent and accountable approach, integrating HIV/AIDS policy and programme responsibilities across all branches of government.

GUIDELINE 2:

States should ensure, through political and financial support, that community consultation occurs in all phases of HIV/AIDS policy design, programme implementation and evaluation and that community organisations are enabled to carry out their activities, including in the field of ethics, law and human rights, effectively.

GUIDELINE 3:

States should review and reform public health laws to ensure that they adequately address public health issues raised by HIV/AIDS, that their provisions applicable to casually transmitted diseases are not inappropriately applied to HIV/AIDS and that they are consistent with international human rights obligations.

GUIDELINE 4:

States should review and reform criminal laws and correctional systems to ensure that they are consistent with international human rights obligations and are not misused in the context of HIV/AIDS or targeted against vulnerable groups.

GUIDELINE 5:

States should enact or strengthen anti-discrimination and other protective laws that protect vulnerable groups, people living with HIV/AIDS and people with disabilities from discrimination in both the public and private sectors, ensure privacy and confidentiality and ethics in research involving human subjects, emphasise education and conciliation and provide for speedy and effective administrative and civil remedies.

GUIDELINE 6:

States should enact legislation to provide for the regulation of HIV-related goods, services and information, so as to ensure widespread availability of qualitative prevention measures and services, adequate HIV prevention and care information, and safe and effective medication at an affordable price.

GUIDELINE 7:

States should implement and support legal support services that will educate people affected by HIV/AIDS about their rights, provide free legal services to enforce those rights, develop expertise on HIV-related legal issues and utilise means of protection in addition to the courts, such as offices of ministries of justice, ombudspersons, health complaint units and human rights commissions.

APPENDIX 5-A International Guidelines on HIV/AIDS and Human Rights *continued*

GUIDELINE 8:

States, in collaboration with and through the community, should promote a supportive and enabling environment for women, children and other vulnerable groups by addressing underlying prejudices and inequalities through community dialogue, specially designed social and health services and support to community groups.

GUIDELINE 9:

States should promote the wide and ongoing distribution of creative education, training and media programmes explicitly designed to change attitudes of discrimination and stigmatisation associated with HIV/AIDS to understanding and acceptance.

GUIDELINE 10:

States should ensure that government and the private sector develop codes of conduct regarding HIV/AIDS issues that translate human rights principles into codes of professional responsibility and practice, with accompanying mechanisms to implement and enforce these codes.

GUIDELINE 11:

States should ensure monitoring and enforcement mechanisms to guarantee the protection of HIV-related human rights, including those of people living with HIV/AIDS, their families and communities.

GUIDELINE 12:

States should cooperate through all relevant programmes and agencies of the United Nations system, including UNAIDS, to share knowledge and experience concerning HIV-related human rights issues and should ensure effective mechanisms to protect human rights in the context of HIV/AIDS at international level.

Source: OHCHR, UNAIDS. 2002. *HIV/AIDS and Human Rights International Guidelines, Revised Guideline 6: Access to prevention, treatment, care and support*. Geneva, August 2002, pp 10–12.



Module 6 HIV Testing and Counselling for PMTCT

SESSION 1	Overview of HIV Testing and Counselling of Pregnant Women
SESSION 2	HIV Testing
SESSION 3	Pre-Test Information and Counselling
SESSION 4	Post-Test Information and Counselling

After completing the module, the participant will be able to:

- Discuss the integration of HIV testing and counselling into antenatal care (ANC) settings.
- Discuss the healthcare worker's role in maintaining confidentiality.
- Provide information to pregnant women about HIV testing.
- Explain the meaning of positive and negative HIV test results.
- Identify the needs of women who are newly diagnosed with HIV.

This module is designed to provide the healthcare worker with the basic knowledge and introductory skills for testing and counselling in ANC settings. Additional HIV testing and counselling training should be considered when possible.

Relevant Policies for Inclusion in National Curriculum

Session 1

- National HIV testing policy
- National confidentiality policy
- National policy on opt-in vs. opt-out, informed consent & disclosure recommendations (if not included in above)

Session 2

- Algorithm for HIV testing (eg, rapid test and/or ELISA)
- Policy on diagnostic testing of the infant exposed to HIV, including HIV antibody or viral testing
- Algorithm(s) for diagnosing HIV infection in an infant born to a mother with HIV

Session 3

- National pre-test information and counselling policies or guidance

Session 4

- National post-test counselling policies or guidance for both women who test HIV-positive and women who test HIV-negative



The *Pocket Guide* contains a summary of each session in this module.

SESSION 1 Overview of HIV Testing and Counselling of Pregnant Women

HIV testing and counselling services

Specific PMTCT interventions depend on whether a woman knows her HIV status. Therefore, HIV testing and counselling services:

- Play a vital role in identifying women who are HIV-positive
- Provide an entry point to comprehensive HIV/AIDS treatment, care, and support
- Help patients identify and take steps to reduce behaviours that increase the risk of HIV infection or transmission
- Need to be available to all women of childbearing age, especially those who are pregnant
- Need to be available to male partners, where possible

HIV testing is a process that determines whether a person is infected with HIV.

HIV counselling is the confidential dialogue between individuals and their healthcare workers to help patients examine their risk of acquiring or transmitting HIV infection.

In this training module, the term *counselling* refers to discussions between healthcare workers and patients/patients specific to HIV testing. *Counsellors* may be healthcare workers such as doctors, nurses, midwives, educators, trained lay people or volunteers (see Appendix 6-A).

Together, testing and counselling may enhance a person's understanding of HIV/AIDS and help the person make informed choices for the future.

Testing and counselling for PMTCT

In the context of MTCT prevention, testing and counselling is a flexible intervention that is integrated into several settings where pregnant women and women of childbearing age receive services—antenatal, labour and delivery, postnatal, family planning, and others. Increasingly these programs are providing pre-test information and post-test counselling.

All pregnant women presenting to ANC should receive information on the following:

- Safer sex practices
- Prevention and treatment of sexually transmitted infections (STIs)
- Prevention of HIV in infants and young children including interventions for PMTCT
- HIV testing, post-test counselling, and follow-up services

Advantages of testing and counselling for PMTCT

Testing and counselling pregnant women who are HIV-negative about HIV infection helps them remain uninfected.

For pregnant women who are HIV-positive and know their status, counselling may help them:

- Make informed decisions about their pregnancy.
- Receive appropriate and timely interventions to reduce MTCT including:
 - Antiretroviral treatment/prophylaxis
 - Infant-feeding counselling and support
 - Information and counselling on family planning
- Receive education on the importance of delivering in a setting where universal precautions and safer obstetric practices are implemented.
- Secure early access to HIV treatment, care and support services.
- Receive information and counselling on the prevention of HIV transmission to others.
- Receive follow-up and ongoing health care for themselves and their HIV-exposed infants.
- Disclose their results to partners and family members.

Disadvantages of testing and counselling for PMTCT

There may be disadvantages associated with testing and counselling programmes:

- Women may experience diagnosis-related stigmatisation or discrimination. Although many women worry about negative reactions, most receive understanding and support from partners as well as other family members.

Guiding Principles for Testing and Counselling for PMTCT

Confidentiality

Maintaining confidentiality is an important responsibility of all healthcare workers and is essential to establishing patient trust. Information that is shared between healthcare workers and patients must be kept private. It is essential that a private venue/room be used for all discussions of HIV-related matters, particularly HIV diagnosis. Patients should be informed that personal and medical information, including HIV test results, may be disclosed to other healthcare providers to ensure that they receive appropriate medical care.

Healthcare workers should emphasise, however, that only those healthcare workers who are directly involved in the patient's care will have access to the patient's records—and only on a “need-to-know” basis.

All medical records and registers, whether or not they include HIV-related information, should be kept confidential and stored in a safe, secure place.

Informed consent

Informed consent is another guiding principle of testing and counselling; it is the process during which each patient receives clear and accurate information about HIV testing to ensure that the patient understands she has the right and the opportunity to decline testing.

In the context of PMTCT, written informed consent is not required but it is the responsibility of the program staff to make certain that the following elements of informed consent are addressed:

- Ensuring an understanding of the purpose and benefits of services
- Ensuring an understanding of the testing and counselling process
- Respecting the patient's testing decision

Post-test support and services

The result of HIV testing should always be offered in person. Along with the result, appropriate post-test information, counselling or referral should also be offered.

Exercise 6.1: Confidentiality role play	
Purpose	To review and apply the principles of confidentiality.
Duration	20 minutes
Instructions	<ul style="list-style-type: none">▪ Two participants will be asked to volunteer to take part in a role play and will be asked to sit on chairs in front of the room facing each other.▪ One participant will play the role of the healthcare worker and the other will be the patient (Mary).▪ Read the scripts provided by the trainer and role play according to the situations described in the scripts.▪ After the role play, all participants will be asked to respond to the following questions:<ul style="list-style-type: none">▪ Is the space appropriate for this interaction?▪ How do you think Mary felt about this arrangement?▪ How would you improve this?▪ Who else at the clinic is permitted access to Mary's records?▪ How do you explain this to Mary?▪ Comment on the greatest challenges to preserving confidentiality in your clinical setting.

“Opt-in” and “Opt-out” approaches to HIV testing in PMTCT settings

There are two approaches to HIV testing in the PMTCT/ANC settings. Each provides easily understood information to the patient about HIV and the risks and benefits of testing. The approaches differ in how patients agree to test for HIV. The differences are summarised as follows:

- **Opt-in** After the patient has received information about HIV and testing, she is given the choice of refusing or consenting to an HIV test. This option is presented in a neutral, supportive manner. Women who “opt in” explicitly request to be tested, and their informed consent—written or oral—is clearly established. The opt-in approach requires an active step by the individual woman to agree to be tested.
- **Opt-out** HIV testing, in combination with information on HIV, is offered as a routine part of a standard package of care. The woman is given the opportunity to decline the test should she choose to do so. The opt-out approach emphasises that HIV testing is an expected part of ANC. However, testing is still voluntary under the opt-out approach: the woman has a right to refuse testing. The provider should identify the problem and solve issues that are preventing a woman from accepting testing.

Preferred ANC testing strategy: Opt-out

The opt-out strategy is recommended for HIV testing and counselling in the ANC setting.

- Opt-out testing helps normalise HIV testing and makes the test a routine ANC component.
- It is likely to increase the number of women who are tested for HIV.
- The choice of testing strategies should be made at a national, regional, district, or local level.
- PMTCT programme staff must adhere to the guiding principles of testing and counselling (informed consent, confidentiality, and the provision of post-test services).

SESSION 2 HIV Testing

Overview of HIV testing

HIV testing detects antibodies or antigens associated with HIV in whole blood, saliva, or urine. Blood sampling is the most common mode of testing. The results of different tests can be combined to confirm HIV test results. When properly administered, HIV tests offer a high degree of accuracy. However, those who administer or handle the HIV testing process must be trained so that the accuracy of testing is preserved.

Several factors influence the selection of the type of HIV test by individual facilities and national policymakers:

- National or local testing policy
- Availability and expertise of laboratory or other trained personnel
- Availability of supplies and laboratory support
- Evaluation of specific tests in the country
- Cost of test kits and supplies

All testing follows the same basic steps:

1. Sample is obtained. Most often, a blood sample is taken from a person's fingertip or arm.
2. Sample is processed. This can be done on site—for example, at the ANC clinic or in labour and delivery for rapid tests—or in a laboratory.
3. Healthcare worker obtains results.
4. Healthcare worker provides results to the patient during post-test counselling.
 - In an adult, a positive HIV antibody test result means that the person is infected with HIV.
 - A negative result usually means that the person is not infected with HIV. In rare instances, a person with a negative or inconclusive result may be in the “window period.” This is the period of time between the onset of infection with HIV and the appearance of detectable antibodies to the virus. The window period lasts for 4 to 6 weeks but occasionally up to 3 months after HIV exposure. Persons at high risk who initially test negative should be retested 3 months after exposure to confirm results.
5. Healthcare worker provides post-test counselling, support, and referral.

Antibody tests

When HIV enters the body, the body responds by making a protein called an antibody that can be detected by one of several methods:

- Rapid HIV test
- Enzyme-linked immunosorbent assay (ELISA)
- Western blot test

Rapid HIV tests and ELISA are the most commonly used HIV tests in the ANC setting.

Rapid testing

All rapid tests share the following characteristics:

- Highly accurate when performed correctly
- Usually performed on whole blood (either taken as a finger prick or drawn as a sample); occasionally saliva is collected by using a swab
- Do not require special laboratory equipment or refrigeration
- Results are ready within 30 minutes
- Tests can be done on a single specimen
- Clinic staff can be trained to perform the tests

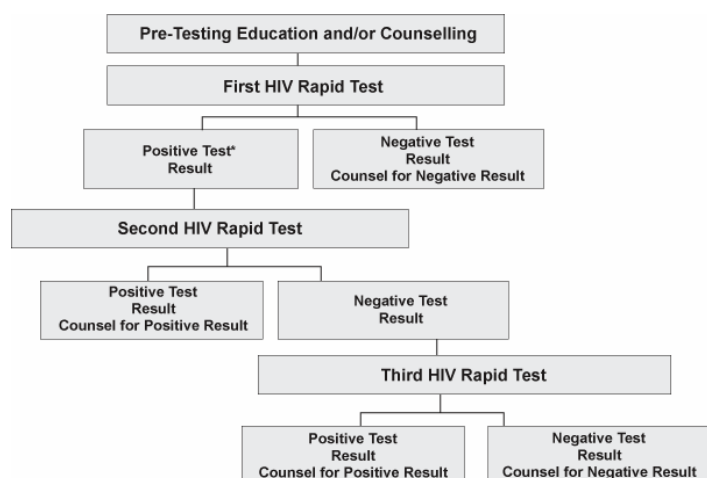
Benefits of rapid testing include:

- Blood samples can be analysed in the clinic.
- Same-day results are more convenient for the patient.
- Providers can avoid missed opportunities when there is no follow-up care.
- Pregnant women who are HIV-positive can be informed immediately about MTCT interventions and possible treatment options.
- Providers do not need to track down test results from an outside laboratory.
- There is less risk of specimen mix-up or misplacement.

A positive rapid test result is confirmed either by a different rapid test or by another laboratory test. If the results of the two tests differ, a third test is generally done in a laboratory. See *Figure 6.1 for a sample algorithm*. It is recommended that healthcare workers follow their programme's approved testing protocols.

Although most rapid tests can detect HIV-1 and HIV-2, usually they do not differentiate between the two types of HIV. This is significant for PMTCT programs because nevirapine (NVP), which is used for ARV treatment and prophylaxis, is not as effective against HIV-2. In places where HIV-2 is common, different test procedures are needed to screen for HIV-1 and HIV-2 and to distinguish between them.

Figure 6.1 Rapid HIV testing algorithm (Serial testing)



* In the context of labour in a MTCT-prevention setting, it is advisable to give a single dose of nevirapine on the basis of a single positive rapid test. This should then be confirmed after delivery.

ELISA

ELISA is also used to identify antibodies to HIV in blood, urine, or saliva. Generally, a blood sample is taken with a needle from a vein in the arm, and sent to a laboratory for testing by technicians.

The limitations of ELISA include the following:

- Tests are done in batches of 40–90 specimens.
- Positive results must be confirmed either with another ELISA (using a test kit from a different manufacturer) or by Western blot. The Western blot is a highly “specific” antibody test because it is particularly accurate in providing a negative test result on samples from people who are truly negative. Both confirmatory tests can be done on the initial blood sample.
- Reporting of results may take several days or weeks, and women may not return for test results or may give birth before the results are ready.
- Laboratories and trained laboratory technicians are required.
- The test is sensitive to temperature, and reagents require refrigeration.

Viral tests or assays

Virologic testing or assays directly detect the presence of HIV in blood specimens as opposed to the antibody test, which detects the presence of antibody as an indirect measure of the presence of virus. Viral assays/tests must be done by trained personnel in the laboratory.

There are two main types of tests:

- p24 antigen tests measure one of the proteins found in HIV (antigen).
- PCR (polymerase chain reaction) tests detect viral DNA or RNA:
 - DNA PCR detects the presence of the virus in the blood and is used for diagnosis of the infant less than 18 months.
 - RNA PCR detects and measures the amount of virus in blood (viral load).

Exercise 6.2: Rapid testing demonstration	
Purpose	To review the steps involved in rapid testing.
Duration	25 minutes
Instructions	<ul style="list-style-type: none"> ▪ Identify the 2 or 3 types of HIV antibody tests available. ▪ One volunteer will be asked to sit facing the facilitator; the participant volunteer will not actually be tested but will participate in the role play of a testing session. ▪ Observe the interaction between the healthcare worker and the patient including the use of “opt-in” or “opt-out” approaches. ▪ Observe the steps of rapid testing: <ol style="list-style-type: none"> 1) Assemble all materials – test kit, wipes, adhesive bandages/plasters, etc. 2) Confirm that participant has received information on testing. 3) Confirm participant’s choice to be tested. 4) Determine if participant has any further questions. 5) Review steps in testing process. 6) Allow participant to select testing site (finger for pin-prick or arm for blood draw). 7) Simulate (do not perform) sampling technique as indicated. 8) Simulate (do not perform) next steps in test completion. 9) Assure participant that he/she will be notified of results in a timely and confidential manner. 10) Take opportunity to remind participant that the partner may come in for testing as well. 11) Process rapid test or send for processing as protocol allows.

Diagnostic testing of infant and young children exposed to HIV

Because ARV prophylaxis reduces but does not eliminate MTCT, programme staff should identify or develop services that provide follow-up care and HIV diagnostic services for infants and young children of mothers infected with HIV.

In resource-constrained settings, where virological testing may not be available, follow the sample antibody testing algorithm for children 18 months and older in Figure 6.2.

If a child exposed to HIV develops signs or symptoms of HIV infection, early diagnosis and intervention is critical. This is discussed in detail in Module 7: Linkages to Treatment, Care, and Support for Mothers and Families with HIV Infection.

HIV antibody testing of infants and young children less than 18 months

Early diagnosis of infection in these infants is difficult, especially in resource-constrained settings, and is further complicated by breastfeeding. Since maternal antibodies cross the placenta, all infants born to mothers infected with HIV will test antibody positive, irrespective of their own infection status. Because maternal antibodies persist, antibody testing prior to 18 months cannot provide a reliable diagnosis of infant infection status, especially when the child is breastfeeding. In resource-constrained settings where breastfeeding is common, initial antibody testing is recommended at 18 months as shown in figure 6.2. In countries with increased capacity for multiple testing and where replacement feeding or early weaning is common, testing can be done at 9–18 months. However, healthcare workers should consider repeating the test at 18 months to confirm the status of the child. Appendix 6-B provides guidance on the post-test counselling session.

For children who are *not breastfeeding* or where breastfeeding cessation occurred at least 6 weeks previously:

- A negative HIV antibody test result for a child 18 months or older indicates that the child is not HIV-positive.
- A positive HIV antibody test at 18 months or older indicates the child is infected with HIV.

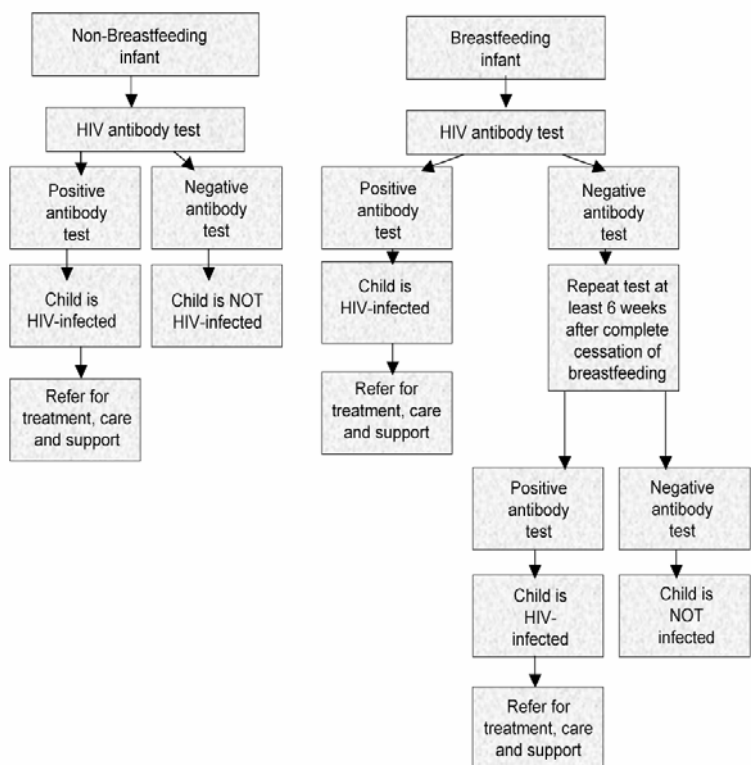
OR

- A negative HIV antibody test result for a child age 9–18 months indicates that the child is not infected with HIV.
- A positive HIV antibody test at 9–18 months of age indicates that the child may have antibodies from the mother and the test should be repeated at 18 months.

For children who *are breastfeeding*:

- If the test is negative at 18 months of age or older and the infant was breastfeeding in the last 6 weeks, the antibody test should be repeated 6 weeks after complete cessation of breastfeeding.
- A positive HIV antibody test result at 18 months indicates that the child is HIV-infected.

Figure 6.2 HIV diagnosis in children 18 months and older with antibody tests in resource-constrained settings



HIV viral assays in infants

Viral assays that detect HIV in the infant's blood, such as the DNA or RNA PCR test, may be used to diagnose HIV infection in infants at a younger age than antibody testing. Early diagnosis of HIV allows the provider to promptly initiate counselling about methods of infant feeding and facilitates early clinical care for the infant who is HIV-infected.

Programs need to develop practical and appropriate guidelines based on locally available diagnosis technologies and additional evidence as it becomes more readily available for early diagnosis. A viral assay can be performed from age 6 weeks to allow decisions related to ARV treatment and care. Where virological testing is available, the sample algorithm in Figure 6.3 may be used. When virological tests are rarely available and severe cost constraints exist, a viral test may be done, *regardless of breastfeeding*, if the child presents with symptoms of HIV at less than 18 months of age.

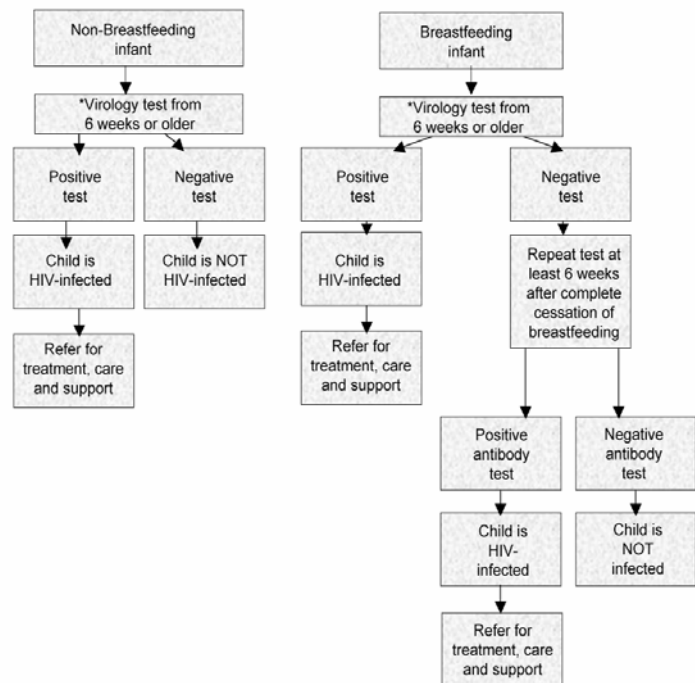
For children who are *not breastfeeding*, consider testing the infant from age 6 weeks.

- If a DNA PCR or RNA PCR test is positive, the child is HIV-infected.
- If a DNA PCR or RNA PCR test is negative, the child is not HIV-infected.

For children who *are breastfeeding*, consider testing the child from 6 weeks—6 months.

- If a DNA PCR or RNA PCR test is positive, the child is considered HIV-infected.
- If a DNA PCR or RNA PCR test is negative, repeat viral assay 6 weeks after complete cessation of breastfeeding.
- If a DNA PCR or RNA PCR test is negative 6 weeks after complete cessation of breastfeeding, the child is not HIV-infected.
- If a DNA PCR or RNA PCR test is positive 6 weeks after complete cessation of breastfeeding, the child is HIV-infected.

Figure 6.3 HIV diagnosis in infants and young children less than 18 months with viral assay in resource-constrained settings



* Recommended virological tests include HIV DNA PCR and HIV RNA PCR assays

SESSION 3 Pre-Test Information and Counselling

Pre-test information

The process of pre-test information and education begins with offering basic information about HIV/AIDS. Printed materials, videos, presentations, and role-playing exercises may be used to present content in a group setting. It is important to present the information again during the initial and subsequent ANC visits.

Providing pre-test information helps prepare women and their partners to understand the testing and counselling process. This process is not to be confused with individual pre-test counselling, which helps patients explore personal HIV risk behaviours and related issues and concerns.

A healthcare worker with basic training in HIV counselling typically provides pre-test information in group sessions. Healthcare workers and counsellors jointly work together to identify patients who need individual pre-test counselling and referral.

Individual pre-test counselling

Where possible, individual pre-test counselling may be incorporated into routine ANC visits. Where this is not practical, healthcare workers may refer patients for individual pre-test counselling or for clarification of information provided in group sessions. Counsellors should assess whether referral to individual pre-test counselling is necessary based on national or clinic guidelines. In some countries, individual counselling is recommended when a woman has concerns, questions, or uncertainties. A description of basic counselling is found in Appendix 6-C.

Components of the pre-test information and counselling sessions

- Basic HIV/AIDS information
- HIV transmission and prevention
- STIs and HIV
- MTCT and prevention
- HIV testing processes
- Benefits and risks of HIV testing
- Confidentiality
- Implications of positive and negative test results
- Identification of HIV support services
- Family planning
- Availability and benefits of testing and counselling services for couples

Group pre-test counselling

Key considerations for providing information to groups include:

- Adapting the scope and depth of information to the group's knowledge base
- Reinforcing behaviour change efforts, including safer sex practices
- Using teaching modalities, such as videos or role plays, to reinforce key concepts
- Having sufficient knowledge and skills to comfortably answer questions
- Recognising the option for individual counselling and referral

Each woman should receive all the information she needs to make an informed decision about being tested for HIV. Most experts suggest providers support and encourage women to be tested at the initial visit because many women begin ANC late in pregnancy or are seen only once before delivery. In some cultures, the decision to be tested may require support from family members and entail a return visit with family decision makers. Healthcare workers in ANC services can make an effort to welcome family decision-makers into the care setting and provide the same information and pre-test counselling that would be given to the woman individually.

When testing and counselling is part of ANC services, each woman must be reassured that declining an HIV test will not affect her access to ANC or related services. She should also be informed that if she changes her mind, an HIV test can be provided during a later visit.

Counselling couples

When possible, health care workers may encourage male partners to attend the ANC testing and counselling sessions.

Advantages of couples counselling

- Counselling male partners of pregnant women provides an opportunity to encourage men to practise safer sex by using condoms and by limiting the number of partners.
- During counselling, healthcare workers can emphasise the man's responsibility for protecting the health of his wife or partner and their family.
- Testing both partners together as a couple may reduce the likelihood that the woman will be “blamed” for bringing HIV infection into the family.
- Identifying discordant couples during counselling (one partner is HIV-negative and the other one is HIV-positive) will provide the opportunity to discuss safer sex practices.

Discordance in couples

Many couples are discordant. Yet a woman often believes that her HIV test results reflect her partner's status; she assumes that if she is negative then her partner is also negative, which is not always the case. If her partner is in fact HIV-positive and he infects the mother during pregnancy, the risk of transmitting HIV to the infant is very high.

Responsibilities of the healthcare worker when working with couples

Healthcare workers can encourage women to persuade their partners to participate in ANC services and seek testing for HIV, regardless of the woman's test result. Skill building, problem solving, and practising what the woman will say to her partner may help a woman disclose her results and refer her partner for testing. Alternatively, male partners can be referred to voluntary counselling and testing services (VCT). Specific information about agency hours, location, and services may be provided. If either the patient or her partner receives a positive HIV test result, refer the couple for treatment, care, and social support.

Considerations in counselling couples

- Establish a relationship with each partner.
- Assure them of confidentiality and support.
- Assess each person's understanding of HIV/AIDS.
- Avoid allowing one person to dominate the conversation.
- Explain the testing process.
- Discuss post-test counselling:
 - Ask whether they would prefer to receive the results separately or together. Most experts recommend receiving results together as a pre-condition for couples counselling.
 - Mention the possibility of discordant results (if one partner is infected while the other is not) and prepare them for this possibility.
- Provide information on available PMTCT interventions: ARV prophylaxis, infant-feeding practices.
- Confirm the benefits of knowing one's HIV status; discuss concerns or potential risks of such knowledge.
- Ask who else might be affected by test results.
- Confirm the couple's willingness to be tested.
- Be prepared to refer the couple for further counselling if indicated.

Exercise 6.3 Providing information: small group discussion	
Purpose	To review pre-test information and to practise providing information.
Duration	45 minutes
Instructions	<ul style="list-style-type: none">▪ You will be asked to participate in one of three groups; each group will be assigned a set of topics for discussion from one of three “Information sessions” in Appendix 6-D.▪ Select one participant to record the group’s discussion.▪ At the completion of the activity, one person in the group will present one of the topics to the larger group.▪ Using the questions and answers in Appendix 6-D as a guide, discuss how you might present or act out each one.▪ Participants will rotate as topic presenters until everyone has had a chance to present.

SESSION 4 Post-Test Information and Counselling

Post-test counselling

All HIV test results, whether positive or negative, must be given in person. Initial post-test counselling sessions are provided to each patient separately and privately, unless the post-test counselling is being provided to a couple.

The post-test counselling session for both the woman who is HIV-positive and the one who is HIV-negative has several goals:

- Provide the woman with her HIV test result.
- Help her understand the meaning of the result.
- Provide the appropriate PMTCT essential messages.
- Offer support, information, and referral.
- Encourage risk-reducing behaviour.
- Encourage disclosure and partner testing

When the woman is HIV-negative...

A negative result on an HIV antibody test means that a woman is not infected with HIV.

Post-test counselling provides an opportunity for a woman who is HIV-negative to learn how to protect herself and her infant from HIV infection. It is important that women know that if they become infected during pregnancy or while breastfeeding they face an increased risk of MTCT. Post-test counselling—even for those who test negative for HIV—provides women with a powerful incentive to adopt safer sex practices, discuss family planning, understand the issue of discordance, and encourage partner testing (see Session 3). Detailed steps in providing post-test counselling for women who are HIV-negative are in Appendix 6-E.

Components of post-test counselling for women testing HIV-negative

- Discuss the meaning of the result.
- Provide information about how to prevent future HIV infection.
- Inform her about the high risk of transmitting HIV to the infant if she is newly infected during pregnancy or breastfeeding.
- Inform her that counselling is available in the future if needed.

When the woman is HIV-positive...

A woman who tests HIV-positive is infected with HIV. Counselling women who test positive for HIV is challenging for healthcare workers, and patient reactions can range from acceptance to disbelief. The healthcare worker must remain non-judgemental, supportive, and confident throughout the counselling process. Healthcare workers should remember that they have the skills to provide difficult information to patients and they can draw on their experience.

Because women may present late in pregnancy or only attend ANC once, key PMTCT messages will need to be provided during the post-test counselling session. Also during the post-test counselling session, the healthcare worker should encourage the woman who is HIV-positive to attend subsequent ANC visits. During those visits, key PMTCT

messages can be reinforced and follow-up counselling provided. Referral for HIV treatment, care, and support is necessary.

See the detailed steps for providing post-test counselling for women who test HIV-positive in Appendix 6-F.

Components of post-test counselling for women testing HIV-positive

- Discuss the meaning of the test result.
- Determine whether she understands the meaning of the result and let her talk about her feelings.
- Talk about her immediate concerns.
- Inform her about essential PMTCT issues. Discuss and support initial ARV treatment, prophylaxis, and infant-feeding decisions.
- Discuss disclosure and partner testing.
- Encourage her to attend subsequent ANC visits and the importance of delivering in a PMTCT facility.

Disclosure of HIV status

During the initial post-test counselling session, the counsellor may begin the discussion about disclosure. By disclosing her HIV status to her partner and family, the woman may be in a better position to:

- Encourage the partner(s) to be HIV tested.
- Prevent the transmission of HIV to her partner(s).
- Access PMTCT interventions.
- Receive support from her partner(s) and family when accessing PMTCT and HIV treatment, care, and support services.

It is important to respect the woman's choice regarding the timing and process of disclosure. A woman may perceive disadvantages in disclosing her HIV diagnosis. In some communities, women who are HIV-infected and their families may face stigmatisation and discrimination. (See *Module 5: Stigma and Discrimination Related to MTCT*). If the woman has indicated that her partner(s) and family may react negatively to her HIV status, the counsellor can help the woman problem-solve and build skills to use when she discloses her HIV status.

Subsequent ANC visits

In most countries, pregnant women are encouraged to attend scheduled ANC visits throughout their pregnancy. However, in many resource-constrained settings, many pregnant women attend ANC once, often late in pregnancy, and do not make subsequent visits.

If pregnant women do make subsequent visits, the following topics should be addressed in the first ANC visit and reinforced during subsequent ANC visits:

- Interventions for PMTCT (*Module 3: Specific Interventions to Prevent MTCT*)
- Infant-feeding options (*Module 4: Infant Feeding in the Context of HIV Infection*)
- Follow-up care and treatment for the woman and her infant (*Module 7: Linkages to Treatment, Care and Support for Mothers and Families with HIV Infection*)

- Social support (*Module 7: Linkages to Treatment, Care and Support for Mothers and Families with HIV Infection and Module 8: Safety and Supportive Care in the Work Environment*)
- Family-planning options (*Module 2: Overview of HIV Prevention in Mothers, Infants, and Young Children*)

Exercise 6.4 Post-test counselling: small group role play	
Purpose	To practise post-test counselling skills by role playing.
Duration	60 minutes
Instructions	<ul style="list-style-type: none"> ▪ In a small group (about six women), review the Counselling Checklist in Appendix 6-G. ▪ Each group will be given two scenarios from Appendix 6-G, one for an HIV-negative result and one for an HIV-positive result. ▪ For each scenario, two participants will be asked to sit facing each other. One participant will be asked to play “patient” and one will be asked to play “counsellor”. ▪ Following the Counselling Checklist, the pair will role play the first scenario. If the counsellor has difficulty, another member of the team may help by tapping the counsellor on the shoulder and assuming the counsellor’s role. ▪ When the role play is finished, the pair should spend 5 minutes reviewing the experience with the rest of their team and ask the question: “Was anything important left out of the session?” ▪ Exchange roles and continue switching until each member practises post-test counselling (using both scenarios, time permitting). ▪ Respond to the following questions: <ul style="list-style-type: none"> ▪ How did you feel in your role as a counsellor? ▪ What was the hardest part of counselling? ▪ Do you understand how basic communication skills can be used during counselling sessions? ▪ What positive reactions did you experience in the session?

Counselling and testing for women of unknown HIV status at the time of labour and delivery

In some settings, women who have not been tested during ANC or did not attend ANC may present to the health service at the time of labour with unknown HIV status. National and local policies can provide guidance on how to test and counsel women of unknown HIV status during labour and delivery. Although it may be difficult to offer counselling or obtain informed consent during labour, it is recommended that the opt-out approach to testing be used (See Session 1) during labour and that post-test counselling be provided after delivery. In these circumstances, decisions about antiretroviral therapy will be based on national or local policies (see *Module 3 Specific Interventions to Prevent MTCT*). In some cases it will be possible to provide ARV prophylaxis to the mother and the infant and in other cases it will only be possible to provide ARV prophylaxis to the infant.

Module 6: Key Points

- Pre-test information, HIV testing and post-test counselling should be available to all pregnant women on an “opt-in” or “opt-out” basis as determined by national or local policy.
- The healthcare provider and the facility must maintain confidentiality of HIV status.
- Partner testing and couples counselling are encouraged.
- Rapid tests with same day results are the recommended procedure for most ANC settings.
- Infant diagnosis is complex but important for clinical management.
 - Standard diagnosis is done by antibody test at 18 months.
 - Earlier diagnosis is possible with PCR testing.
- Post-test counselling is important for all women:
 - For HIV-negative women, emphasise the prevention of HIV infection.
 - For women infected with HIV, provide referrals to the PMTCT program and options for treatment, care and support.
- Disclosure skills building should be encouraged for all women regardless of HIV status.

APPENDIX 6-A Training, roles, and responsibilities of HIV counsellors

Counsellor level	Roles and responsibilities
<p>Senior counsellor (coordinator, supervisor) Experienced counsellor with advanced training in counselling</p>	<ul style="list-style-type: none"> ▪ Support and supervise other counsellors ▪ Monitor counsellors ▪ Train groups of counsellors ▪ Accept referrals of difficult or complex cases ▪ Facilitate and supervise support clubs occasionally
<p>Professional counsellor Counsellor with an appropriate background in nursing, teaching, or a related field, who participates in ongoing training</p>	<ul style="list-style-type: none"> ▪ Pre- and post-test counselling ▪ Couples counselling ▪ Follow-up counselling ▪ Support for peer and lay counsellors ▪ Identification and assessment of adverse events or mental health consequences and indications
<p>Peer counsellor Counsellor from the same background as the patient, often a woman who has been involved in PMTCT projects; also peer counsellors in the workplace, youth peer counsellors, counsellors with HIV/AIDS</p>	<ul style="list-style-type: none"> ▪ Advocacy and community mobilisation ▪ HIV education and preventive counselling ▪ Follow-up and supportive counselling in uncomplicated cases ▪ Integration of persons living with HIV/AIDS into community activities
<p>Lay counsellor Counsellor with pre- and post-test training and training in ongoing counselling</p>	<ul style="list-style-type: none"> ▪ Pre- and post-test counselling for routine cases ▪ Follow-up and supportive counselling for uncomplicated cases
<p>Adapted from World Health Organisation (WHO). 2003 (July). <i>Guidance on the Provision of T & C for Women in Antenatal Care, Childbirth, and Resource-Constrained Settings</i> [Draft].</p>	

APPENDIX 6-B Talking with parents about their child's HIV test results

Prepare for the talk with parent or guardian.

- Make sure you have the child's test result and inform the parent that you have the result.
- Schedule an appointment.

Greet the parent and establish rapport.

- Ask if the parent or guardian has had any questions since the child's blood test. Answer the questions and let the patient know that counselling will continue to be available to help with important decisions.

Inform the parent of the test result.

- Ask, "Are you ready to receive your child's HIV test result?"
- State, in a neutral tone, "The baby's test result is positive. That means that the baby has HIV infection."
- Pause and wait for the parent to respond before continuing. Give the parent time to express any emotions.
- If the parent would like to see proof of the result, provide it.
- Check the parent's understanding of the result's meaning. Discuss and support the parent's feelings and emotions.
- Explain that the blood test revealed evidence of HIV, the virus that causes AIDS, in the baby's body. Review the testing procedure with the parent and check to be sure he or she understands the test results. Explain the accuracy of the test. Allow time for silence.
- Reassure the family that, although there is no cure, there are treatments for infections that the child can receive. Emphasise that children can live many years before they become sick with AIDS-related illnesses. Talk about available ARV treatments for HIV.
- Recognise that many people may interpret this diagnosis as a death sentence. Anticipate reactions of grief, shock, disbelief, denial, and anger. Offer appropriate support.

Discuss ways to keep the child healthy.

- Emphasise the need for immunisations.
- Talk about good nutrition.
- Stress that the child should be allowed to live an active life and play like other children whenever possible.
- Review the importance of prompt medical attention as well as preventive care. If the baby is less than 12 months old, stress the importance of PCP prophylaxis; ensure access to cotrimoxazole, and instruct the parent in how to give the liquid.
- Refer the child for HIV treatment and care if not provided in your facility.

APPENDIX 6-B Talking with parents about their child's HIV test results *(continued)*

Review Universal Precautions.

- Reassure the family that close contact with family members and normal baby care do not transmit HIV.
- Review measures for diaper/nappy changing (no gloves are necessary), blood spills (use a barrier), and open sores (they should be covered).

Identify other family members who may be at risk of HIV infection.

- Identify, counsel, and test siblings who may be at risk. Families must be given the time and support to do this.

Identify a support system.

- Identify a personal support system for the family.
- Assess the psychological status of mother and other family members.
- Refer family to a support group, if they are interested.
- Provide the family with written material that they can take home, if they are interested.

Review issues of confidentiality.

- Introduce disclosure issues.
- Explain how confidentiality is handled in the clinical setting.

Assess the family's understanding of the diagnosis, treatment, and care at each visit.

- Review and offer additional information as appropriate.

APPENDIX 6-C Basic counselling skills

Empathising

Empathy is the identification with and understanding of another person's situation, feelings, and motives. To empathise is to see the world through the other person's eyes and understand how that person feels. The counsellor should listen to the patient carefully and try to understand the patient's situation and feelings without being judgmental. Empathy should not be confused with pity.

Active listening

The active listener pays attention to what the patient says and does, and listens in a way that shows respect, interest, and empathy. Active listening is more than just hearing what the patient says. It means paying close attention to the content of the message as well as the feelings and worries that can be expressed through movement, tone of voice, facial expression, and posture.

Open questioning and probing

Open-ended questions elicit more than one-word answers. They often begin with "how," "what," or "why." Such questions encourage the patient to express feelings freely and to share information relevant to the situation. Probing uses questions to help the patient express feelings and information more clearly. Probing often is necessary when the counsellor needs more information about a patient's feelings or situation.

Focusing

Patients often are overwhelmed by many problems, and they may try to address all of their problems at once. It is important for the counsellor and the patient to stay focused on the goals of the counselling session. Counsellors might need to refocus or redirect patient questions that can be addressed later in the session. If the patient wants to talk about other emotional or personal issues, the counsellor should consider providing referrals for additional support.

Correcting inaccurate information

It is the responsibility of the counsellor to provide patients with accurate information and correct misconceptions. The counsellor should identify false information and correct it quickly. This must be done sensitively so the patient does not feel inadequate or become defensive. It is not always necessary to give detailed explanations of facts.

APPENDIX 6-C Basic counselling skills *(continued)*

Characteristics of a good counsellor

- Establish rapport by greeting patients with respect, introducing themselves, and explaining their roles as counsellors.
- Understand the issue at hand, whether it is HIV risk reduction, HIV testing, infant feeding, family planning, or HIV treatment and procedures.
- Are sensitive to cultural and psychological factors that might affect patients' decision-making process.
- Are nonjudgmental and treat patients with respect and kindness.
- Present information sensitively, using language patients understand.
- Encourage patients to ask questions.
- Listen actively to patients' concerns.
- Recognise when it is necessary to refer patients for additional help or support.
- Notice and respond to nonverbal communication (body language).

APPENDIX 6-D Providing pre-test information, exercise 6.3

Information session: Group 1

Introduction

Group information sessions can be offered in the ANC clinic setting. As a group, review the following topics one at a time and discuss which key points should be covered in a group information session. Use the questions and answers below to guide you.

- An overview of HIV and AIDS
- Sources and prevention of HIV transmission
- Sexually transmitted infections (STIs) and HIV
- Mother-to-child transmission of HIV and prevention

What is the difference between HIV and AIDS?

HIV is the virus that causes AIDS. Someone can be infected with HIV and not know it. An infected person might not feel ill for many years. AIDS is the disease caused by the HIV virus. When you get AIDS your body's defence system has been very weakened by the HIV virus.

There is no cure for HIV and AIDS, but drugs are available that can help prevent related infections. Some drugs are available that slow the virus and help HIV-infected people stay healthy for many years.

What is happening in our country? How many people are HIV-infected? How many are men, how many are women or children?

Share recent national statistics on the spread of HIV and its prevalence in women attending antenatal and STI clinics.

What are some common myths about HIV?

Share commonly held beliefs and myths about HIV and AIDS.

How can you get HIV?

The most common way to get HIV is by having unprotected sex with an HIV-infected person. A baby can get HIV from an HIV-infected mother during pregnancy, labour and delivery, or breastfeeding. HIV infection can also be transmitted when people share equipment (needles/syringes) to inject drugs or any other substance (vaccines, vitamins). It can also be transmitted by sharing other sharp objects such as blades or piercing equipment used in any process (piercing/scarification) that involves blood. HIV can be transmitted to a person who receives blood that has not been screened for HIV.

What are some ways to prevent HIV infection?

- Sexual abstinence—not having sex
- Practising faithfulness between two uninfected partners
- Limiting sexual contact to one partner who is HIV negative
- Avoiding drug abuse
- Not sharing contaminated needles

APPENDIX 6-D Providing pre-test information, exercise 6.3 *(continued)*

What kinds of things may put you at risk for HIV?

- Having unprotected sex with a person with HIV infection
- Engaging in high-risk behaviours, including having several sex partners, having anal sex
- Using drugs of abuse or sharing contaminated needles
- Not knowing whether your partner is HIV negative or positive
- Having a sexually transmitted infection (eg gonorrhoea or syphilis) can increase the risk of getting HIV by 2–5 times

What are ways to decrease the risk of getting HIV?

Add to patient's suggestions other options for decreasing the risk of HIV, such as:

- Do not have unprotected sex with a high-risk partner.
- Always use condoms, if several partners.
- Talk to your partner about HIV testing.
- Talk about HIV concerns with a partner or friend.
- Reduce alcohol and/or drug use.
- Avoid places where you often participate in high-risk behaviours.
- Abstain from sex or use condoms until you and your partner have been tested.

What are choices that could decrease your risks?

- Emphasise the importance of making small, reasonable changes rather than setting unrealistic goals, such as never having sex again. Ask patients to share their plans with a close friend or someone they trust.

How do babies get HIV from their mothers who are HIV-infected?

- If a woman is HIV-infected and pregnant, there are three ways her baby can get HIV: in the womb during the pregnancy, labour and delivery, or during breastfeeding.
- Although the risk of infecting the baby is always present, a woman who is HIV-infected can give birth to a baby who is HIV-negative. Inside the womb the placenta acts like a filter between the mother and the baby. So the mother and the baby have separate blood systems. This helps prevent the mother from giving HIV to the baby in the womb. But sometimes blood does cross between the blood systems of the mother and baby. So some babies can get HIV in the womb.
- There are two other ways a mother who is HIV-infected can give the virus to her baby. The most likely way is during labour and delivery. This is because the baby comes into direct contact with the mother's blood. A mother also can give HIV to her baby during breastfeeding.
- It is hard to tell whether a newborn baby is infected. However, the baby can be tested for infection as per the site's testing policy.
- The good news is there are medicines that can greatly reduce the risk of a mother transmitting HIV to the baby during delivery. These medicines offer new hope to families.

APPENDIX 6-D Providing pre-test information, exercise 6.3 *(continued)*

What is the Prevention of Mother-to-Child Transmission of HIV, or PMTCT programme?

This programme helps reduce the chance that babies born to HIV-infected women will be infected with HIV. The programme has several parts:

- Testing and counselling to help uninfected women remain free of HIV and protect their families from the disease and to help women who are HIV-infected receive special care to reduce HIV-transmission to their babies
- Medicine—antiretroviral treatment—to reduce the baby’s risk of getting HIV
- Counselling and support for safer infant-feeding practices
- Referral to treatment, care, and support programmes

Information session: Group 2

Introduction

Group information sessions can be offered in the ANC clinic setting. As a group, review the following bulleted topics one at a time and discuss which key points should be covered in a group information session. Use the questions and answers below to guide you.

- HIV testing process
- Benefits and risks of HIV testing
- Confidentiality
- Implications of test results, both positive and negative

How is HIV testing conducted?

- Testing is offered to all pregnant women. Everyone has the right to refuse HIV testing.
- The test tells if a woman is infected with HIV or not. On very rare occasions, if a woman has had a recent risk or exposure, the test results may not reflect that exposure. Therefore, it is recommended that a woman who has recently been at risk be retested 3 months from her risk exposure.
- A positive HIV test means a woman has the HIV virus in her blood. It does not mean she has AIDS; it does not tell her when she will get sick. A negative HIV test means she does not have the HIV in her body.
- Share the site’s testing process, whether rapid or standard ELISA.

APPENDIX 6-D Providing pre-test information, exercise 6.3 *(continued)*

What are the advantages of knowing the test results?

- Knowing her HIV status can help a woman make informed decisions about her pregnancy.
- If she is HIV-infected, knowing her status can help her access HIV services for herself and to prevent transmitting HIV infection to her baby.
- Knowing her HIV status allows her to reduce the risk of infecting other people.
- Early testing makes it easier to plan for the future.
- If a woman finds out she is HIV negative, she can learn how to stay uninfected and keep her family safe from HIV infection.
- There are many preventive health care services that can improve a woman's quality of life and prolong her life.
- Increasingly, medications for the treatment of HIV infection are becoming available. These medications reduce the damage that HIV does to the body and prolongs life.

What are the disadvantages of testing for HIV?

- A woman might experience a little discomfort or bruising during the blood sampling process (a finger prick or blood taken from the arm).
- Programmes may not be readily available for help or treatment, but she can be referred.
- There is sometimes the risk of being stigmatised or discriminated against.

Who can receive information about your test results?

- Test results are confidential and become part of a woman's medical records. They can only be shared with healthcare workers who are involved in her care and treatment—and only on an “as-needed” basis. She has the right to decide if anyone other than healthcare workers may receive this information, and she is entitled to receive support in that disclosure process.

Information session: Group 3

Introduction

Group information sessions can be offered in the ANC clinic setting. As a group, review the following bulleted topics one at a time and discuss which key points should be covered in a group information session. Use the questions and answers below to guide you.

- Identifying HIV support services
- Family planning
- Individual counselling for risk assessment
- Testing and counselling for couples

APPENDIX 6-D Providing pre-test information, exercise 6.3 *(continued)*

What types of services are available in your community for the person who is HIV-infected?

Have each participant think about the types of services that might be needed if test results showed the participant (or participant's partner) was HIV-infected. PMTCT programmes can help link people to many services for themselves, their infant or child, and their family such as:

- Nutritional support
- Couples counselling
- Medical treatment and medicines to prevent transmission to the infant
- Treatment to prevent opportunistic infections
- Spiritual support, referral to a faith-based organisation
- Peer support groups
- Classes to learn safer infant-feeding practices
- Safe water programs

Who can benefit from family planning classes?

- Couples are encouraged to attend classes together when possible. Information may be presented on condom use and safer sex practices to prevent both the spread of HIV infection and unintended pregnancies.
- In some cultures, where sexual relations are limited during pregnancy and immediately following childbirth, information may be provided to help couples encouraging them to maintain closeness through non-risk behaviours.
- Fathers can learn to appreciate their role as responsible guardians of the health and welfare of their wife and family.

When is it better to refer someone for individual counselling?

- Counsellors should assess whether referral to individual pre-test counselling is necessary based on national or clinic guidelines. In some countries, individual counselling is provided only when a woman has concerns or questions. During this time, sensitive issues can be discussed more openly with the assurance of complete confidentiality.
- When the patient has questions that cannot be answered by PMTCT/ANC staff—such as questions about STIs and risky sex practices—the questions can be answered in an individual counselling session and suggestions can be provided to help reduce harm to the individual and the partner(s).

What are the benefits of couples counselling?

- Each person has the right to complete information about HIV/AIDS and its transmission.
- Both partners may come to understand the benefits and risks of testing, and the benefit of knowing their status while receiving assurance that confidentiality will be maintained.
- Together, they can work on family planning issues, and accepting responsibility for preventing unintended pregnancies and the spread of HIV infection.
- Together, they can come to understand the value of their partnership for protecting their family's health and planning for the future.

APPENDIX 6-E Post-test counselling checklist, HIV-negative result

Counselling is a relationship and provides an opportunity to establish a rapport with the patient, answer questions, and make sure the patient understands the information you are providing.

- ✓ Make sure you have the patient's test result and inform the patient that you have the result.
- ✓ Greet the patient.
- ✓ Ask whether the patient has any questions since being tested. Answer questions and let the patient know counselling will continue to be available to help with important decisions.
- ✓ Recap the pre-test information/counselling session. Let the patient know you are doing this to make sure he or she remembers important information.
- ✓ Indicate that the HIV test result is ready and provide results in a straight forward manner. State in a neutral tone: "Your test result is negative."
- ✓ Pause and wait for the patient to respond before continuing. Give the patient time to express any emotions.
- ✓ Explore the patient's understanding of the meaning of the results.
- ✓ Discuss and support the patient's feelings and emotions.
- ✓ If there was a recent risk exposure, discuss the need to re-test.
- ✓ Talk about specific risk reduction strategies with the patient:
 - ☑ Partner referral for testing and if negative faithfulness
 - ☑ Use of condoms
 - ☑ Limiting the number of sexual partners
- ✓ Talk with the patient again about disclosure and about partner testing.
- ✓ Discuss discordance.
- ✓ Inform the patient that counselling is available for couples.
- ✓ Emphasise the importance of protecting herself from infection while pregnant or breastfeeding, and explain how doing that will lower the risk that her infant will become HIV infected.
- ✓ Ask whether the patient has questions or concerns. Give the patient contact information for the clinic should any new concerns arise.
- ✓ Discuss support issues and subsequent counselling sessions.
- ✓ Remind women and families that counselling or referral to counselling will be available throughout the pregnancy to help them plan for the future and to obtain services.

APPENDIX 6-F Post-test counselling checklist, HIV-positive result

Counselling is a relationship and provides an opportunity to establish a rapport with the patient, answer questions, and make sure the patient understands the information you are providing.

- ✓ Greet the patient.
- ✓ Make sure you have the patient's test result and inform the patient that you have the result.
- ✓ Ask whether the patient has any questions since being tested. Answer questions and let the patient know counselling will continue to be available to help with important decisions.
- ✓ Recap the pre-test information/counselling session. Let the patient know you are doing this to make sure he or she remembers important information.
- ✓ Indicate that the HIV test result is ready and provide it in a straight forward manner. State in a neutral tone: "Your test result is positive".
- ✓ Pause and wait for the patient to respond before continuing. Give the patient time to express any emotions.
- ✓ Check the patient's understanding of the meaning of the results.
- ✓ Explore and support the patient's feelings and emotions.
- ✓ Normalise the patient's feelings and emotions.
- ✓ Inform the patient of essential PMTCT issues. Discuss and support initial decisions about:
 - ☑ Antiretroviral treatment and prophylaxis
 - ☑ Infant-feeding options
 - ☑ Childbirth plans
 - ☑ Adequate nutrition
 - ☑ Address Positive Living and provide referral for preventive health care services
 - ☑ Prompt medical attention, prophylaxis, and treatment of opportunistic infections
 - ☑ Stress management and support systems
- ✓ Explain that the woman's test results do not indicate whether her partner is infected and that her partner will need to be tested.
- ✓ Discuss disclosure and support issues.
- ✓ Address risk reduction that is necessary to protect her partner(s) and herself from re-infection:
 - ☑ Condom use
 - ☑ Reducing the risk of infecting others and screening and treatment for sexually transmitted infections
- ✓ Identify sources of hope for the patient, such as family, friends, community-based services, spiritual supports, and treatment options. Make referrals when appropriate.
- ✓ If the patient already has children, discuss and plan for testing of children.
- ✓ Ask whether the patient has questions or concerns. Give the patient contact information for the clinic should concerns arise.
- ✓ Remind mothers and families that counselling will be available throughout the pregnancy to help them plan for the future and obtain necessary services.

APPENDIX 6-G Role play scenarios for post-test counselling, exercise 6.4 and counselling checklist

Scenarios for HIV-negative test results

Scenario 1 Shonda is 17 years old and has been dating her boyfriend for one year. She started having unprotected sexual relations with him three months ago, and is now pregnant. She suspects that her boyfriend may be at risk for HIV since he has not been faithful to her, although he denies this. During her first visit to ANC, she decided to be tested, just in case she is infected.

Scenario 2 Paul and Maria have been married for 2 years. They are now planning to start their family. Before they married, Paul experimented with drugs, including needle sharing. Although he has never had any HIV symptoms, they have decided to both be testing prior to starting a family.

Scenario 3 Lisa is a student in computer school and is in her third trimester of pregnancy. Although she is in a committed relationship with the father of her child, in the past she had multiple sexual partners and engaged in unprotected sex. After attending her first ANC visit she understood that she might be at risk for HIV and, as she does not want to put her partner or baby at risk, she decided to be tested.

Scenarios for HIV-positive test results

Scenario 1 Debbie is working on a truck route as a commercial sex worker and sees many men each week. She has tried to get them to use condoms but many of them refuse. She is in her 28th week of pregnancy and this is her first visit to the ANC clinic. She is worried about her baby's safety and has agreed to be tested for HIV.

Scenario 2 Margaret and Steven have been married for six years and have three children. She is now in her second trimester of pregnancy and suspects they may be having twins. Last year, the couple had separated for approximately four months. During that time, Steven had sexual relations with someone whom, he later found out, was HIV-infected. Margaret is aware of this and, because of the pregnancy, knows that the baby is at risk for HIV-infection if she has HIV. Steven has refused testing, but she was tested and he has accompanied her to the clinic today to hear her results.

Scenario 3 Christine works in housekeeping at the ANC clinic. She is well liked by all the staff and recently found out she is going to have her first baby. Prior to working at the clinic, she was a patient in a community drug rehabilitation programme in a nearby town. No one at the clinic is aware of this. She knows, because of previous behaviours, that she needs to be tested for HIV. She approached one of the healthcare workers and asked for her help getting tested. She is very concerned that other staff may find out and wants test results kept confidential between her and this one healthcare worker.

APPENDIX 6-G Counselling checklist

Counselling checklist As you observe your colleagues role play, indicate the techniques they use by placing a check in the appropriate box.		
Skills and techniques	Specific strategies, statements, behaviours	<input checked="" type="checkbox"/>
Establishing a relationship	▪ Greets the patient; shakes hands if appropriate	<input type="checkbox"/>
	▪ Offers a seat	<input type="checkbox"/>
	▪ Leans forward when talking	<input type="checkbox"/>
	▪ Makes eye contact (when appropriate)	<input type="checkbox"/>
	▪ Shows interest in the patient	<input type="checkbox"/>
	▪ Other (specify)	<input type="checkbox"/>
Listening	▪ Looks at the patient	<input type="checkbox"/>
	▪ Body language indicates attentiveness to speaker	<input type="checkbox"/>
	▪ Makes eye contact to indicate care and interest (when appropriate)	<input type="checkbox"/>
	▪ Facial expression indicates caring and interest in the patient	<input type="checkbox"/>
	▪ Uses minimal encouragers such as yes, okay, etc.	<input type="checkbox"/>
	▪ Checks to be sure the counsellor understands what the patient is saying	<input type="checkbox"/>
	▪ Occasionally sums up patient's statements	<input type="checkbox"/>
	▪ Other (specify)	<input type="checkbox"/>
Empathy	▪ Comments on patient's challenges while also indicating patient's strengths	<input type="checkbox"/>
	▪ Reflects statements back to patient to indicate understanding	<input type="checkbox"/>
	▪ Other (specify)	<input type="checkbox"/>
Questioning	▪ Uses closed-ended questions to get basic information such as demographic data	<input type="checkbox"/>
	▪ Avoids overuse of closed-ended questions	<input type="checkbox"/>
	▪ Uses open-ended questions to get more in-depth information from patient	<input type="checkbox"/>
	▪ Style of questioning reflects interest, care, and concern, not interrogation	<input type="checkbox"/>
	▪ Asks relevant questions	<input type="checkbox"/>
	▪ Other (specify):	<input type="checkbox"/>
Clarifying	▪ Checks understanding of what the patient is saying	<input type="checkbox"/>
	▪ Uses phrases such as: "Are you saying that...?" or "Correct me if I am wrong..."	<input type="checkbox"/>
	▪ Other (specify):	<input type="checkbox"/>
Providing technical information (on pre-test counselling, testing procedures, test results, post-test counselling)	▪ Provided information on HIV	<input type="checkbox"/>
	▪ Provided information on the testing process and results	<input type="checkbox"/>
	▪ Discussed confidentiality	<input type="checkbox"/>
	▪ Explained the meaning of the test result	<input type="checkbox"/>
	▪ For HIV-negative patients, provided information on staying negative	<input type="checkbox"/>
	▪ For HIV-positive patients, provided information on the meaning of the test result and PMTCT	<input type="checkbox"/>



Module 7 Linkages to Treatment, Care, and Support for Mothers and Families with HIV Infection

- SESSION 1** Linkages with Local Treatment, Care, and Support Services for Mothers and Families
- SESSION 2** Treatment, Care, and Support of the Mother with HIV Infection
- SESSION 3** Treatment, Care, and Support of the Infant and Young Child Exposed to HIV

After completing the module, the participant will be able to:

- Explain the treatment, care, and support needs of mothers with HIV infection and their infants who are HIV-exposed.
- Identify local supportive resources for mothers, children, and their families.
- Develop and strengthen linkages with treatment, care, and support services for women and children infected with or exposed to HIV.

Relevant Policies for Inclusion in National Curriculum

Session 1

- Listing of local agencies providing clinical and social support services for mothers and families with HIV

Session 2

- Guidelines on postpartum care of the mother with HIV infection
- Guidelines on prevention and treatment of opportunistic infections such as PCP and TB
- National guidelines on HIV care and treatment for adults, including ARV treatment
- Any other national guidelines on treatment of symptoms and palliative care, nutritional support, and social and psychosocial support (If not included above)

Session 3

- Guidelines for follow-up visits and immunisation schedule for the infant or child who is HIV-exposed
- Clinical guidelines on the care and treatment (including ARV treatment) of infants and children who are HIV-exposed or HIV-infected



The *Pocket Guide* contains a summary of each session in this module.

SESSION 1 Linkages with Local Treatment, Care, and Support Services for Mothers and Families

The follow-up treatment, care, and support that women who are HIV-infected receive after delivery, and the care of their children and families, can be strengthened if linkages are made with comprehensive community health services that include HIV/AIDS treatment and care, social support, and patient advocacy. It is important that treatment and care extend beyond PMTCT prophylaxis for women, infants, and family members at risk for or infected with HIV.

Linkages can be fostered in many ways:

- Programme developers can establish linkages by integrating PMTCT services into existing maternal and child health (MCH) services.
- Clinicians and healthcare workers can expand their practices to include necessary referrals and then follow up to ensure families have easy access to linked services.
- Community workers, including lay counsellors, can assist women in obtaining treatment, care, and support services.

Linkages between MCH and HIV services

- MCH services are entry points for PMTCT and for the treatment, care, and support of women who are HIV-infected and their infants and other family members.
- PMTCT is integrated into MCH services through training (building human capacity) and programme development.
- Caring for and treating families affected by HIV is a shared responsibility.
- All children born to women who are HIV-infected require close follow up and appropriate care.
- Community MCH workers may be encouraged to provide information on health promotion and disease prevention, as well as care and support services to these families.
- Specialists in HIV who care for women and children may provide consultation, anti-retroviral treatment, and help with the ongoing management of HIV infection.

Linkages with other health programmes for special needs

- Some programmes target specific health needs, such as family planning, treatment of sexually transmitted infections (STIs), or assistance with substance abuse.
- Disease-specific programmes, such as those for people with tuberculosis (TB) may benefit women who are HIV-infected. TB, which is highly prevalent in certain countries, is a leading cause of mortality in persons infected with HIV. (See Appendix 7-A.)
- Nutritional support programmes for mothers and children are especially important for people living with HIV/AIDS (PLWHA).

Linkages to community-based AIDS service organisations

Linkages to community-based organisations can provide the resources to help women who are HIV-infected and their families cope with the isolation, social stigma, and emotional pressures that often accompany a diagnosis of HIV. They also may provide women infected with HIV a way to become involved in voluntary or paid HIV-related work.

- Non-governmental organisations (NGOs), faith-based organisations (FBOs), and similar agencies often provide treatment, care, and support services for mothers who are HIV-infected and family members.

- Linkages between healthcare programmes and other community based and faith-based organisations may improve patient care.
- Faith-based organisations and traditional healers may offer another important source of social and community support.
- Many community agencies may also provide education, counselling, and testing about HIV prevention and safer sex.
- Linkages to programmes for preventing and treating malaria or TB, or to programmes that offer nutritional support help women gain access to needed services.
- Relationships between health clinics and community programmes may offer connections to counselling, peer education support groups, and networks for PLWHA.
- Organisations of PLWHA are one of the most important sources of support for mothers diagnosed with HIV infection in PMTCT programmes and for their families.
- Community organisations often help PLWHA with specific needs such as housing, transportation, food assistance, legal assistance and advice, and income-generating activities.

Building community teams for shared responsibility

- Formalise connections among MCH programmes, health systems, and community programmes, whenever possible.
- As people who work in community agencies and healthcare settings learn more about services available outside of their own setting, people living with HIV/AIDS can gain access to a wider range of services.

Exercise 7.1 Community linkages: small group discussion

Purpose	Identify the range of services locally available to PLWHA. Encourage interagency networking and linkages. Facilitate client referral to community services.
Duration	60 minutes
Instructions	<ul style="list-style-type: none"> ▪ Participants will be divided into several small groups according to their geographic location or affiliation with a certain facility. ▪ Each group will assign someone to record information on paper and another person to act as spokesperson for the group when reporting information later on. ▪ Use copies of Appendix 7-B to help identify locally available community resources, then record them on paper. ▪ Under each resource category listed in the left-hand column, try to answer the following questions: <ul style="list-style-type: none"> ▪ Can you list a resource under each heading? ▪ Are you aware of the address, location and hours of operation of each service? ▪ For each resource listed, do you know of a contact person for networking and referral? ▪ Do you have resources missing from the list? ▪ Can you think of other resources that are not included? ▪ Are you in contact with key community members that you might partner with to expand your resource list? ▪ You will have 35 minutes to complete this exercise. ▪ When you are finished, each group will present their findings to be shared with all participants.

SESSION 2 Treatment, Care, and Support of the Mother with HIV Infection

Postpartum care of the mother with HIV infection

Healthcare workers should ensure that women who are infected with HIV and have given birth in a healthcare facility return for postpartum appointments or are visited at home.

Women who have given birth at home should be evaluated 1 week after the birth and again at 6 weeks.

Include the following during visits:

Assessment of healing

- Check wound healing.
- Monitor uterine involution.
- Confirm cessation of postpartum bleeding.

Infant-feeding support

(Also see *Module 4, Infant Feeding in the Context of HIV Infection.*)

- Assess progress of infant feeding.
- Assist the mother to safely implement her chosen feeding option.
- Assess family support for the infant-feeding option.
- Work with the mother to develop a plan to address challenges.

Sexual and reproductive care

(Also see *Module 2, Overview of HIV Prevention in Mothers, Infants, and Young Children*)

- Discuss condom use as dual protection (against STIs, including HIV, and for family planning).
- Support the mother's choice of contraceptive method.
- Discuss the importance of safer sex to prevent the spread of HIV and other STIs.
- Provide advice regarding early STI treatment, including symptom recognition and where to go for STI assessment and treatment.
- Answer any questions the woman may have about safer sex behaviours.

Related services for HIV treatment, care, and support

The postpartum period is an ideal time to link the woman who is HIV-infected to comprehensive care that will support her health, prevent complications, and improve her ability to live with HIV.

A range of related services should be provided directly or by referral, including those listed below:

- Prevention and treatment of opportunistic infections
- ARV treatment when indicated and available
- Treatment of symptoms and palliative care
- Nutritional support
- Social and psychosocial support
- Faith-based support
- Home-based care

Prevention and treatment of opportunistic infections

Infections are a major complication of HIV. Preventing opportunistic and other infections will help a woman stay healthier and preserve her immune system.

Prevention and treatment of malaria

Recommend the use of insecticide-treated bed nets to prevent malaria in areas where it is endemic. Offer malaria treatment and prophylaxis according to national guidelines.

Pneumocystis carinii pneumonia prophylaxis

WHO recommends the use of cotrimoxazole to help prevent *pneumocystis carinii* pneumonia (PCP) in adults who meet any one of several criteria listed in Appendix 7-C. Cotrimoxazole also may reduce the risk of other bacterial infections and toxoplasmosis.

Prophylaxis, screening, and treatment for TB

An estimated 40% of persons who are HIV-infected will develop TB in their lifetime. Refer to country protocols regarding prophylaxis, screening, and treatment of TB, particularly in high prevalence areas. (See Appendix 7-A for recommendations.)

Immunisations

Recommendations for immunisations should follow national and WHO guidelines for adults who are HIV-infected.

Antiretroviral treatment

Although ARV prophylaxis during pregnancy reduces the risk of MTCT, it does not provide any long-term benefit to the mother. When indicated, (ie, when the patient meets clinical criteria to start antiretroviral treatment) antiretroviral treatment to suppress viral replication and promote a better quality of life is needed.

Antiretroviral treatment

Support for antiretroviral treatment for women who are HIV-infected is becoming increasingly available. Women initially followed in PMTCT settings should be linked to treatment services for themselves and their families (PMTCT-Plus). International and national policies and guidelines provide support for this process including criteria for initiating treatment. See Appendix 3-B for WHO recommendations.

Combining ARV drugs to reduce the HIV viral load as much as possible—and for as long as possible—is the standard of care for HIV treatment. A combination of three or more ARV drugs, referred to as highly active antiretroviral therapy (HAART), slows replication of HIV.

The advantages are

- Improved health status
- Decreased MTCT rates
- Reduced HIV-related hospitalisations
- Reduction in number of deaths from AIDS

A high level of patient adherence to ARV treatment and care regimens may reduce drug resistance and ensure better efficacy. Creative strategies to help patients achieve optimal adherence are essential components of successful HIV/AIDS treatment programmes. Consider the following methods:

- Provide education and establish patient readiness prior to initiating treatment.
- Recognise that immediately postpartum, women will require additional support.
- Consider the use of practical adherence tools such as pill boxes, and written instructions.
- Explore patient's daily meal patterns, work schedule, and sleep patterns to find the best time to take medications.
- Develop culturally appropriate strategies to overcome barriers and support adherence when possible.

Treatment of symptoms and palliative care

PLWHA are subject to HIV symptoms that can limit participation in family and community activities. Healthcare interventions that focus on managing symptoms and relieving discomfort can improve a woman's quality of life. Simple management of common HIV symptoms, such as nausea, vomiting, fatigue and skin problems can ease discomfort. Assessment and management of more complex issues such as pain, weight loss and wasting resulting from disease progression can improve comfort, function and emotional well-being.

Palliative care is patient and family-centred care that:

- Provides access to information and honours a person's choices
- Optimises quality of life
- Anticipates, prevents, and treats suffering
- Addresses physical, emotional, social, and spiritual needs

Nutritional counselling, care, and support

Often, people with HIV infection or AIDS have symptoms that make food preparation and eating difficult. Appendix 7-D lists some of the symptoms of HIV/AIDS and ways in which people may reduce or overcome those symptoms while maintaining adequate nutrition.

Women receiving HIV-related medications require counselling on specific dietary practices and nutritional needs, in order to successfully manage side effects and avoid nutrition-related complications. Antenatal counselling for safer infant-feeding practices and postnatal support for the feeding option a woman selects may help ensure adequate nutrition and the proper growth and development of her child.

PLWHA are especially vulnerable to bacterial infections because their immune systems become weakened. Emphasise to PLWHA the importance of cleanliness during food preparation and storage.

Adequate nutrition, exercise, rest, good hygiene practices, and abstinence from harmful habits such as smoking, alcohol and drug abuse support overall health and improve immune function.

Social and psychosocial support

Because people with HIV face stigma in many communities (See *Module 5, Stigma and Discrimination Related to MTCT*), women who are HIV-infected often are reluctant to disclose their serostatus to partners, family, or friends. Moreover, a woman who has learned of her HIV serostatus during prenatal HIV testing may still be adjusting to her diagnosis. Regular monitoring of mental health and psychosocial care and support are critical at all stages of HIV infection. The following services should be offered directly or by referral:

- Support to help the woman come to terms with her diagnosis
- Psychosocial support for the mother and for the infant who is exposed to HIV in cases when the infant's HIV status is uncertain and when a positive diagnosis is made
- Community support, including referrals to community-based and faith-based programmes
- Peer group counselling and support from health agencies or NGOs
- Support and counselling to assist women who are HIV-infected and their partners with disclosure issues

Faith-based support

Faith-based involvement provides mothers who are HIV-infected with spiritual and psychosocial support. It also may provide them with an important sense of belonging to a larger community that offers them compassionate care. In many programmes, faith-based organisations are providing comprehensive treatment, care, and support services.

Home-based care

In many resource-limited settings, home-based care provides services to PLWHA when hospital and outpatient services are expensive or not accessible. The advantages of home-based care for patients and families, and for communities and the healthcare system include:

- Care is provided in a familiar, supportive environment that allows for continued participation in family matters
- Medical expenses are reduced
- The local community is involved in caring for PLWHA, which may help counter myths and misconceptions
- The burden on the healthcare system is eased

Healthcare workers may offer direct psychosocial support and referrals to community resources. AIDS service organisations in the community may provide social support through peer group counselling, clubs, or referrals to other services.

Exercise 7.2 Problems presenting at the postpartum visit: case study	
Purpose	To prepare participants to handle common problems that mothers may present with during postpartum visits.
Duration	30 minutes
Instructions	<ul style="list-style-type: none"> ▪ In your group, read through the case study below. ▪ Select one member of the group as recorder to write down key issues that the group discusses. ▪ In your group, list each issue that the healthcare worker needs to address and discuss for 15 minutes strategies for resolving the issues on your lists. Ask the group recorder to write down the key issues. ▪ When you are finished, each group will present the key issues and strategies to the larger group.

Case study

Bea is a 24-year-old woman who was diagnosed as HIV-infected during her recent pregnancy. She and her infant received the appropriate medication to prevent MTCT, as recommended by the country programme. She has returned for her 6-week follow-up visit.

Bea has chosen to exclusively breastfeed. She feels, however, that the baby is always hungry and is wondering if her breastmilk is enough; she has also been giving him supplemental vitamins. Bea and her husband, who is also HIV-infected, would like to resume sexual relations. She has been told that she will not need to use protection because breastfeeding eliminates her chances of getting pregnant.

Upon examination, Bea appears to be doing well. She has a 0.3 cm fissure (crack) at the base of her right nipple. There is no observable redness, heat, or sign of infection. Bea reports that she has been feeling more tired than usual and has about half her normal energy, but does not have any other physical complaints. She wants to know whether starting HIV medicine may help her feel better.

Bea's husband has been sitting in the waiting room. He is currently unemployed. While Bea is getting dressed, he says, "I have always taken good care of my family, but now, without money coming in, I don't see how we are going to make it. I feel like God is punishing me, somehow, for infecting my wife with HIV."

What are the important issues for Bea and her husband?

SESSION 3 Treatment, Care, and Support of the Infant and Young Child Exposed to HIV

PMTCT interventions reduce, but do not eliminate, the risk of HIV transmission from mother to infant. Regular follow-up care is critical for an infant born to a mother with HIV/AIDS and for infants whose mothers' HIV status is unknown. This includes infants who have received ARV prophylaxis, because HIV exposure increases an infant's risk of illness and failure to thrive, whether or not the infant has HIV infection.

Module 6, HIV Testing and Counselling for PMTCT contains information on HIV testing and diagnosis for infants and young children. The timing of testing and methods used vary according to infant-feeding practices and availability of specific tests.

Regular visits for health assessment and health promotion

To ensure that infants receive essential care, adequate nutrition, and support for feeding, the newborn should be seen in the healthcare facility or at home. The schedule for healthcare visits should be in accordance with national policy or as suggested below:

- If the infant was born at home, an assessment at the time of delivery followed by a visit in 7 days to monitor feeding progress is strongly advised. Special considerations apply when the infant is receiving ARV prophylaxis. (See Appendix 3-A.)
- It is recommended that subsequent visits be scheduled to coincide with a country's recommended schedule for immunisations. WHO recommends subsequent visits as follows:
 - At ages 6, 10, and 14 weeks
 - Once a month from 14 weeks to 1 year
 - Every 3 months from the ages of 1 to 2

Anytime the infant becomes ill or the mother suspects a problem, seeking early medical intervention is strongly encouraged.

Immunisation

Infants born to mothers who are HIV-infected should be immunised according to national or local guidelines. Please refer to WHO immunisation recommendations (Appendix 7-E).

Nutrition and infant-feeding support

As discussed in *Module 4, Infant Feeding in the Context of HIV Infection*, at each visit, workers should assess and support a mother's choice about infant feeding. Discussions about infant feeding are especially important in the early months of life and as new foods are introduced.

Infants who fail to grow require special attention. Workers should assess feeding practices and diet for infants older than 6 months and provide appropriate counselling that considers locally available food, family circumstances and feeding customs. Underlying infections should be treated immediately or ruled out as a cause of growth failure.

Each visit with the healthcare worker should include the following:

- Assess for common illnesses and manage appropriately as directed by the Integrated Management of Childhood Illness (IMCI) guidelines.
- Identify non-specific symptoms or conditions that could be related to HIV infection using the HIV-adapted IMCI algorithms if available.
- Provide HIV testing as indicated in *Module 6, HIV Testing and Counselling for PMTCT*.
- Provide PCP prophylaxis based on WHO guidelines (Appendix 7-C) or national policies.
- Promote health and prevention of illness.
 - Monitor growth and assess causes of growth failure, if observed.
 - Check immunisation status and immunise as indicated (Appendix 7-E).
 - Provide PCP prophylaxis.
 - Treat for helminth infection if the parasite load in the environment is high or as recommended by IMCI guidelines.
 - Screen, provide prophylaxis for, or treat TB if indicated.
- Prevent and treat malaria, as indicated based on national policy or guidelines.
- Treat anaemia, as indicated based on national policy or guidelines.
- Counsel caregivers on infant feeding, nutrition, ARV treatment when indicated and other care as appropriate.
- Ensure that the mother has access to family planning and support for her own health.

Because the health of mother and child is so closely related, assessment of maternal health and nutrition should be concurrent with assessment of the infant and appropriate referrals for maternal care should be given during infant checkups.

Prevention of PCP infection

PCP is a leading cause of death in young infants with HIV. Every infant born to a mother with HIV infection should receive cotrimoxazole to prevent PCP, beginning at 6 weeks and continuing at least through 6 months of age, unless a viral assay shows the infant has no HIV infection. PCP prophylaxis should continue in infants who are HIV-exposed until they are 1 year old or virologic testing shows the infant is not infected (see Appendix 7-C.)

HIV testing

ARV prophylaxis reduces, but does not eliminate, MTCT. Therefore, services must be identified or developed to provide follow-up care and HIV diagnostics to infants of mothers who are HIV-infected and appropriate treatment offered when indicated. Infants of breastfeeding mothers who are HIV-infected are at increased risk for acquiring HIV after birth; the greatest risk of transmission is believed to occur within the first months of life. *Module 6, HIV Testing and Counselling for PMTCT*, discusses laboratory assessment of infants who are HIV-exposed.

Clinical presentation and assessment of an infant born to a mother who is HIV-infected

An infant born to a mother who is HIV-infected and presents with symptoms of illness should be assessed using the IMCI guidelines as adapted for areas with a high prevalence of HIV infection.

The signs and symptoms most commonly associated with HIV infection in infants are low weight and/or growth failure; pneumonia, including PCP; oral candidiasis (thrush); lymphadenopathy; parotid gland swelling; recurrent ear infections; persistent diarrhoea, and TB (Table 7.1). Healthcare workers should teach mothers and other caregivers to recognise early signs of those conditions and to seek early care for the child.

Interventions to relieve symptoms, such as oral rehydration for acute diarrhoea, nutritional interventions to promote weight gain, PCP prophylaxis, and screening for TB, are important strategies for improving the health of infants who are HIV-infected.

Table 7.1. Clinical conditions or signs of HIV infection in a child who is HIV-exposed	
Specificity for HIV infection	Signs and conditions
Common in children who are HIV-infected; also seen in ill, uninfected children	<ul style="list-style-type: none"> ▪ Chronic, recurrent otitis media with discharge ▪ Persistent or recurrent diarrhoea ▪ Failure to thrive ▪ Tuberculosis
Common in children who are HIV-infected; uncommon in uninfected children	<ul style="list-style-type: none"> ▪ Severe bacterial infections, particularly if recurrent ▪ Persistent or recurrent oral thrush ▪ Chronic parotitis (often painless) ▪ Generalised persistent noninguinal lymphadenopathy in two or more sites ▪ Hepatosplenomegaly ▪ Persistent or recurrent fever ▪ Neurologic dysfunction ▪ Herpes zoster (shingles), single dermatome ▪ Persistent generalised dermatitis unresponsive to treatment
Specific to HIV infection	<ul style="list-style-type: none"> ▪ <i>Pneumocystis carinii</i> pneumonia ▪ Oesophageal candidiasis ▪ Lymphoid interstitial pneumonitis ▪ Herpes zoster (shingles) with multidermatomal involvement ▪ Kaposi's sarcoma

Care of the infant with documented HIV infection

The suspicion or confirmation of HIV diagnosis in an infant or child is difficult for the parents. Workers should discuss the diagnosis compassionately and confidentially, and they should offer the parents information about services available for the child (see *Module 6, HIV Testing and Counselling for PMTCT*, Appendix 6-B).

Integrating the care of infants who are HIV-infected into ongoing care using IMCI

Several countries have adapted guidelines, including those outlined in IMCI, to include recognition of the special needs of children with HIV infection and to help healthcare workers assess and provide better management when HIV is suspected or confirmed. Adhering to guidelines may help integrate the care of children with symptomatic HIV infection into MCH services.

Antiretroviral treatment

Where ARV treatment is available, healthcare workers must monitor infants and children (considering laboratory findings, when available) for symptoms of HIV infection that would make them candidates for ARV treatment, and refer them for appropriate HIV treatment and care.

Before treatment begins, healthcare workers need to assess a family's beliefs about drugs and treatment, the family's readiness to begin treatment, and their ability to follow a dosing schedule. Treatment decisions follow international and national policies and guidelines.

When CD4 cell assays are available the use of the CD4 cell percentage is recommended for decision-making on ARV treatment rather than the absolute CD4 cell count, because the former varies less with age.

For infants who are seropositive aged less than 18 months, WHO recommends the initiation of ARV therapy in the following circumstances:

The infant has virologically proven infection (using either HIV DNA PCR, HIV RNA assay, or immune-complex dissociated p24 antigen) and has:

- WHO Paediatric Stage III HIV disease (ie clinical AIDS) irrespective of CD4%;
- WHO Paediatric Stage II HIV disease, with consideration of using CD4 <20% to assist in decision-making; or
- WHO Paediatric Stage I (ie, asymptomatic) and CD4% <20%. (asymptomatic children, ie, WHO Stage I, should only be treated when there is access to CD4 assays).

If virological tests to confirm HIV infection status are not available but CD4 cell assays are available, WHO recommends that ARV treatment can be initiated in infants who are HIV-seropositive and have WHO Stage II or III disease and a CD4 percentage below 20%. In such cases, HIV antibody testing must be repeated at age 18 months in order to definitively confirm that the children are HIV-infected; ARV therapy should only be continued in infants with confirmed infection.

For children who are HIV-seropositive aged 18 months or older, WHO recommends initiation of ARV therapy in the following circumstances:

- WHO Paediatric Stage III HIV disease (clinical AIDS), irrespective of CD4%;
- WHO Paediatric Stage II disease, with consideration of using CD4 <15% to assist in decision-making; or
- WHO Paediatric Stage I (asymptomatic) and CD4 <15%.

Breastfed infants are at risk of HIV infection during the entire period of breastfeeding. A negative virological or antibody test at one age does not exclude the possibility of infection occurring subsequently if breastfeeding continues.

Exercise 7.3 Clinical presentation of HIV in infants	
Purpose	To familiarise participants with signs and common conditions in infants infected with HIV.
Duration	20 minutes
Instructions	<ul style="list-style-type: none"> ▪ Comment on the most common presenting sign of HIV infection in an infant or child; the facilitator will list responses on the flipchart. ▪ Identify which body systems or organs may be involved in early presentation of HIV infection; the facilitator will list responses on the flipchart. ▪ The large group will be divided into three smaller groups. Each small group will receive a card labelled: <ul style="list-style-type: none"> ▪ GI system ▪ Pulmonary system ▪ Immune function ▪ List on the card any symptoms indicating HIV infection that are related to the card heading. Determine if the symptom is HIV-specific and give your recommendations for care, including prophylaxis. ▪ Select a representative to present the group's work to the larger group.

Module 7: Key Points

- A continuum of care is provided through linkages between PMTCT, MCH and available HIV treatment, care, and support services, including those offered by NGO and FBO groups in the community.
- Linkages to NGOs and FBOs may help families living with HIV/AIDS gain access to social support and assistance with specific needs such as housing, transportation, food, and income-generating activities.
- Postpartum care includes clinical assessment, infant-feeding support, family planning, and referral for HIV-related treatment and care.
- Infants who are HIV-exposed require follow-up care to monitor growth and development, immunisations, and prophylaxis for infections. They also require testing to determine HIV status.
- IMCI guidelines may help healthcare workers integrate care for children who are HIV-exposed or HIV-infected into ongoing MCH services.
- PMTCT-Plus programmes provide linkages to antiretroviral treatment for mothers who are HIV-infected, their children, and other family members.
- Timing of testing and diagnosis of HIV infection in infants and young children varies according to feeding practices and available tests.

APPENDIX 7-A Tuberculosis (TB)

Background

HIV infection leads to increased susceptibility to TB, promotes progression of recent and latent *Mycobacterium tuberculosis* infection to active TB disease, increases the risk of recurrence, and complicates the clinical course of TB disease. TB is cited as the leading cause of death among persons who are HIV-infected; an estimated 40% of PLWHA acquire TB during their lifetime.

In sub-Saharan Africa, up to 70% of patients with pulmonary TB are HIV-infected. TB prevention, screening, care, and treatment are becoming priority concerns in patients who are HIV-infected; prevention, screening, care, and treatment of HIV/AIDS are priority concerns in patients with TB.

Case Detection

Cough is the most common symptom of pulmonary TB. All patients referred to a health facility, irrespective of their HIV status, with a cough lasting 2-3 weeks should be screened for TB. Other TB symptoms include:

- Fever
- Haemoptysis
- Weight loss
- Chest pain
- Fatigue

BCG Vaccine

Bacille Calmette-Guerin (BCG) is a live attenuated vaccine given intradermally to protect young children against severe TB. The usual dose is 0.05 ml in neonates and infants under 3 months of age, and 0.1 ml in older children.

WHO's policy regarding this vaccine states that BCG should not be given to children with symptomatic HIV infection (ie AIDS). In asymptomatic children, the decision to give BCG should be based on the local risk of tuberculosis:

- Where the risk of tuberculosis is high, BCG is recommended at birth or as soon as possible thereafter, in accordance with standard policies for immunisation of children who are not HIV-infected;
- In areas where the risk of tuberculosis is low but BCG is recommended as a routine immunisation, BCG should be withheld from individuals known or suspected to be infected with HIV.

Treatment

Treatment protocols for both active and latent TB are standardised. In each country, guidance is provided on screening, treatment, and monitoring of the patient with TB. Prophylaxis against TB should be part of a package of care for people living with HIV/AIDS. This prophylaxis is recommended for individuals who are HIV-infected and test positive for TB infection, and those in whom active TB has been excluded.

APPENDIX 7-A Tuberculosis (TB) *(continued)*

Prophylaxis may also be considered for individuals who are HIV-infected and living in a community with a high prevalence of TB infection, where skin testing is unavailable. Six to nine months of isoniazid (INH) is the regimen recommended for preventive treatment of latent TB infection.

Patients who are HIV-infected and who have active TB should also receive cotrimoxazole therapy to prevent secondary bacterial and parasitic infections.

When selecting drugs to treat TB, women taking oral contraceptives, pregnant women, and patients who are HIV-infected and receiving ART require special consideration. With careful clinical management, however, patients with HIV-related TB can receive simultaneous TB and HIV treatment. The revised (2003) WHO guidelines, *Scaling up antiretroviral therapy in resource-limited settings: treatment guidelines for a public health approach*, provide up-to-date information on ARV therapy for the special category of patients who are receiving concomitant TB treatment.

In primary care settings and PMTCT programmes healthcare workers can play an active role in TB screening, as well as in treatment or referral for treatment and monitoring of patients with TB and HIV.

Adapted from WHO. 2004. *Scaling up antiretroviral therapy in resource-limited settings: Treatment guidelines for a public health approach*. WHO: Geneva. Retrieved 30 July 2004, from <http://www.who.int/hiv/pub/mtct/en/arvdrugsguidelines.pdf>

APPENDIX 7-B Community resource information worksheet

Use this form to list the contact information for agencies that provide services to families living with HIV/AIDS.

COMMUNITY RESOURCES THAT SUPPORT THE PMTCT PROGRAMME		
Resource Category	We Have	We Need
Voluntary testing and counselling for partners		
Health care (STIs, reproductive health, TB treatment, etc.)		
HIV/AIDS care and ARV treatment		
Nutritional support		
Support group or club		
Community-based AIDS service and faith-based organisations		

APPENDIX 7-C *Pneumocystis carinii* pneumonia prophylaxis in adults and infants

Note: Revised recommendations for HIV care in resource-constrained settings are in development. Once these are finalised, the content in this section will be updated to reflect these recommendations.

Category	Recommendation for Adults
Client selection and duration of prophylaxis	<ul style="list-style-type: none"> ▪ All persons with symptomatic HIV (WHO Stage II, III, IV) ▪ Asymptomatic individuals with CD4 counts below 500/mm³ or equivalent total lymphocyte count ▪ Cotrimoxazole should be taken for life or until ARV agents become available and therapy results in restoration of CD4 count of 500/mm³ or higher
Drug regimen	<ul style="list-style-type: none"> ▪ Recommended dose: cotrimoxazole 960 mg once daily (1 double-strength tablet or 2 single-strength tablets daily)
Preparation	<ul style="list-style-type: none"> ▪ Most commonly, oral tablet
Adverse events requiring discontinuation and substitution	<ul style="list-style-type: none"> ▪ Severe cutaneous reaction, such as fixed drug reaction or Stevens-Johnson syndrome; renal or hepatic insufficiency; severe haematologic toxicity
Category	Recommendation for Infants who are HIV-Exposed
Client selection and duration of prophylaxis	<ul style="list-style-type: none"> ▪ Infants who have been exposed to HIV, starting at 6 weeks and continuing for at least 6 months, preferably until HIV infection can be ruled out ▪ Infants less than age 12 months, who are HIV-infected, regardless of symptoms or CD4 count ▪ Infants more than 12 months of age, who are in primary care settings and PMTCT programmes, if symptomatic; if AIDS is diagnosed; if CD4 is below 15% (when information is available); or prior PCP diagnosis
Drug regimen	<ul style="list-style-type: none"> ▪ Trimethoprim (TMP) 150 mg/m² and sulfamethoxazole (SMX) 750 mg/m² once daily
Preparations	<ul style="list-style-type: none"> ▪ Oral suspension: TMP 8 mg/mL and SMX 40 mg/mL ▪ If suspension is unavailable, crushed tablets may be used
Adverse events requiring discontinuation and substitution	<ul style="list-style-type: none"> ▪ Severe cutaneous reaction such as fixed drug reaction or Stevens-Johnson syndrome, renal or hepatic insufficiency; severe haematologic toxicity
<p>FOR AN EXPLANATION OF THE WHO STAGING OF HIV, SEE APPENDIX 1-A. Adapted from: World Health Organisation (WHO). 2003. <i>A Reference Guide on HIV-Related Care, Treatment, and Support of HIV-Infected Women and Their Children in Resource Constrained Settings</i>. WHO: Geneva [Draft].</p>	

APPENDIX 7-D Suggestions to maximise food intake for PLWHA

Symptom	Suggested Strategy
Fever and loss of appetite	<ul style="list-style-type: none"> ▪ Drink high-energy, high-protein liquids, fruit juices. ▪ Throughout the day, eat small portions of preferred soft foods with a pleasant aroma and texture. ▪ Eat nutritious snacks whenever possible. ▪ Drink liquids often.
Sore mouth and throat	<ul style="list-style-type: none"> ▪ Avoid citrus fruits, tomatoes, spicy foods. ▪ Avoid very sweet foods. ▪ Drink high-energy, high-protein liquids with a straw, if available. ▪ Eat foods at room temperature or cooler. ▪ Eat thick, smooth foods such as pudding, porridge, mashed potato, mashed carrot or other non-acidic vegetables and fruits.
Nausea and vomiting	<ul style="list-style-type: none"> ▪ Eat small snacks throughout the day and avoid large meals. ▪ Eat toast and other plain, dry foods. ▪ Avoid foods that have a strong aroma. ▪ Drink diluted fruit juices, other liquids, soup. ▪ Eat simple boiled foods, such as porridge, potato, beans.
Loose bowels	<ul style="list-style-type: none"> ▪ Eat bananas, mashed fruits, soft rice, porridge. ▪ Eat smaller meals, more often. ▪ Eliminate dairy products to see if they are the cause. ▪ Decrease high-fat foods. ▪ Avoid foods with insoluble fibre ("roughage"). ▪ Drink liquids often.
Fat malabsorption	<ul style="list-style-type: none"> ▪ Eliminate oils, butter, margarine and foods that contain or are prepared with them ▪ Eat only lean meats. ▪ Eat fruit, vegetables, other low-fat foods.
Severe diarrhoea	<ul style="list-style-type: none"> ▪ Drink liquids frequently. ▪ Drink oral rehydration solution. ▪ Drink diluted juices. ▪ Eat bananas, mashed fruits, soft rice, porridge.
Fatigue and lethargy	<ul style="list-style-type: none"> ▪ Have someone precook foods to save energy and time spent in preparation. ▪ Eat fresh fruits that don't require preparation. ▪ Eat snack foods often throughout the day. ▪ Drink high-energy, high-protein liquids. ▪ Set aside time each day for eating.

Woods, MN: 1999. Dietary recommendations for the HIV/AIDS patient. In: *Nutritional Aspects of HIV Infection*, ed. T. Miller and SL. Gorbach, Arnold Press, London. pp 191–203.

APPENDIX 7-E WHO immunisation recommendations¹

Age of Infant	Vaccine
Birth	BCG*, OPV-0
6 weeks	DPT-1, OPV-1
10 weeks	DPT-2, OPV-2
14 weeks	DPT-3, OPV-3
9 months ²	Measles ²
<p>Key:</p> <p>BCG = Bacille Calmette Guerin OPV = oral polio vaccine DPT = diphtheria, pertussis, tetanus</p>	
<p>¹ Additional immunisations, for yellow fever or other diseases, for example, may be included in national recommendations that account for local disease prevalence.</p> <p>² An additional, early dose of measles vaccine should be given at age 6 months if the following conditions are met:</p> <ul style="list-style-type: none"> ▪ Measles morbidity and mortality before age 9 months represents more than 15% of cases and deaths. ▪ There is a measles outbreak. ▪ The infant has a high risk of measles death. This includes infants: <ul style="list-style-type: none"> ▪ with documented HIV infection ▪ living in refugee camps ▪ admitted to the hospital or ▪ affected by disasters <p>* BCG—do not give in low prevalence countries to infants or children who are HIV-infected; in high prevalence countries give to all children except children with symptoms of HIV/AIDS.</p>	

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

BCG and yellow fever. Children with known symptomatic HIV infection should not receive BCG and yellow fever vaccines. However, because most infants who are HIV-infected are asymptomatic at birth, when BCG immunisation occurs, and thus will have unknown HIV status, the birth BCG immunisation should be given.

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

Diphtheria, pertussis, tetanus. Children who have either recurrent convulsions or active central nervous system disease or who have had shock or convulsions within 3 days of receiving a DPT vaccination should not receive subsequent DPT vaccination. For those children, substitute DT (diphtheria–tetanus) formulation; all other immunisations may be given.

APPENDIX 7-E WHO immunisation recommendations¹ (continued)

Hepatitis B vaccine. WHO recommends that the hepatitis B vaccine be included in routine childhood immunisation schedules for all children in all countries. Give the hepatitis B vaccine according to any of the following schedules:

- *Option 1:* Give hepatitis B vaccine at 6, 10, and 14 weeks (3 doses), to coincide with the DPT schedule. The disadvantage of this option is that it does not protect against perinatal hepatitis B infection.
- *Option 2:* Give hepatitis B vaccine at BIRTH, 6, and 14 weeks (3 doses); the last two doses coincide with the 1st and 3rd doses of the DPT schedule.
- *Option 3:* Give hepatitis B vaccine at BIRTH, 6, 10, and 14 weeks (4 doses); the last three doses coincide with the DPT schedule.

Options 2 or 3 are preferred for countries with high prevalence of maternal HIV and with a high rate of perinatal hepatitis B transmission. The 3-dose schedule (Option 2) is less expensive, but may be more complicated to administer, because the immunisation schedule differs for the 6-, 10-, and 14-week well baby visits. Whereas, the 4-dose schedule (Option 3) may be easier to administer in practice, but is more costly, and vaccine supply issues may make it unfeasible.

Haemophilus influenzae type B. Vaccinate at 6, 10, and 14 weeks. In some areas a booster at 12 to 18 months is recommended, if available.

Sources: Adapted from WHO, Department of Vaccines and Biologicals. 2001. *Introduction of hepatitis B vaccine into childhood immunization services. Management guidelines, including information for health workers and parents.* Retrieved 30 July 2004, from www.who.int/vaccines-documents/DocsPDF01/www613.pdf

WHO, Department of Vaccines and Biologicals. 2000. *Introduction of haemophilus influenzae type B vaccine into immunization programmes: Management guidelines, including information for health workers and parents.* Retrieved 30 July 2004, from <http://www.who.int/vaccines-documents/DocsPDF99/www9940.pdf>



Module 8 Safety and Supportive Care in the Work Environment

- SESSION 1** Universal Precautions and Creating a Safe Work Environment
- SESSION 2** Handling and Decontamination of Equipment and Materials
- SESSION 3** Managing Occupational Exposure to HIV Infection
- SESSION 4** Supportive Care for the Caregiver

After completing the module, the participant will be able to:

- Describe strategies for preventing HIV transmission in the healthcare setting.
- Define universal precautions in the context of the prevention of mother-to-child transmission (PMTCT) of HIV.
- Identify key steps and principles involved in the decontamination of equipment and materials.
- Assess occupational risk and identify risk-reduction strategies in maternal and child health (MCH) settings.
- Describe the management of occupational exposure to HIV.
- Identify measures to minimise stress and support healthcare workers and caregivers.

Relevant Policies for Inclusion in National Curriculum

Session 1

- National guidelines, policies, standards of procedure on universal precautions in MCH/ANC settings

Session 2

- National guidelines, policies, standards of procedure on handling and decontamination of equipment and materials if not included previously in Session 1
- National policy on risk reduction in the obstetric setting

Session 3

- National post-exposure prophylaxis (PEP) policy



The *Pocket Guide* contains a summary of each session in this module.

SESSION 1 Universal Precautions and Creating a Safe Work Environment

Basic concepts of HIV infection prevention

HIV infection can be transmitted through contact with blood or body fluids, either by direct contact with an open wound or by needle-stick injury.

Blood is the primary fluid known to be associated with HIV transmission in the healthcare setting; small quantities of blood may be present in other body fluids.

HIV transmission to healthcare workers is almost always associated with needle-stick injuries during the care of a patient who is HIV-infected. In practice, transmission occurs when administering

- Intravenous injections
- Blood donations
- Dialysis
- Transfusions

Patient-to-patient transmission of HIV infection can be prevented by disinfecting or sterilising equipment and devices used in percutaneous procedures.

Transmission of infectious agents in the healthcare setting can be prevented by using infection control measures, including adherence to universal precautions, safe environmental practices, and ongoing education of employees in infection prevention.

Bloodborne pathogens are viruses, bacteria, or other disease-causing microorganisms carried in blood. There are many different bloodborne pathogens such as the hepatitis B virus, hepatitis C virus, syphilis spirochete, brucellosis bacteria and the human immunodeficiency virus (HIV). This training module will focus on HIV.

Universal precautions

Universal precautions are practices designed to protect healthcare workers and patients from exposure to bloodborne pathogens.

It is not feasible or cost-effective to test all patients for *all* pathogens before providing care. Therefore, the level of precautions employed should be based on the nature of the procedure involved, not on the patient's actual or assumed HIV status.

Definition

Universal precautions: A simple set of effective practices designed to protect health workers and patients from infection with a range of pathogens including bloodborne viruses. These practices are used when caring for all patients regardless of diagnosis.

Creating a safe work environment

Creating a safe work environment involves practising universal precautions, managing the work environment, and providing ongoing infection prevention education for employees.

In practice, actions to implement universal precautions include the following:

- Washing hands before and after direct contact with patients
- Disinfecting or sterilising all devices and equipment used during invasive procedures
- Avoiding needle recapping; especially two-handed needle recapping
- Using needles or scalpel blades on one patient only
- Safely disposing of needles (hypodermic and suture) and sharps (scalpel blades, lancets, razors, and scissors) in puncture- and leak-proof safety boxes
- Using gloves when in contact with body fluids, non-intact skin, or mucous membranes
- Using masks, eye protection, and gowns (or plastic aprons) when blood or other body fluids could splash
- Applying waterproof dressing to cover all cuts and abrasions
- Promptly and carefully cleaning spills involving blood or other body fluids
- Using systems for safe waste collection and disposal

Managing the work environment

Ensure that universal precautions are implemented, monitored, and evaluated periodically.

- Establish and implement policies and procedures for reporting and treating occupational exposure to HIV infection.
- Attain and maintain appropriate staffing levels.
- Implement supportive measures that reduce staff stress, isolation, and burnout (eg, ensure the availability of protective equipment).
- Acknowledge and address the multifaceted needs of healthcare workers who are HIV-infected.
- Provide protective clothing and equipment, including gloves, plastic aprons, gowns, goggles, and other protective devices.
- Provide and use appropriate disinfectants to clean up spills involving blood or other body fluids.
- Increase availability of—and staff access to—puncture-resistant sharps containers.

Ongoing education for employees in infection prevention

- Orient all staff, including peer and lay counsellors, to the site's infection control policies.
- Ensure that all workers who are routinely exposed to blood and body fluids (eg, physicians, midwives, nurses, and housekeeping personnel) receive preliminary and ongoing training on safe handling of equipment and materials.
- Require that supervisors regularly observe and assess safety practices and remedy deficiencies as needed.

Exercise 8.1 Reducing HIV transmission risk in MCH settings: case study	
Purpose	To review the application of universal precautions as described in this session, focusing on high-risk settings.
Duration	20 minutes
Instructions	<ul style="list-style-type: none"> ▪ Read the case study below. As each paragraph is read aloud by a volunteer participant, consider your answers to the questions. ▪ Review the key points written on the flipchart. ▪ Comment on how these situations are dealt with in your clinical setting. ▪ Share the challenges and obstacles you face in applying the universal precautions in your work setting.

Case study

Margaret arrives at the labour and delivery unit of your local hospital. She hands you a small card that identifies her as someone who has received care at the neighbouring ANC clinic. This card is coded to let you know that she is HIV-infected. She explains that her contractions are steady now and about four minutes apart. You perform a cervical examination and estimate that Margaret has at least 2 more hours until delivery. You give her nevirapine prophylaxis at this time.

Does your clinical protocol require healthcare workers to use gloves when caring for patients who are HIV-infected? According to universal precautions, would the same gloving requirements apply for all labour and delivery patients, regardless of HIV status?

In your facility, are gloves in good supply and available in a variety of sizes?

What do we know about the relationship between MTCT and cervical examinations for pregnant women who are HIV-infected?

It has now been several hours since Margaret's waters broke (rupture of membranes). She is exhausted. After checking her partogram a decision is made to use oxytocin to shorten her labour.

Why is it important to shorten the time between the rupture of membranes and delivery by a woman who is HIV-infected?

Margaret is now fully dilated and ready to deliver. As the head is delivered, you use gauze to carefully free the infant's mouth and nostrils of fluids. Then, with one final push, the infant is delivered completely. You hand the newborn to a gloved assistant, who wipes him dry and continues with neonatal care. Then the placenta is delivered.

Itemise the protective clothing that would be appropriate in a labour and delivery setting.

Consider the need for proper disposal of sharps used in labour and delivery. Does your facility have conveniently located containers for the disposal of sharps?

At your facility, what are the policies for disposing of waste materials? What should be done with the placenta and other contaminated materials?

Margaret was your 12th delivery in the past 24 hours. You need to get home and tend to your family but your replacement has not yet arrived. You speak with your supervisor and she is able to locate someone else to take your place.

Why is it important that you not stay and continue to work tonight?

In your facility, do you have someone who will help you find staffing relief if needed?

SESSION 2 Handling and Decontamination of Equipment and Materials

Handling and disposal of sharps

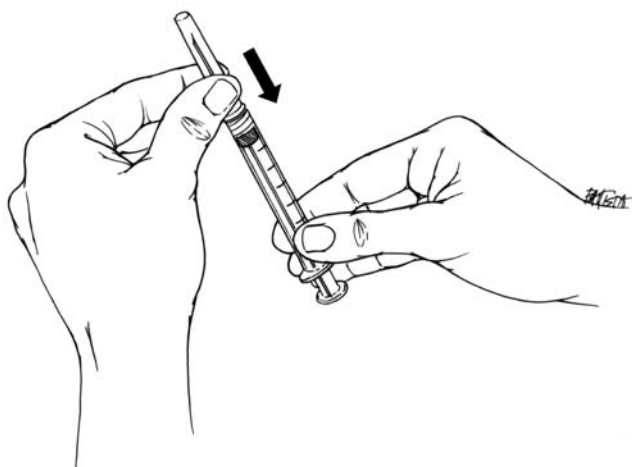
Most HIV transmission to healthcare workers in work settings is the result of skin puncture with contaminated needles or sharps. These injuries occur when sharps are recapped, cleaned, or inappropriately discarded.

Recommendations for use of sterile injection equipment

- Use a sterile syringe and needle for each injection and to reconstitute each unit of medication. If single-use syringes and needles are unavailable, use equipment designed for steam sterilisation.
- Use new, quality-controlled disposable syringes and needles.
- Avoid recapping and other manipulations of needles by hand. If recapping is necessary, use a single-handed scoop technique.
- Collect used syringes and needles at the point of use in a sharps container that is puncture- and leak-proof and that can be sealed before completely full.
- Completely destroy or bury needles and syringes so that people cannot access them and so that groundwater contamination is prevented.

When it is necessary to recap, use the single-handed scooping method:

- Place the needle cap on a firm, flat surface.
- With one hand holding the syringe, use the needle to “scoop” up the cap, as shown in Step 1, Figure 8.1.
- With the cap now covering the needle tip, turn the syringe upright (vertical) so the needle and syringe are pointing toward the ceiling.
- Use the forefinger and thumb on your other hand to grasp the cap just above its open end and push the cap firmly down onto the hub (the place where the needle joins the syringe under the cap) (Step 2, Figure 8.1).

Figure 8.1 One-hand**Step 1:** Scoop up the**Step 2:** Push cap fir**Tips for careful handling of sharps**

- Always point the sharp end away from yourself and others.
- Pass scalpels and other sharps with the sharp end pointing away from staff; or place the sharp on a table or other flat surface (a receiver) where it can then be picked up by the receiving person.
- Pick up sharps one at a time and do not pass handfuls of sharp instruments or needles.

Sharps containers

Using sharps disposal containers helps prevent injuries from disposable sharps. Sharps containers should be fitted with a cover, and should be puncture-proof, leak-proof, and tamper-proof (ie, difficult to open or break). If plastic or metal containers are unavailable or too costly, use containers made of dense cardboard (cardboard safety boxes) that meet WHO specifications. If cardboard safety boxes are unavailable, many easily available objects can substitute as sharps containers:

- Tin with a lid
- Thick plastic bottle
- Heavy plastic box
- Heavy cardboard box

Recommendations for safe use of sharps containers

- All sharps containers should be clearly marked “SHARPS” and/or have pictorial instructions for the use and disposal of the container.
- Place sharps containers away from high-traffic areas and as close as possible to where the sharps will be used. The placement of the container should be practical (ideally within arm’s reach) but unobtrusive. Do not place containers near light switches, overhead fans, or thermostat controls where people might accidentally put one of their hands into them.
- Attach containers to walls or other surfaces if possible. Position the containers at a convenient height so staff can use and replace them easily.
- Never reuse or recycle sharps containers.
- Mark the containers clearly so that people will not unknowingly use them as garbage receptacles.
- Seal and close containers when $\frac{3}{4}$ full. Do not fill safety box beyond full $\frac{3}{4}$ line.
- Avoid shaking a container to settle its contents to make room for more sharps.

Handwashing

The following strategies settings are strongly recommended for reducing transmission of bloodborne pathogens and other infectious agents to patients and personnel in healthcare settings:

- Soap and water handwashing, using friction, under running water for at least 15 seconds.
- Use of alcohol-based hand rubs (or antimicrobial soap) and water for routine decontamination or hand antisepsis.

Hand hygiene recommendations	
Wash before:	<ul style="list-style-type: none"> ▪ Putting on gloves ▪ Examining a patient ▪ Performing any procedure that involves contact with blood or body fluids ▪ Handling contaminated items such as dressings and used instruments ▪ Eating
Wash after:	<ul style="list-style-type: none"> ▪ Removing gloves ▪ Examining a patient ▪ Performing any procedure that involves contact with blood or body fluids ▪ Handling contaminated items such as dressings and used instruments ▪ Making contact with body fluids, mucous membranes, non-intact skin, or wound dressings ▪ Handling soiled instruments and other items ▪ Using a toilet

Handwashing

Handwashing with plain soap and water is one of the most effective methods for preventing transmission of bloodborne pathogens and limiting the spread of infection.

Personal protective equipment

Personal protective equipment safeguards patients and staff. Use the following equipment when possible:

- Gloves
- Aprons
- Eyewear
- Footwear

When resources for purchasing protective equipment are limited, purchasing gloves should receive priority over other protective equipment.

Gloves

The use of a separate pair of gloves for each patient helps prevent the transmission of infection from person to person. Protection with gloves is recommended when:

- There is reasonable chance of hand contact with blood, other body fluids, mucous membranes, or broken or cut skin
- An invasive procedure is performed
- Contaminated items are handled

Tips for effective glove use

- Wear gloves that are the correct size.
- Use water-soluble hand lotions and moisturisers often to prevent hands from drying, cracking, and chapping. Avoid oil-based hand lotions or creams because they will damage latex rubber surgical and examination gloves.
- Do not wear rings because they may serve as a breeding ground for bacteria, yeast, and other disease-causing microorganisms.
- Keep fingernails short (less than 3 mm (1/8 inch) beyond the fingertip). Long nails may provide a breeding ground for bacteria, yeast, and other disease-causing microorganisms. Long fingernails are also more likely to puncture gloves.
- Store gloves in a place where they are protected from extreme temperatures, which can damage the gloves.

Aprons

Rubber or plastic aprons provide a protective waterproof barrier along the front of the healthcare worker.

Eyewear

Eyewear, such as plastic goggles, safety glasses, face shields, or visors, protect the eyes from accidental splashes of blood or other body fluids.

Footwear

Rubber boots or leather shoes provide extra protection to the feet from injury by sharps or heavy items that may accidentally fall. They must be kept clean. When possible, avoid wearing sandals, thongs, or shoes made of soft materials.

Strategies for resource-constrained settings

Universal precaution measures are difficult to practise when supplies are low and protective equipment is not available. Use resources cost-effectively by prioritising the purchase and use of supplies, eg, if gloves are in short supply, use them for childbirth and suturing instead of routine injections and bed-making.

The most important way to reduce occupational exposure to HIV is to decrease contact with blood. Facilities should develop and use safety procedures that allow them to deliver effective patient care without compromising personal safety.

Decontamination of equipment

The method used to neutralise or remove harmful agents from contaminated equipment or supplies should be based on:

- Risk of infection associated with the instrument or piece of equipment
- Decontamination process the object can tolerate

Definitions

Decontamination: The first step in making equipment safe to handle. This requires a 10 minute soak in a 0.5% chlorine solution.¹ This important step kills both hepatitis B and HIV.

Cleaning: Efficient cleaning with soap and hot water is essential prior to disinfection or sterilisation.

- Removes a high proportion of microorganisms.
- Removes contaminants such as dust, soil, salts, and the organic matter that protects them.

Disinfection: A chemical procedure that eliminates most recognised pathogenic microorganisms. Does not destroy all microbial forms (eg, bacterial spores).

Sterilisation: Destroys all microorganisms

Disinfection and sterilisation

Detailed information to assist with procedures for decontaminating infectious waste materials and equipment is found in Appendix 8-A. Routine procedures for decontamination of equipment include:

- Use heavy gloves.
- Dismantle all equipment before cleaning.
- Clean with soap and hot water prior to disinfection or sterilisation.
- Wear additional protective clothing such as aprons, gowns, goggles, and masks when at risk for splashing with body fluid.
- Rinse equipment thoroughly after chemical disinfection.

¹ If making a 0.5% chlorine solution from liquid household bleach which is 3.5% chlorine concentrate, mix 1:7 dilution of household bleach to water. A 1:7 dilution is the same as 1 part bleach to 6 parts water. A "part" can be used for any unit of measure (eg, ounce, gram, cup, litre or even a bottle). For more information, refer to <http://www.engender-health.org/ip/instrum/inm7.html>.

Safe work practices

Proper planning and management of supplies and other resources are essential in reducing the occupational risks of HIV infection. To reduce occupational risks:

- Assess risks in the work setting.
- Explore different strategies for meeting resource needs.
- Develop standards and protocols that address safety, risk reduction, post-exposure prophylaxis (PEP) follow-up, and first aid.
- Maintain an optimal workload.
- Institute measures to prevent or reduce healthcare worker stress.
- Orient new staff to infection control procedures.
- Provide ongoing staff education and supervision.

Risk reduction in the obstetric setting

The potential for exposure to HIV-contaminated blood and body fluids is greatest during labour and delivery. *Module 3, Specific Interventions to Prevent MTCT*, includes recommendations for safer obstetric practices designed to minimise this risk.

In labour and delivery settings, healthcare workers should:

- Provide appropriate and sensitive care to all women regardless of HIV status.
- Work in a manner that ensures safety and reduces the risk of occupational exposure for themselves and their colleagues.

Tips for reducing the risk of occupational exposure in the obstetric setting

- Cover broken skin or open wounds with watertight dressings.
- Wear suitable gloves when exposure to blood or body fluids is likely.
- Wear an impermeable plastic apron during the delivery.
- Pass all sharp instruments on to a receiver, rather than hand-to-hand.
- Use long, cuffed gloves during manual removal of a placenta.
- Modify surgical practice to use needle holders to avoid using fingers for needle placement.
- Workers with dermatitis should not work in obstetrics.
- When episiotomy is necessary, use an appropriate-size needle (21 gauge, 4 cm, curved) and needle holder during the repair.
- When possible, wear gloves for all operations.
- When possible, wear an eye shield during caesarean section and episiotomy suturing.
- If blood splashes on skin, immediately wash the area with soap and water. If splashed in the eye, wash the eye with water only.
- Dispose of solid waste (eg, blood-soaked dressings and placentas) safely according to local procedures.

Exercise 8.2 Promoting a safe environment resource list: group discussion	
Purpose	To compare and contrast the availability of safety resources, practices, and materials in our programmes.
Duration	15 minutes
Instructions	<ul style="list-style-type: none"> ▪ Review the “Promoting a Safe Environment” resource list below. ▪ Share in the large group discussion the use of each category of resources in your clinical setting. Share innovative ideas that your clinical setting has developed to address shortages of resources. ▪ Review the key points written on the flipchart. ▪ Comment on the challenges and obstacles you face in your practice.

Exercise 8.2 Promoting a safe environment resource list	
Personal protective equipment	
<ul style="list-style-type: none"> ▪ Gloves—various sizes ▪ Aprons ▪ Eyewear ▪ Footwear ▪ Waterproof dressings 	
Materials	
<ul style="list-style-type: none"> ▪ Cleaning and disinfecting agents ▪ Equipment for sterilisation ▪ Sharps disposal containers ▪ Waterproof waste containers for contaminated items ▪ Alcohol-based hand rubs or anti-microbial soap 	
Safety standards	
<ul style="list-style-type: none"> ▪ Policies on use of universal precautions ▪ Procedures for disposal of infectious or toxic waste ▪ Procedures for sterilisation of equipment ▪ Policies on handling and disposal of sharps ▪ Protocols for management of post-exposure prophylaxis (PEP), including ARVs and hepatitis B immunisation ▪ Procedures for minimising exposure to infection in high-risk settings, such as labour and delivery 	
Education	
<ul style="list-style-type: none"> ▪ New employee orientation to infection control procedures ▪ Ongoing training to build skills in safe handling of equipment ▪ Monitoring and evaluation of safety practices to assess implementation and remedy deficiencies 	

SESSION 3 Managing Occupational Exposure to HIV Infection

Post-exposure prophylaxis

Either of the following exposures could put a healthcare worker at risk of HIV infection if the exposure involves blood, tissue, or other body fluids containing visible blood:

- Percutaneous injury (eg, a needlestick or cut with a sharp object)
- Contact with mucous membrane or non-intact skin (eg, exposed skin that is chapped, abraded, or affected by dermatitis)

After occupational HIV exposure, a short-term course of ARV drugs (eg, one month) may be used to reduce the likelihood of infection. This is referred to as post-exposure prophylaxis (PEP), and is a key part of a comprehensive universal precautions strategy for reducing staff exposure to infectious agents in the workplace.

In healthcare settings the occupational risk of becoming HIV-infected due to a needlestick is low (less than 1%). Most cases involve injuries from needles or sharps that have been used on a patient who is HIV-infected. The risk of HIV transmission from exposure to infected fluids or tissues is believed to be lower than from exposure to infected blood.

Risk of exposure from needlesticks and contact with blood and body fluids exists in settings where:

- Safe needle procedures and universal precautions are not followed
- Waste management protocols are inadequate or not consistently implemented
- Protective gear is in short supply
- Rates of HIV infection in the patient population are high

To minimise the need for PEP, national strategies for education and training of key partners in healthcare waste management is necessary.

Benefits of making PEP available for healthcare workers:

- Promotes retention of staff who are concerned about the risk of exposure to HIV in the workplace
- Increases staff willingness and motivation to work with people who are HIV-infected
- Reduces the occurrence of occupationally-acquired HIV infection in healthcare workers

A comprehensive PEP protocol outlines the methods for preventing occupational exposure to HIV and other bloodborne pathogens including:

- Summary of the system for supervising and monitoring the implementation of universal precautions
- Discussion of safe practices for the disposal of infectious waste
- Outline of strategies for ensuring that protective materials are in sufficient supply (with examples of potential substitutes for these materials if necessary)

A sample PEP protocol is found in Appendix 8-B.

The PEP protocol should:

- Establish guidelines for PEP for the healthcare setting.
- Be used to educate staff and managers at designated intervals.
- Ensure that HIV counselling, testing, and ARV drugs are available for PEP.
- Ensure an HIV test is done when starting and after completing PEP.
- Ensure HIV antibody testing if illness compatible with an acute retroviral syndrome occurs.
- As part of counselling, encourage exposed persons to use precautions to prevent secondary transmission during the follow-up period.
- Evaluate exposed persons taking PEP within 72 hours after exposure and monitor for drug toxicity for at least 2 weeks.
- Maintain a facility register of occupational exposures.
- Educate healthcare workers to report all occupational accidents so that they are recorded on the facility register of occupational incidents.

Guidelines for providing PEP

Healthcare workers should report occupational exposure to HIV immediately after it occurs. Early rapid testing of the source patient (the patient involved in the incident) can help determine the need for PEP—and may avert the unnecessary use of ARV drugs, which may have adverse side effects. If necessary, PEP should begin as soon as possible after exposure, ideally within 2 hours.

Staff who are at risk for occupational exposure to bloodborne pathogens need to be educated about the principles of PEP management during job orientation and on an ongoing basis. Currently there is no single approved PEP regimen; however, dual or triple drug therapy is recommended and believed to be more effective than a single agent.

Drug selection for PEP depends on the following factors:

- Type of injury and transmission device
- Source patient's HIV viral load and treatment history
- ARV drugs available at the facility

Importance of ARV treatment for post-exposure prophylaxis on-site

Due to the need to start PEP as soon as possible after exposure (ideally, within 2 hours), a minimum of two doses of ARV treatment should be available and accessible at the facility at all times.

ARV treatment should be provided in accordance with national or institutional protocol. A minimum treatment of 2 weeks and maximum of 4 weeks is recommended. If possible, consulting with a HIV specialist is recommended, particularly when exposure to drug-resistant HIV may have occurred.

It is important that healthcare workers have ready access to a full month's supply of ARV treatment once PEP is initiated.

Some healthcare workers taking PEP experience adverse symptoms including nausea, malaise, headache, and anorexia. Pregnant workers or women of child-bearing age who may be pregnant may receive PEP, but must avoid efavirenz, which has harmful effects on the foetus. PMTCT programmes should support workers while they are taking PEP and help manage any side effects.

Exercise 8.3 PEP case study: small group discussion	
Purpose	To review implementation of PEP protocols.
Duration	30 minutes
Instructions	<ul style="list-style-type: none"> ▪ Review the case study below. ▪ In your group, record on paper the steps needed to implement a PEP protocol. ▪ Share each step in the process with the larger group as requested by the facilitator. ▪ Comment on the challenges and obstacles you face in your practice.

Case study

Nurse Andrews is working late in the labour and delivery unit. When removing an intravenous needle from the arm of a patient who is in labour, Nurse Andrews accidentally punctures her finger.

After this occupational exposure, what is the very first thing Nurse Andrews should do? List each subsequent step according to the PEP protocol.

SESSION 4 Supportive Care for the Caregiver

Compassion fatigue

Healthcare workers who provide ongoing care of pregnant women who are HIV-infected (or whose HIV status is unknown) and their infants are vulnerable to compassion fatigue or “burnout.”

Burnout syndrome stems from extended exposure to intense job-related stress and strain. Burnout syndrome is characterised by:

- Emotional exhaustion: feelings of helplessness, depression, anger, and impatience
- Depersonalisation: detachment from the job and an increasingly cynical view of patients and co-workers
- Decreased productivity: due to a real or perceived sense that their efforts are not worthwhile and do not seem to have an impact.

Signs and symptoms of burnout	
<p>Behavioural</p> <ul style="list-style-type: none"> ▪ Frequent changes in mood ▪ Eating too much or too little ▪ Drinking alcohol and/or smoking too much ▪ Becoming “accident prone” <p>Cognitive</p> <ul style="list-style-type: none"> ▪ Unable to make decisions ▪ Forgetful, poor concentration ▪ Sensitive to criticism 	<p>Physical</p> <ul style="list-style-type: none"> ▪ High blood pressure ▪ Palpitations, trembling ▪ Dry mouth, sweating ▪ Stomach upset <p>Occupational</p> <ul style="list-style-type: none"> ▪ Taking more days off ▪ Fighting with co-workers ▪ Working more hours but getting less done ▪ Having low energy, being less motivated

Institutional or job-related risk factors for burnout

- Work overload, limited or no breaks
- Long working hours
- Poorly structured work assignment (worker not able to use skills effectively)
- Inadequate leadership and support
- Lack of training and skill-building specific to your job

Personal risk factors for burnout include

- Unrealistic goals and job expectations
- Low self-esteem
- Anxiety
- Caring for patients with a fatal disease

Personal strategies for minimising or preventing burnout syndrome

Seeking support from others, taking care of yourself, and engaging in restorative activities, such as reading and exercising may reduce or minimise burnout syndrome.

Tips for managing burnout

- Find or establish a support group of peers.
- Search out a mentor—someone who can confidentially support you, listen to you, and guide you.
- Read books or listen to tapes that provide strategies for coping with stress.
- Take a course to learn about a subject relevant to your work (or take a refresher course on a previously-studied subject).
- Take structured breaks during work hours.
- Make time for yourself and your family.
- Exercise, eat properly, and get enough rest.

Exercise 8.4 Compassion fatigue/burnout in PMTCT programmes: large group discussion

Purpose	To examine the factors that contribute to burnout and develop creative prevention strategies.
Duration	45 minutes
Instructions	Participate in the discussion about factors that contribute to compassion fatigue or burnout in the PMTCT setting as well as creative strategies for preventing burnout. The trainer may get the discussion going by asking the group questions about policies and practices in their facilities that may, in the long term, affect job commitment. The trainer may also ask about stress-reduction techniques that work for you as well as what would make your job easier.

Module 8: Key Points

- Universal precautions apply to all patients, regardless of diagnosis.
- Key components of universal precautions include:
 - Handwashing
 - Safe handling and disposal of sharps
 - Use of personal protective equipment
 - Decontamination of equipment
 - Safe disposal of infectious waste materials
 - Safe environmental practices
- Needle-stick injuries from patients who are HIV-infected are the most common source of HIV transmission in the workplace.
- Cleaning, disinfection, and sterilisation of all instruments used in invasive procedures reduce risk of patient-to-patient transmission of infection.
- During labour and childbirth, safe care reduces the risk of occupational exposure.
- Short-term ARV treatment reduces the risk of HIV infection after occupational exposure.
- Burnout syndrome is related to intense, prolonged job stress but can be managed and the effects minimised by individual and organisational supports.

APPENDIX 8-A Guidelines for cleaning, sterilisation, and disposal of infectious waste materials

Level of Risk	Items	Decontamination Method
High risk or critical	Equipment and instruments that penetrate the skin or body	<p>Sterilisation is a process that destroys all microorganisms, including HIV. Use the following methods:</p> <ul style="list-style-type: none"> Use of steam under pressure is the preferred method. Use ethylene oxide gas or other low-temperature process for heat-sensitive equipment. Use chemical sterilants with adequate pre-cleaning and follow proper protocols.
Moderate risk or semi-critical	Equipment and instruments that touch non-intact skin or mucous membranes	<p>Sterilise with heat or steam.</p> <p>Use high-level disinfection. This method destroys all microorganisms with the exception of high numbers of bacterial spores. Use the following methods:</p> <ul style="list-style-type: none"> Boil for 20 minutes, or longer if above sea level. Perform chemical disinfection with glutaraldehyde, stabilised hydrogen peroxide, chlorine, or peracetic acid, followed by a sterile water rinse or a tap water and alcohol rinse; dry with forced air, when possible. <p>Note: Intermediate-level disinfectants for certain semi critical items do not kill all viruses, fungi, or bacterial spores.</p>
Low risk or non-critical	Equipment and instruments that touch intact skin	Perform low-level disinfection with diluted germicidal detergent solution, isopropyl alcohol, or 1:500 dilution of household bleach.

When possible, high-risk or critical equipment and instruments should be pre-packaged, disposable, and designed for single use.

Cleaning

Cleaning removes all foreign material (dirt, body fluids, and lubricants) from objects by washing or scrubbing the object using water and detergents or soaps. Detergents and hot water are generally adequate for the routine cleaning of floors, beds, toilets, walls, and rubber draw sheets.

To clean a spill involving body fluids

- Use heavy-duty rubber gloves and remove body fluid with an absorbent material
- Discard the material in a leak-proof container.

APPENDIX 8-A Guidelines for cleaning, sterilisation, and disposal of infectious waste materials *(continued)*

Note the following when handling soiled linen:

- Use gloves, but avoid handling as much as possible.
- Do not sort or rinse in patient care areas.
- Transport linen soiled with large amounts of body fluid in leak-proof bags.
- Fold linen so that the soiled parts are on the inside.

Safe disposal of infectious waste materials

The purpose of waste management is to:

- Protect people who handle waste items from injury, and
- Prevent the spread of infection to healthcare workers and the local community.

To dispose of solid waste contaminated with blood, body fluids, laboratory specimens, or body tissue:

- Place in leak-proof containers and burn, or
- Bury in a pit 2.5 meters (about 8 feet) deep, at least 30 meters (about 98 feet) from a water source.

To dispose of liquid waste, such as blood or body fluids, pour liquid waste down a drain connected to an adequately treated sewer or pit latrine.

Recommendations on disposal of sharps

Disposable sharp items, such as hypodermic needles, require special handling because they are the items most likely to injure healthcare workers. If these items are disposed of in the municipal landfill, they are a danger to the community.

Note the following to dispose of sharps containers safely:

- Wear heavy-duty gloves.
- When the sharps container is three-quarters full, completely seal the opening of the container using a cap, a plug, or tape.
- Be sure that no sharp items are sticking out of the container.
- Dispose of the sharps container by burning, encapsulating, or burying it.
- Remove the heavy-duty gloves.
- Wash your hands and dry them with a clean cloth or air dry.

Burning waste containers

High-temperature burning destroys waste and kills microorganisms. This method reduces the bulk volume of waste and ensures that the items are not scavenged and reused.

Encapsulating waste containers

Encapsulation is recommended as the easiest way to dispose of sharps safely. In this method, collect sharps in puncture-resistant and leak-proof containers. When the container is three-quarters full, pour a material such as cement (mortar), plastic foam, or clay into the container until completely filled. After the material has hardened, seal the container and dispose it in a landfill, store it, or bury it.

APPENDIX 8-A Guidelines for cleaning, sterilisation, and disposal of infectious waste materials *(continued)*

Burying waste

In healthcare facilities with limited resources, safe burial of waste on or near the facility may be the only option available for waste disposal. Take the following precautions to limit health risks:

- Restrict access to the disposal site. Build a fence around the site to keep animals and children away.
- Line the burial site with a material of low permeability (for example, clay or cement), if available.
- Select a site at least 30 meters (about 98 feet) away from any water source to prevent contamination of the water table.
- Ensure that the site has proper drainage, is located downhill from any wells, is free of standing water, and is not in a flood-prone area.
- The bottom of the burial pit should be at least 1.5 meters above the groundwater level during the wet season.

This appendix includes original material and material adapted from the following:

- Tietjen, Bossemeyer, McIntosh. Prevention: *Guidelines for Healthcare Facilities with Limited Resources*. JHPIEGO Corporation, Baltimore, March 2003. http://www.reproline.jhu.edu/english/4morerh/4ip/IP_manual/ipmanual.htm
- International Council of Nurses, World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS). 2000. *Fact Sheet 11 HIV and the workplace and Universal Precautions (Fact sheets on HIV/AIDS for nurses and midwives)*, http://www.who.int/health-services-delivery/hiv_aids/English/fact-sheet-11/index.html
- World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS). 1999. *HIV in Pregnancy: A Review*. Pp 39–42. Retrieved 3 June 2004, from http://www.who.int/reproductive-health/publications/rhr_99_15/rhr99-15.pdf

APPENDIX 8-B Managing occupational exposure to HIV: a sample protocol

Immediate steps

Any healthcare worker accidentally exposed to blood or body fluids must take the following steps:

- Wash the wound and skin sites exposed to blood and body fluids with soap and water.
- For percutaneous injuries (those that break the skin) where bleeding occurs, allow bleeding for a few seconds before washing with soap and water.
- Flush mucous membranes exposed to blood and body fluids with water.
- Topical use of antiseptics is optional.
- Do not apply caustic agents, such as bleach, onto the wound or inject antiseptics or disinfectants into the wound.
- Immediately inform the supervisor, or person in charge, of the exposure type and the action taken.

Once informed, the supervisor should take the following actions:

- Assess the exposure to determine the risk of transmission.
- Inform the patient about the exposure and request permission for HIV testing.
- Inform the healthcare worker about the exposure and request permission for HIV testing.
- Perform rapid testing on both specimens following testing procedures. If rapid testing is not available, send both samples to the closest designated laboratory for HIV testing.
- Immediately arrange for the healthcare worker to visit the nearest physician who manages this type of injury.
- Provide immediate support and information on post-exposure prophylaxis (PEP) to the healthcare worker.
- Record the exposure in the facility register or the appropriate form and forward the information to the individual or department assigned to manage such exposures.
- Maintain the confidentiality of all related records.

PEP

- In all cases of accidental exposure, start PEP within 2 hours of the exposure, whether or not patient's HIV status is known.
- Discontinue PEP after you have confirmed that the patient's HIV test is negative.
- If the patient is HIV-infected (with a positive test result), continue PEP.
- ARV therapy should be provided according to national or facility protocol. A minimum of two weeks and a maximum of four weeks treatment is recommended. When possible, consultation with a HIV specialist, particularly when exposure to drug resistant HIV may have occurred, is recommended.
- If the healthcare worker's initial HIV test is positive, counsel the person on the test result and refer to a HIV/AIDS programme for treatment, care and support.

APPENDIX 8-B Managing occupational exposure to HIV: a sample protocol *(continued)*

- Always have a minimum of two doses of the approved PEP ARV regimen available and accessible at your facility at all times.
- If the healthcare worker's initial HIV test is negative, repeat the HIV test at the following post-exposure intervals: 6 weeks, 3 months, and 6 months.
- Healthcare worker should receive follow-up care for 6 months.
- If the healthcare worker converts from a negative to a positive test result, which is rare, refer the worker to an HIV/AIDS programme for treatment, care, and support.

Post-exposure counselling for the healthcare worker

- Healthcare worker must be counselled to either abstain from sexual intercourse or use condoms for 6 months after the exposure or until receiving the third negative test result.
- Healthcare worker should not donate blood, plasma, organs, tissues, or semen for 6 months after the exposure or until receiving the third negative test result.
- Breastfeeding should be discouraged during this period.
- Offer counselling support to the healthcare worker and, if requested, to the healthcare worker's spouse or sexual partner, to help them manage the implications of and stress related to the exposure.

Source: Adapted from CDC. 2001. Updated US public health service guidelines for the management of occupational exposure to HBV, HCV and HIV and recommendations for postexposure prophylaxis. *MMWR* 50(No. RR-11): 1–42. Retrieved 30 July 2004, from <http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf> and World Health Organization. Post-exposure prophylaxis Retrieved 30 July 2004, from <http://www.who.int/hiv/topics/prophylaxis/en/index.html>



Glossary

Acquired immunodeficiency syndrome (AIDS)

A: Acquired, (not inherited) to differentiate from a genetic or inherited condition that causes immune dysfunction

I: Immuno-, because it attacks the immune system and increases susceptibility to infection

D: Deficiency of certain white blood cells in the immune system

S: Syndrome, meaning a group of symptoms or illnesses as a result of the HIV infection

AIDS is the most advanced stage of HIV infection.

Acute illness

An illness, such as pneumonia, that begins suddenly and usually is of short duration. Many acute illnesses can be cured by medical treatment.

AIDS

See Acquired Immunodeficiency Syndrome.

Anaemia

A condition in which there is a low blood level of red blood cells, haemoglobin, or in total volume.

ANC

See Antenatal Care.

Antenatal care (ANC)

Care of a pregnant woman and her unborn child or foetus before delivery.

Antibiotic

A medicine that kills infection-causing organisms.

Antibody

A specialised serum protein produced by B lymphocytes in response to an exposure to foreign protein (antigen).

Antigen

A substance that can trigger an immune response causing the production of antibodies as part of the body's defense against infection and disease.

ARV

See Antiretroviral Drugs, Antiretroviral Prophylaxis, Antiretroviral Treatment.

Antiretroviral prophylaxis	Short-term use of antiretroviral drugs to reduce HIV transmission from mother to infant.
Antiretroviral treatment	Long-term use of antiretroviral drugs to treat maternal HIV/AIDS and prevent PMTCT.
Asymptomatic	Without symptoms of illness or disease.
Bacterium	A type of germ that causes infection.
Bloodborne pathogen	Microorganisms, such as viruses or bacteria, that are carried in blood and can cause disease.
Breastmilk substitute	Any food being marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not suitable for that purpose. A breastmilk substitute can be commercial infant formula or home-modified animal milk.
CD4 cells	T-lymphocyte cells in the immune system involved in protection against infections. When HIV actively multiplies, it infects and kills CD4 cells.
CD4 count	A test that measures the number of CD4 cells in the blood, thus reflecting the state of the immune system. A normal count in a healthy adult is 600–1200 cells/mm ³ . When the CD4 count of an adult falls below 200 cells/mm ³ , there is a high risk of opportunistic infection.
Cell	The basic unit of living matter.
Cessation of breastfeeding	Completely stopping breastfeeding, including suckling.
Chorioamnionitis	Inflammation of the membranes covering the foetus.
Chronic illness	Any persistent medical condition that can be managed but not cured with treatment.
CMV	See Cytomegalovirus.
Codex Alimentarius Commission	Created in 1963 by Food & Agricultural Organization (FAO) and WHO to develop food standards, guidelines and other information including practice guidelines under the Joint FAO/WHO Food Standards Programme. The main purposes of this Programme are protecting consumers health and ensuring fair trade practices in the food trade, and promoting coordination of all food standards work undertaken by international governmental and non-governmental organisations.

Combination ARV therapy	Use of three or more antiretroviral medications to more effectively combat HIV disease and suppress viral load.
Commercial infant formula	Breastmilk substitute formulated industrially in accordance with applicable Codex Alimentarius standards to satisfy the nutritional requirements of infants during the first months of life up to the introduction of complementary foods.
Complementary food	Any food, whether manufactured or locally prepared, used as a complement to breastmilk or to a breast-milk substitute. In general, complementary foods should not start before the age of 6 months.
Counselling	The confidential dialogue between individuals and their care providers. The term counselling can refer to discussions between healthcare workers and clients/patients specific to HIV testing to help clients examine their risk of acquiring or transmitting HIV infection.
Cryptococcus	A fungal organism that infects the central nervous system (brain and spinal cord) causing cryptococcal meningitis. Some of the symptoms include fever, headache, vomiting, and loss of appetite. A serious opportunistic infection in persons living with HIV/AIDS.
Cryptosporidium	An organism that infects the intestines (gut). Some of the symptoms include diarrhoea, pain, and weight loss.
Cup feeding	Being feed from or drinking from an open cup irrespective of its contents.
Cytomegalovirus (CMV)	A virus that infects systems of the body. Some of the signs and symptoms include pneumonia, retinitis, diarrhoea, and other problems.
DNA PCR	HIV DNA polymerase chain reaction (PCR) is a laboratory test to detect the presence of the virus in the blood. It is used for diagnosis of the infant less than 18 months.
Dehydration	Loss of fluid from body tissues.
Diarrhoea	Frequent loose and watery bowel movements often caused by bacteria, parasites, and drug use. People with HIV commonly develop diarrhoea , which can lead to wasting.

Disclosure	Sharing of HIV status with others. Most people believe that disclosure of HIV infection should be encouraged. Yet many people infected with HIV avoid disclosing their HIV status for fear that doing so will subject them to unfair treatment and stigma. Benefits of disclosure include: encouraging partner(s) to be HIV tested; preventing the spread of HIV to partner(s); and receiving support from partner(s), family, and/or friend(s).
Discrimination	An act or behaviour based on prejudice. Discrimination is a way of expressing, either on purpose or inadvertently, stigmatising thoughts.
Disinfection	Elimination of most or all microorganisms other than bacterial spores, accomplished by the application of liquid chemicals or by wet pasteurisation (75°C for 30 minutes after detergent cleaning).
ELISA	See Enzyme Linked Immunosorbent Assay.
Encephalopathy	Degeneration (failing) of the brain that causes decreased functioning in activities of daily living and progresses over weeks or months.
Enzyme	A protein that helps promote biochemical reactions but that is not affected by them.
Enzyme Linked Immunosorbent Assay (ELISA)	A laboratory assay (test) to identify the presence of HIV antibodies in body fluids. A positive ELISA test result is usually confirmed by another test such as a second ELISA or a test called the Western blot.
Epidemic	A disease affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time.
Evaluation	A measurement of the changes in a situation resulting from an intervention. A formal evaluation of a PMTCT programme will demonstrate how much it contributed to changes in the indicators.
Exclusive breastfeeding	Providing breastmilk only (including expressed breastmilk), and no other food or drink, including water. The only exceptions are drops or syrups consisting of vitamins, mineral supplements, or medicines.
Failure to Thrive (FTT)	Weight loss or gradual but steady deterioration in weight gain from the expected growth, as indicated in a child's growth card.

Fungus	A germ that can cause infection, including a yeast infection such as thrush. Fungal infection occurs commonly in those with weakened immune systems, including AIDS.
Germs	Organisms, including bacteria, viruses, and fungi, that can cause infection.
Haematocrit	The percentage of red blood cells in the blood.
Haematologic	Relating to blood.
Haemoglobin	A protein found in red blood cells that carries oxygen.
Healthcare provider	A doctor, nurse, midwife, programme manager, or others whose activities include working directly with patients or clients in a healthcare setting. Also referred to as healthcare worker.
Helminth infection	Intestinal disease caused by wormlike parasites.
Hepatic	Relating to the liver.
Hepatitis	Inflammation of the liver that may be caused by bacterial or viral infection, parasitic infestation, alcohol, drugs, toxins, or transfusion of incompatible blood.
Hepatomegaly	Swollen or enlarged liver.
Herpes	A virus that causes sores in the mouth, on the genitals, or elsewhere on the body.
Highly Active Antiretroviral Therapy (HAART)	Stands for the use of at least three ARV drugs in combination to suppress viral replication and progression of HIV disease by reducing the viral load to undetectable levels.
HIV rapid test	A simple test for detecting HIV antibodies in blood or other body fluids that produces results in less than 30 minutes.
Home care	The provision of treatment and care in the home of the person living with HIV/AIDS.
Home-prepared formula	Replacement food (or breastmilk substitute) prepared at home from fresh or processed animal milk, suitably diluted with water and amended with sugar and micronutrients.

Human immunodeficiency virus (HIV)

Stands for human immunodeficiency virus, the virus that causes AIDS. HIV breaks down the body's defence against infection and disease—the body's immune system—by infecting specific white blood cells, leading to a weakened immune system. It is transmitted through blood, blood products, semen, vaginal fluids, and breastmilk.

Immune system

A collection of cells and proteins that works to protect the body from potentially harmful, infectious microorganisms, such as bacteria, viruses and fungi.

Immunisation

Vaccination to protect against a specific infection by injecting a weakened or killed form of a disease-causing organism into the body to activate the body's immune response without causing the full-blown disease. Currently there is no vaccine or immunisation to protect against HIV.

Immunocompromised

Having a weak or damaged immune system as measured by a low CD4 count. Also, see Immunosuppressed.

Immunosuppressed

When the body's immune function is damaged and incapable of performing its normal functions. Immunosuppression may occur due to certain drugs (e.g., in chemotherapy) or because of certain diseases such as HIV infection.

Implementation

The specific steps taken when attempting to reach a specific goal, is known as "implementation." The implementation phase occurs after goals have been set and a strategy has been agreed upon.

In utero

Refers to events that occur in the uterus (womb) during pregnancy.

Indicators

Summary measures used to provide information on the status of activities related to each step of the PMTCT programme cycle.

Infant who is HIV-exposed

Infant born to a mother infected with HIV and exposed to HIV through pregnancy, in childbirth, or during breastfeeding.

Infection

Invasion and growth of germs in the body.

Integrated Management of Childhood Illness (IMCI)

An approach to management of child health, developed by WHO and UNICEF, that focuses on the well-being of the whole child. IMCI aims to reduce death, illness, and disability, and to promote improved growth and development among children younger than 5 years.

Intervention	An action or strategy to address a particular problem or issue and to accomplish a specific result.
Intrapartum	Occurring during labour and delivery (childbirth).
Lymphadenopathy	A swelling of the lymph glands in the body. The most common areas of swelling with HIV infection are the neck, under the arms, and in the groin. Also called swollen glands.
Lymphocyte	A type of white blood cell produced in the lymphoid organs that is primarily responsible for immune responses. Present in the blood, lymph and lymphoid tissues.
MAC	See <i>Mycobacterium Avium Complex</i> .
Malaria	An infectious disease characterized by cycles of chills, fever, and sweating, caused by a parasite transmitted by a host mosquito.
Medication adherence	Taking medicine exactly as recommended by a healthcare provider without missing doses.
Monitoring	Routine tracking of information or indicators about a programme and its intended outputs through record keeping and regular reporting. Also called performance monitoring.
Mother-to-child transmission (MTCT) of HIV	Transmission of HIV from a woman infected with HIV to her child during pregnancy, childbirth, and breastfeeding. Also referred to as vertical transmission or perinatal transmission.
MTCT	See Mother-to-Child Transmission.
<i>Mycobacterium Avium Complex</i>	Organisms that invade the intestines (gut) and other organs.
Neutrophil	A type of white blood cell that kills foreign organisms such as bacteria and fungus.
Neutropenia	Low neutrophil count in the blood that is associated with HIV infection.
OI	See Opportunistic Infection.
Oesophagitis	An infection or inflammation of the oesophagus.
Opportunistic infection (OI)	A disease caused by a microorganism that does not normally cause illness in a person with a healthy immune system, but that may cause serious disease when the immune system is weakened.

Oral thrush	A fungal infection of the mouth that looks like white patches or curdled milk.
Output indicators	Evidence of programme results, such as the number of people trained.
Pandemic	A disease occurring over a wide geographic area and affecting an exceptionally high proportion of the population ie, malaria, HIV.
PCP	See <i>Pneumocystis Carinii</i> Pneumonia.
PCR	See Polymerase Chain Reaction.
PEP	See Post-Exposure Prophylaxis.
Perinatal transmission	See Mother-to-Child Transmission of HIV; Also known as vertical transmission.
Platelet	A type of blood cell (thrombocyte) that facilitates blood clotting. Also see Thrombocytopenia.
PMTCT	Prevention of mother-to-child transmission of HIV.
<i>Pneumocystis Carinii</i> Pneumonia (PCP)	A severe, life-threatening lung infection that causes fever, dry cough, and difficulty breathing.
Polymerase Chain Reaction (PCR)	A viral assay (test) that detects the presence or the amount of a virus in the blood. For HIV, the DNA-PCR indicates the presence of the virus. The HIV RNA-PCR measures the amount of virus, often referred to as the viral load.
Post-exposure prophylaxis (PEP)	<p>Short-term use of ARV drugs following occupational HIV exposure such as a percutaneous injury (eg, a needlestick or cut with a sharp object) or contact of mucous membrane or nonintact skin (eg, exposed skin that is chapped, abraded, or afflicted with dermatitis) with blood, tissue, or other body fluids containing visible blood to reduce the likelihood of infection.</p> <p>PEP is a key part of a comprehensive Universal Precautions strategy for reducing exposure to infectious agents in the workplace.</p>
Postnatal care	Care for a mother and infant in the 6 weeks following birth. Postnatal care is vital for ensuring that mother and child remain healthy and should include prevention, early detection, and treatment of complications and disease. Guidance and support of infant feeding and maternal nutrition, family planning, childhood immunisations and referrals to needed services provide continuity of care.
Prenatal care	See Antenatal Care.

Prevalence	The percentage of a population that is affected with a particular disease at a given time.
Programme cycle	Process of assessing a situation and then planning, implementing, monitoring and evaluating a responsive public health programme.
Prophylaxis	Treatment to prevent the onset of a particular disease (primary prophylaxis) or recurrence of symptoms in an existing infection that has been brought under control (secondary prophylaxis). PMTCT prophylaxis refers to using antiretroviral drugs to reduce HIV transmission from mother to infant.
Replacement feeding	The process of feeding infants who are receiving no breastmilk with a diet that provides the nutrients infants need until the age at which they can be fully fed on family foods. During the first six months, this should be with a suitable breastmilk substitute such as commercial formula, or home-prepared formula with micronutrient supplements. After six months, the suitable breastmilk substitute should be complemented with other foods.
Replicate	To duplicate or make more copies of something.
RNA PCR	HIV RNA polymerase chain reaction, also called viral load testing, detects and measures the amount of virus in blood.
Safer sex	Ways to have sex that reduce the risk of acquiring or transmitting HIV and other STDs such as use of a latex condom or other barrier. See Unprotected Sex.
Seropositive	A blood test result that indicates infection. A test can indicate the presence of antibodies to an organism (antibody positive) or the presence of the organism or its proteins (antigen positive).
Sexually Transmitted Diseases/Infections (STD/STI)	Diseases that people get by having intimate sexual contact, including having sex (vaginal, oral, or anal intercourse) with someone who already has the disease. There are many different kinds of STDs including herpes, HIV, and syphilis. All STDs are preventable.
Side effect	Unintended action or effect of a medication or treatment.

Specificity	The ability of a test to correctly exclude individuals who do not have a given disease or disorder. For example, a certain HIV test may have proven to be 90% specific. If 100 healthy individuals are tested with that method, only 90 of those 100 healthy people will be found “negative” or disease-free by the test. The other 10 people also do not have the disease, but their test results seem to indicate they do. For that 10%, their “positive” findings are a misleading false-positive result. When it is necessary to confirm a diagnosis that requires therapy, a test’s specificity is one of the important indicators. The more specific a test is the fewer “false-positive” results it produces.
Splenomegaly	Inflamed or enlarged spleen.
STDs/STIs	See Sexually Transmitted Diseases/Infections.
Sterilisation	Completely eliminating or killing all microorganisms by application of steam under pressure, dry heat, or ethylene oxide and other gases, or by soaking in other liquid chemicals for prolonged periods.
Stigma	Refers to all unfavourable attitudes and beliefs directed toward people living with HIV/AIDS (PLWHA) or those perceived to be infected, as well as their significant others and loved ones, close associates, social groups, and communities.
Symptomatic	Showing signs of illness or disease.
TB	See Tuberculosis.
Thrombocytopenia	An abnormally low number of platelets (thrombocytes) due to disease, reaction to a drug or toxic reaction to chemotherapy treatments. If the platelets are too few, bleeding could occur.
Tuberculosis (TB)	A contagious bacterial infection that damages the lungs and other parts of the body. TB is a respiratory illness and is mainly transmitted through coughing. The most common and serious co-infection and OI related to HIV/AIDS.
Universal precautions	A simple set of effective practices designed to protect health workers and patients from infection with a range of pathogens including blood borne viruses. These practices are used when caring for all patients regardless of diagnosis.
Unprotected sex	The exchange of blood, semen and/or vaginal fluids that occurs during sexual activity when condoms and other barrier methods such as latex or polyurethane are not in use.

Vertical transmission	See Mother-to-Child Transmission of HIV.
Viral load	The amount of HIV in the blood as measured by HIV RNA PCR.
Viral resistance	Changes in the genetic makeup of HIV that decrease the effectiveness of antiretroviral drugs. Usually occurs in response to drug treatment especially when there is incomplete treatment or poor adherence to appropriate treatment.
Virus	A type of germ that causes infection.
Wasting (syndrome)	Condition characterised by loss of more than 10% of body weight and either unexplained chronic diarrhoea (lasting more than 1 month) or chronic weakness and unexplained, prolonged fever (lasting more than 1 month).
Western blot	A laboratory test for specific antibodies to confirm repeatedly reactive results on the HIV ELISA test. Western blot is the validation test used often for confirmation of other test results.
Wet-nursing	Breastfeeding of an infant by someone other than the infant's mother.
Window period	The period of time between the onset of infection with HIV and the appearance of detectable antibodies to the virus. The window period lasts for 4 to 6 weeks but occasionally up to 3 months after HIV exposure.



Resources

Key General Resources on PMTCT

Brocklehurst P and J Volmink. 2002. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection (Cochrane Review), in *The Cochrane Library*, Issue 3. Update Software: Oxford, England.

Center for HIV Information. 2004. *Women, children, and HIV: resources for prevention and treatment*. 3rd ed. Retrieved 19 August 2004, from www.womenchildrenhiv.org

DeCock KM et al. 2000. Prevention of mother-to-child HIV transmission in resource-poor countries: Translating research into policy and practice. *JAMA* 283(9): 1175–1182.

Rutenberg N et al. 2003b. HIV voluntary counseling and testing: An essential component in preventing mother-to-child transmission of HIV. Horizons Research Summary. Population Council: Washington, DC. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctvct.pdf>

WHO. 2004. *Antiretroviral drugs for treating pregnant women and preventing HIV infection in infants. Guidelines on care, treatment and support for women living with HIV/AIDS and their children in resource-constrained settings*. WHO: Geneva. Retrieved 19 August 2004, from <http://www.who.int/hiv/pub/mtct/guidelines/en/>

WHO. 2004. *Scaling up antiretroviral therapy in resource-limited settings: Treatment guidelines for a public health approach*. WHO: Geneva. Retrieved 30 July 2004, from <http://www.who.int/hiv/pub/mtct/en/arvdrugsguidelines.pdf>

AIDS Education and Training Centers National Resource Center. 2003. U.S. public health service perinatal guidelines: Recommendations for the use of antiretroviral drugs in pregnant HIV-1 infected women for maternal health and to reduce perinatal HIV-1 transmission in the United States. Includes 49 slides, 6 case studies, and speaker notes. Retrieved 30 July 2004, from http://aidsetc.org/ppt/nrc_perinatal_guidelines_11-03.ppt

Bulterys M et al. 2002. Advances in the prevention of mother-to-child HIV-1 transmission: Current issues, future challenges. *AIDScience* 2(4). Retrieved 30 July 2004, from <http://aidsscience.org/Articles/aidsscience017.asp>

- Dabis F (ed). PMTCT Intelligence Report. Bordeaux Working Group. Retrieved 30 July 2004, from http://www.who.int/reproductive-health/rtis/MTCT/monthly_publications/ir-12-2001pdf
- Granich R and J Mermin. 2001. *HIV, Health, and Your Community: A Guide for Action*. Hesperian Foundation: Berkeley, CA.
- John Snow, Inc./DELIVER. 2003. Guide for Quantifying HIV Test Kits. John Snow, Inc./DELIVER, for the US Agency for International Development: Arlington, VA. Retrieved 30 July 2004, from http://www.deliver.jsi.com/pdf/g&h/guide_quantifying.pdf
- Kriebs J. 2002. The global reach of HIV: Preventing mother-to-child transmission. *J Perinat Neonatal Nurs* 16(3): 1–10.
- Luzuriaga K and J Sullivan. 2002. Pediatric HIV-1 infection: Advances and remaining challenges. *AIDS Rev* 4(1): 21–26.
- Marshall M and K Adjei-Sakyi. August 2003. Female condom and dual protection: training for community-based distributors and peer educators. Centre for Development and Population Activities (CEDPA): Washington, DC. Retrieved 30 July 2004, from <http://www.cedpa.org/publications/dualprotection/dualprotection.html>
- Rutenberg N et al. 2003a. Family planning and PMTCT services: Examining interrelationships, strengthening linkages. Horizons Research Summary. Population Council: Washington, DC. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctfp.pdf>
- Rutenberg N et al. 2003c. *Infant feeding counseling within Kenyan and Zambian PMTCT services: How well does it promote good feeding practices?* Horizons Research Summary. Population Council: Washington, DC. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctif.pdf>
- US Health & Human Services (HHS) and Centers for Disease Control & Prevention (CDC) Global AIDS Program (GAP) Training Team. 2004 January. Developing a strategy for effective training: Guiding principles and key approaches. Draft.
- US Public Health Service Task Force. 2004. Recommendations for use of antiretroviral drugs in pregnant HIV-1-infected women for maternal health and interventions to reduce perinatal HIV-1 transmission in the United States. Retrieved 15 August 2004, from www.aidsinfo.nih.gov/guidelines/perinatal/PER_062304.html
- WHO and the Joint United Nations Programme on HIV/AIDS (UNAIDS). 2000. Fact Sheet 10: Women and HIV and mother-to-child transmission (Fact sheets on HIV/AIDS for nurses and midwives). Unpublished. Retrieved 30 July 2004, from http://www3.who.int/whosis/factsheets_hiv_nurses/fact-sheet-10/index.html

Key Online Resources on PMTCT in Resource-Constrained Settings

<http://www.cdc.gov/nchstp/od/gap>

CDC's Global AIDS Program (GAP) exists to help prevent HIV infection, improve care and support, and build capacity to address the global HIV/AIDS pandemic. GAP provides financial and technical assistance through partnerships with communities, governments, and national and international entities working in resource-constrained countries.

<http://www.jhpiego.org>

Through advocacy, education and performance improvement, JHPIEGO helps host-country policymakers, educators and trainers increase access and reduce barriers to quality health services in low-resource settings throughout Africa, Asia, Latin America and the Caribbean.

http://www.who.int/child-adolescent-health/NUTRITION/HIV_infant.htm

The WHO Child and Adolescent Health and Development website provides information about infant and young child nutrition as well as listing key resources in this field.

<http://www.who.int/3by5/en>

The WHO drive to provide HIV/AIDS treatment to three million people by the end of 2005.

<http://www.WomenChildrenHIV.org>

<http://WomenChildrenHIV.org.za>

This website, and its mirror site, disseminates state-of-the-art clinical information and training resources on mother-to-child transmission of HIV (MTCT) and related topics. It communicates the best practices in PMTCT and caring for infected women, children and families in resource-constrained settings.

<http://www.cdc.gov/hiv/dhap.htm>

Centers for Disease Control and Prevention (CDC) site for information on HIV/AIDS in the United States.

<http://www.fhi.org>

Family Health International (FHI) works to address the needs of communities and countries ravaged by HIV/AIDS. FHI's publications present comprehensive, state-of-the-art information on every aspect of HIV/AIDS prevention and care, treatment, and mitigation by sharing lessons learned from many years of experience with HIV/AIDS in the developing world.

<http://www.fightglobalaids.org>

The Student Global AIDS Campaign (SGAC) is a national, student-based organization that uses advocacy, lobbying and the media to help end the global AIDS pandemic. The SGAC also raises money for student AIDS organizations abroad to support their work fighting AIDS on the ground.

http://www.globalhealth.org/view_top.php3?id=227

Global Health Council works to ensure that all who strive for improvement and equity in global health have the information and resources they need to succeed. To achieve this goal, the Council serves as the voice for action on global health issues and the voice for progress in the global health field.

<http://www.popcouncil.org/hivaids/index.html>

The Population Council's activities include efforts to alleviate the epidemic's effects; elucidate the basic science of infection and the determinants of the epidemic; work toward prevention; promote policy development; reduce stigma and discrimination; and promote the treatment, care, and support of people with HIV.

<http://www.reproline.jhu.edu/video/hiv/tutorials/English/index.htm>

ReproLearn Multimedia tutorials provide doctors, faculty, and healthcare trainers with technical information they need to provide high-quality healthcare and to train other healthcare providers about the needs of women with HIV/AIDS.

<http://www.safemotherhood.org>

The Safe Motherhood Initiative is a worldwide effort that aims to reduce the number of deaths and illnesses associated with pregnancy and childbirth.

<http://www.synergyaids.com>

The Synergy Project provides technical assistance and services to the USAID to design, evaluate, and coordinate HIV/AIDS programmes and identify and disseminate lessons learned.

<http://www.unaids.org>

UNAIDS (Joint United Nations Programme on HIV/AIDS) provides information on epidemiology, treatment, and programme development.

http://www.usaid.gov/pop_health/aids

USAID (United States Agency for International Development) is an independent agency of the US federal government that develops community-based advocacy and support programs for people living with HIV/AIDS, and provides support for orphans and vulnerable children whose families have been affected by HIV/AIDS. USAID also supports voluntary testing and counselling centers.

<http://www.who.int/hiv/en>

WHO (World Health Organization) offers information on epidemiology, treatment, and programme development for HIV/AIDS.

http://www.worldbank.org/hiv_aids/globalprogram.asp

The World Bank is working with all regions in the developing world that are affected by HIV/AIDS. The AIDS programme offers global learning and knowledge sharing on approaches and best practices for addressing HIV/AIDS.

MODULE 1—Introduction to HIV/AIDS

Key Resources

CDC. 1992. 1993 Revised classification system for HIV infection and expanded surveillance case definition for AIDS among adolescents and adults. *MMWR Morb Mortal Wkly Rep* 41(RR-17).

DeCock K et al. 2000. Prevention of mother-to-child HIV transmission in resource-poor countries: Translating research into policy and practice. *JAMA* 283(9): 1175–1182.

Bradley-Springer L et al. (eds). 2002. *Human Immunodeficiency Virus Infection: 2002 Sourcebook for the Healthcare Clinician*. Unpublished. Retrieved 30 July 2004, from http://www.aidsetc.org/pdf/tools/sourcebook_2002_mpaetc.pdf

Bradley-Springer L. 1999. *HIV/AIDS Nursing Care Plans, 2nd Edition*. Skidmore-Roth Publishing: El Paso, TX.

Lawn J et al. 2003. Part One: The unheard cry for newborn health, in *The Healthy Newborn: A Reference Manual for Program Managers*. Unpublished. pp. 1.1–1.64. Retrieved 30 July 2004, from http://www.careusa.org/careswork/whatwedo/health/downloads/healthy_newborn_manual/part1.pdf For complete manual, go to <http://www.care-package.org/careswork/whatwedo/health/hpub.asp>

CDC. 1998. Human Immunodeficiency Virus Type 2. Retrieved 30 July 2004, from <http://www.cdc.gov/hiv/pubs/facts/hiv2.htm>

CDC. 1994. 1994 Revised classification system for human immunodeficiency virus infection in children less than 13 years of age. *MMWR Morb Mortal Wkly Rep* 43(RR-12): 1–10.

Kirton C (ed). 2003. *ANAC's Core Curriculum for HIV/AIDS Nursing*, 2nd ed. Sage: Thousand Oaks, CA.

Kitahata M. 2002. Comprehensive health care for people infected with HIV in developing countries. *BMJ* 325: 954–957.

Lyll E (ed). 2001. British HIV Association. Guidelines for the management of HIV infection in pregnant women and the prevention of mother-to-child transmission. *HIV Med* 2: 314–334.

Marais H et al. 2002. Report on the Global HIV/AIDS Epidemic. UNAIDS: Geneva. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/global-reports/barcelona/brglobal_aids_report_en_pdf.pdf

McCoy D et al. 2002. *Interim Findings on the National PMTCT Pilot Sites: Lessons and Recommendations*. Health Systems Trust: Durban, South Africa. Retrieved 30 July 2004, http://www.doh.gov.za/aids/docs/2002/pmct/PMTCT_Interim1.pdf

Mofenson L and P Munderi. 2002. Safety of antiretroviral prophylaxis of perinatal transmission for HIV-infected pregnant women and their infants. *J Acquir Immune Def Syndr* 30: 200–215.

- Pantaleo, G, C Graziosi and A S Fauci. 1993. The immunopathogenesis of human immunodeficiency virus infection. *N Engl J Med* 328(5): 327–335.
- Tuomala R et al. 2002. *Antiretroviral therapy during pregnancy and the risk of an adverse outcome*. *N Engl J Med* 364: 1863–1870.
- UNAIDS. 2003. *AIDS Epidemic Update 2003*. UNAIDS: Geneva. Retrieved 30 July 2004, from <http://www.unaids.org/Unaid/EN/Resources/Publications/corporate+publications/aids+epidemic+update+--+december+2003.asp>
- UNAIDS. 2003. Regional HIV/AIDS statistics and features, end of 2003. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/topics/epidemiology/slides02/slide02_epicore2003_en_ppt.ppt
- University of British Columbia. *The Therapeutic Guidelines for the Treatment of HIV/AIDS and Related Conditions* [electronic version]. Retrieved 30 July 2004, from <http://cfeweb.hivnet.ubc.ca/guide/page/secta/consa.html>
- WHO. 2004. *Scaling up antiretroviral therapy in resource-limited settings: Treatment guidelines for a public health approach*. [2003 Revision]. WHO: Geneva. Annex E: WHO staging system for HIV infection and disease in adults and adolescents, p. 61, Retrieved 30 July 2004, from http://www.who.int/hiv/pub/prev_care/en/arvrevision2003en.pdf
- WHO and the Joint United Nations Programme on HIV/AIDS (UNAIDS). 2000. Fact Sheet 10: Women and HIV and mother-to-child transmission (Fact sheets on HIV/AIDS for nurses and midwives). Unpublished. Retrieved 30 July 2004, from http://www3.who.int/whosis/factsheets_hiv_nurses/fact-sheet-10/index.html

MODULE 2—Overview of Prevention of HIV Infection in Infants and Young Children

Key Resources

- Preble EA and EG Piwoz. 2001. *Prevention of Mother-to-Child Transmission of HIV in Africa: Practical Guidance for Programs*. Support for Analysis and Research in Africa (SARA) Project/Academy for Educational Development: Washington, DC. Retrieved 30 July 2004, from <http://www.aed.org/publications/healthpublications/mtctjuly17.pdf>
- Rutenberg N et al. 2002. *Integrating HIV prevention and care into maternal and child health care settings: Lessons learned from Horizon studies*. The Population Council: New York.
- WHO. 2001. *New Data on the Prevention of Mother-to-Child Transmission of HIV and Their Policy Implications: Conclusions and Recommendations*. WHO Technical Consultation on Behalf of the UNFPA/UNICEF/WHO/UNAIDS Inter-Agency Task Team on Mother-to-Child Transmission of HIV. WHO: Geneva.

- Askew I and M Berer. 2003. The contribution of sexual and reproductive health services to the fight against HIV/AIDS: A review. [electronic version]. *Reproductive Health Matters* 11 (22): 51–73. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/frontiers/journals/AskewBerer.pdf>
- Baggaley R et al. *Men Make a Difference: Involving Fathers in the Prevention of Mother-to-Child HIV Transmission*. Unpublished. Retrieved 30 July 2004, from <http://topics.developmentgateway.org/pmtct/rc/filedownload.do?itemId=249493>
- Callahan K and L Cucuzza. *Family Planning Plus: HIV/AIDS Basics for NGOs and Family Planning Program Managers. Integrating Reproductive Health and HIV/AIDS for NGOs, FBOs & CBOs*, Vol. 1. Centre for Development and Population Activities (CEDPA): Washington, DC. Retrieved 30 July 2004, from <http://www.cedpa.org/publications/familyplanningplus/familyplanningplus.html>
- CDC. 1998. *Human Immunodeficiency Virus Type 2*. Retrieved 30 July 2004, from <http://www.cdc.gov/hiv/pubs/facts/hiv2.htm>
- DeCock KM et al. 2000. Prevention of mother-to-child HIV transmission in resource-poor countries: Translating research into policy and practice. *JAMA* 283(9): 1175–1182.
- DeZoysa I. 2002. Strategic approaches for preventing HIV infections in infants: Balancing priorities in different settings. Presented at the XIV International AIDS Conference, Barcelona, Spain, 7–12 July.
- Epstein H et al. 2002. *HIV/AIDS Prevention Guidance for Reproductive Health Professionals in Developing-Country Settings*. The Population Council and UNFPA: New York. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/hivaidsguidance.pdf>
- Gaillard P et al. 2002. Reduction of HIV in infants: WHO strategic approaches. Presented at the XIV International AIDS Conference, Barcelona, Spain, 7–12 July.
- Hankins C. 2002. Preventing mother-to-child transmission of HIV in developing countries: Recent developments and ethical considerations. *Reprod Health Matters* 8(15): 87–92.
- Howard-Grabman L and G Snetro. 2002. *How to Mobilize Communities for Health and Social Change*. Save the Children and Johns Hopkins University Center for Communication Programs/Population Communication Services: Baltimore, MD.
- Lawn J et al. 2003. Part One: The unheard cry for newborn health, in *The Healthy Newborn: A Reference Manual for Program Managers*. Unpublished. pp. 1.1–1.64. Retrieved 30 July 2004, from http://www.careusa.org/careswork/whatwedo/health/downloads/healthy_newborn_manual/part1.pdf
- Moore M. 2003. *A Behavior Change Perspective on Integrating PMTCT and Safe Motherhood Programs: A Discussion Paper*. The CHANGE Project AED: Washington, DC. Retrieved 30 July 2004, from <http://www.changeproject.org/pubs/PMTCT-SafeMotherhood.pdf>
- Preble EA and EG Piwoz. 2002. *Prevention of Mother-to-Child Transmission of HIV in Asia: Practical Guidance for Programs*. Linkages Project/Academy for Educational Development: Washington, DC. Retrieved 30 July 2004, from <http://www.aed.org/publications/AsiaPMTCT.pdf>

- Rutenberg N et al. 2003a. *Family planning and PMTCT services: Examining interrelationships, strengthening linkages. Horizons Research Summary*. Population Council: Washington, DC. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctfp.pdf>
- Rutenberg N et al. 2003b. *HIV voluntary counseling and testing: an essential component in preventing mother-to-child transmission of HIV. Horizons Research Summary*. Population Council: Washington, DC. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctvct.pdf>
- Rutenberg N et al. 2003c. *Infant feeding counseling within Kenyan and Zambian PMTCT services: How well does it promote good feeding practices? Horizons Research Summary*. Population Council: Washington, DC. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctif.pdf>
- White V et al. 2003. *Men and Reproductive Health Programs: Influencing Gender Norms*. The Synergy Project: Washington, DC. Retrieved 30 July 2004, from http://www.synergyaids.com/SynergyPublications/Gender_Norms.pdf
- Wilson, P. 1999. *Our Whole Lives; Sexuality Education for Grades 7-9*. Unitarian Universalist Association: Boston. www.uua.org/bookstore.

MODULE 3—Specific Interventions to Prevent MTCT

Key Resources

- Anderson JR. 2002. *Care of Women with HIV Living in Limited Resource Settings: HIV and Pregnancy*. Johns Hopkins HIV Women's Health Program: Baltimore, MD. Retrieved 30 July 2004, from <http://www.reproline.jhu.edu/video/hiv/tutorials/English/index.htm>
- Dabis F and V Leroy. 2000. Preventing mother-to-child transmission of HIV: Practical strategies for developing countries. *AIDS Read* 10(4): 241–244.
- Perinatal HIV Guidelines Working Group, US Public Health Service Task Force. 2004. Public health service task force recommendations for use of antiretroviral drugs in pregnant HIV-1-infected women for maternal health and interventions to reduce perinatal HIV-1 transmission in the United States. Retrieved 19 September 2004, from <http://AIDSinfo.nih.gov>

- Anderson JR (ed). 2001. *A Guide to the Clinical Care of Women with HIV*. US Department of Health and Human Services, Health Resources and Services Administration: Rockville, MD.
- Besser M et al. 2002. *Changing Obstetric Practices in the Context of HIV: An Evaluation of Service Provision in the National PMTCT Learning Sites*. Health Systems Trust: Durban, South Africa. Retrieved 30 July 2004, from <ftp://ftp.hst.org.za/pubs/pmtct/pmtctobs.pdf>
- Bhana N et al. 2002. Zidovudine: A review of its use in the management of vertically-acquired pediatric HIV infection. *Paediatr Drugs* 4(8): 515–553.

- Brocklehurst P and J Volmink. 2002. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection [Abstract]. *Cochrane Database Syst Rev* (1): CD003510. Retrieved 30 July 2004, from http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12076484&dopt=Abstract
- Bulterys M et al. 2002. Role of traditional birth attendants in preventing perinatal transmission of HIV. *BMJ* 324: 222–225.
- CDC. 2002. *The Science of HIV Prevention: A Review of Proven Approaches and Future Directions*. CDC: Atlanta, GA.
- Chris Hani Baragwanath Hospital Perinatal HIV Research Unit. 2004. South African Patient Brochures on HIV Infection, Testing, Treatment, and Management during Pregnancy. Retrieved 30 July 2004, from <http://www.womenchildrenhiv.org/wchiv?page=pi-13-00>
- Connor EM and RS Sperling et al. 1994. Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment for the pediatric aids clinical trials group protocol 076 study group. *NEJM* 331: 1173–1180. Retrieved 30 July 2004, from <http://content.nejm.org/cgi/content/full/331/18/1173>
- Cunningham C et al. 2002. Development of resistance mutations in women receiving standard antiretroviral therapy who received intrapartum nevirapine to prevent perinatal human immunodeficiency virus type 1 transmission: A substudy of pediatric AIDS clinical trials group protocol 316. *J Infect Dis* 186(2): 181–188.
- Dabis F and DK Ekouevi et al. 2003. Effectiveness of a short course of zidovudine + lamivudine and peripartum nevirapine to prevent HIV-1 mother-to-child transmission. The ANRS 1201 ditrame-plus trial, Abidjan, Cote d'Ivoire. *IAS Conf HIV Pathog Treat 2003 Jul 13–16;2nd: Abstract No. 219 Antiviral Therapy 8* (Suppl. 1):S236. Retrieved 30 July 2004, from <http://www.aegis.com/conferences/2ndiashivpt/219.html>
- DeCock KM et al. 2000. Prevention of mother-to-child HIV transmission in resource-poor countries: Translating research into policy and practice. *JAMA* 283(9): 1175–1182.
- Gielen AC et al. 2001. Quality of life among women living with HIV: The importance of violence, social support and self-care behaviors. *Soc Sci Med* 52(2): 315–322.
- Hirschhorn L et al. 2003. *Tool to Assess Site Program Readiness for Initiating Antiretroviral Therapy (ART)*. John Snow (for the US Agency for International Development): Boston, MA.
- International Perinatal HIV Group. 1999. The mode of delivery and the risk of vertical transmission of human immunodeficiency virus type 1: A meta-analysis of 15 prospective cohort studies. *N Engl J Med* 340(13): 977–987.
- Ioannidis et al. 2001. Perinatal transmission of human immunodeficiency virus type 1 by pregnant women with RNA virus loads <1000 copies/ml. *J Infect Dis* 183: 539–545.
- Israel E and M Kroeger. 2003. Integrating prevention of mother-to-child HIV transmission into existing maternal, child, and reproductive health programs. *Pathfinder International Technical Guidance Series, No. 3*. Pathfinder International: Watertown, MA. Retrieved 30 July 2004, from http://www.pathfind.org/site/DocServer/Technical_Guidance_Series_3_PMTCTweb_01.pdf?docID=242

- Jackson JB et al. 2003. Intrapartum and neonatal single-dose nevirapine compared with zidovudine for prevention of mother-to-child transmission of HIV-1 in Kampala, Uganda: 18-month follow-up of the HIVNET 012 randomised trial. *Lancet* 2003.362(9387): 859–868.
- Kourtis A et al. 2001. Understanding the timing of HIV transmission from mother to infant. *JAMA* 285(6): 709–712.
- Kroeger M. 2002. *ARV Prophylaxis for Prevention of MTCT of HIV in a Resource Poor Setting*. Linkages Project, Academy for Educational Development: Washington, DC.
- Lindgren S, C Ottenbald and A Bohlin. 1998. Pregnancy in HIV-infected women. counseling and care—12 years' experiences and results. *Acta Obstet Gynecol Scand* 77: 532–541.
- Malonza I et al. 2003. The effect of rapid HIV testing on uptake of perinatal HIV-1 interventions: A randomized clinical trial. *AIDS* 17: 113–118.
- McIntyre J and G Gray. 2002. What can we do to reduce mother to child transmission of HIV? *BMJ* 324: 218–221.
- Mofenson LM. 2003. Advances in the prevention of vertical transmission of human immunodeficiency virus. *Sem Pediatr Infect Dis* 14: 295–308.
- Mofenson L and P Munderi. 2002. Safety of antiretroviral prophylaxis of perinatal transmission for HIV-infected pregnant women and their infants. *J Acq Immune Defic Syndr* 30(2): 200–215.
- Moodley D et al. 2003. A multicenter randomized controlled trial of nevirapine versus a combination of zidovudine and lamivudine to reduce intrapartum and early postpartum mother-to-child transmission of human immunodeficiency virus type 1. *J Infect Dis* 187: 725–735.
- Peiperl L. 2002. *Antiretroviral treatments to reduce mother-to-child transmission of HIV*. Unpublished. Retrieved 30 July 2004, from <http://www.hivinsite.com/InSite.jsp?page=kbr-07-02-03&doc=3098.0098>
- Petra Study Team. 2002. Efficacy of three short-course regimens of zidovudine and lamivudine in preventing early and late transmission of HIV-1 from mother-to-child in Tanzania, South Africa and Uganda (Petra Study): A randomized double-blind, placebo-controlled trial. *Lancet* 359: 1178–1186.
- Preble EA, D Huber, and E Piwoz. 2003. *Family Planning and the Prevention of Mother-to-Child Transmission of HIV: Technical and Programmatic Issues*. Advance Africa: Washington DC.
- Shaffer N and R Chuachoowong et al. 1999. Short-course zidovudine for perinatal HIV-1 transmission in Bangkok, Thailand: a randomised controlled trial. Bangkok Collaborative Perinatal HIV Transmission Study Group. *Lancet* 353: 773–780.
- UNAIDS. 2003. *A conceptual framework and basis for action: HIV/AIDS stigma and discrimination*. World AIDS Campaign 2002–2003, UNAIDS Best Practice Collection. Joint United Nations Programme on HIV/AIDS: Geneva.
- UNICEF. 2002. *Mother-to-child transmission of HIV: A UNICEF FACT Sheet*. UNICEF: New York.

- USAID/Synergy. 2004. *Women's Experiences with HIV Serodisclosure in Africa: Implications for VCT and PMTCT*. Meeting Report. Washington, DC, 2 April 2003. USAID: Washington, DC. March Retrieved 30 July 2004, from <http://www.synergyaids.com/documents/VCTDisclosureReport.pdf>
- Wiktor SZ and E Ekpini et al. 1999. Short-course oral zidovudine for prevention of mother-to-child transmission of HIV-1 in Abidjan, Côte d'Ivoire: a randomised trial [electronic version]. *Lancet* 353(9155): 781–5.
- WHO. 2004. *Scaling up antiretroviral therapy in resource-limited settings: Treatment guidelines for a public health approach*. [2003 Revision]. WHO: Geneva. Retrieved 30 July 2004, from http://www.who.int/hiv/pub/prev_care/en/arvrevision2003en.pdf
- WHO and UNAIDS. Provisional WHO/UNAIDS secretariat recommendations on the use of cotrimoxazole prophylaxis in adults and children living with HIV/AIDS in Africa. UNAIDS and WHO Press Release 7/00. Retrieved 30 July 2004, from <http://hivinsite.ucsf.edu/InSite?page=md-01-01&doc=3098.0061>

MODULE 4—Infant Feeding in the Context of HIV Infection

Key Resources

- Nduati R et al. 2000. Effect of breast feeding and formula feeding on transmission of HIV-1: A randomized clinical trial. *JAMA* 283: 1167–1174.
- WHO, UNICEF, and USAID. 2004. *HIV and infant feeding counselling tools*. Currently in print, to be available in late 2004 from http://www.who.int/child-adolescent-health/NUTRITION/HIV_infant.htm
- WHO. 2000. New Data on the Prevention of Mother-to-Child Transmission of HIV and Their Policy Implications. *WHO Technical consultation on behalf of the UNFPA/UNICEF/WHO/UNAIDS Inter-Agency Task Team on Mother-to-Child Transmission of HIV. 11–13 October 2000*, Geneva. WHO: Geneva. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/CHILD_HEALTH/MTCT_Consultation.htm
- WHO 2000. *HIV and Infant Feeding Counselling: A Training Course. Participant's Manual*. WHO: Geneva. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_Inf_Feeding/Participants_Manual.pdf

- Black R and C Victora. 2002. Optimal duration of exclusive breastfeeding in low income countries. *BMJ* 325: 1252–1253.
- Coutsoudis A and N Rollins. 2003. Breast-feeding and HIV transmission: The jury is still out. *J Pediatr Gastroenterol Nutr* 36(4): 434–442.
- Coutsoudis A et al. 2001. Method of feeding and transmission of HIV-1 from mothers to children by 15 months of age: Prospective cohort study from Durban, South Africa. *AIDS* 15: 379–387.

- Ezzati M et al. and the Comparative Risk Assessment Collaborating Group. 2002. Selected major risk factors and global and regional burden of disease. *Lancet* 360: 1347–1360.
- Fawzi W et al. 2002. Transmission of HIV-1 through breastfeeding among women in Dar es Salaam, Tanzania. *J Acq Immune Defic Syndr* 31: 331–338.
- Fowler M and M Newell. 2002. Breast-feeding and HIV-1 transmission in resource-limited settings. *J Acq Immune Defic Syndr* 30(2): 230–239.
- Mbori-Ngacha D et al. 2001. Morbidity and mortality in breastfed and formula-fed infants of HIV-1 infected women: A randomized clinical trial. *JAMA* 286(19): 2413–2420.
- Regional Centre for Quality of Health Care (RCQHC) and the USAID. 2003. *Counselling Mothers on Infant Feeding for the Prevention of Mother to Child Transmission of HIV: A Job-Aid for Primary Health Care Workers*. RCQHC: Kampala, Uganda.
- Rousseau CM et al. 2003. Longitudinal analysis of human immunodeficiency virus type 1 RNA in breast milk and of its relationship to infant infection and maternal disease. *J Infect Dis* 187 (5): 741–747.
- Shapiro, RL et al. 2003. Low adherence to recommended infant feeding strategies among HIV-infected women: results from the pilot phase of a randomized trial to prevent mother-to-child transmission in Botswana. *AIDS Education and Prevention* 15 (3): 221–230. The Guilford Press.
- Taha TE et al. 2003. Short postexposure prophylaxis in newborn babies to reduce mother-to-child transmission of HIV-1: NVAZ randomized trial. *Lancet* 362: 1171–1177.
- WHO Secretariat, Fifty-Fifth World Health Assembly. 2002. *Infant and Young Child Nutrition: Global Strategy on Infant and Young Child Feeding*. Retrieved 30 July 2004, from http://www.who.int/gb/ebwha/pdf_files/WHA55/ea5515.pdf
- WHO. 2001. The optimal duration of exclusive breastfeeding. *Report of an Expert Consultation, 28–30 March 2001, Geneva, Switzerland*. WHO Department of Nutrition for Health Development/Department of Child and Adolescent Health and Development: Geneva. Retrieved 26 September 2003, from http://www.who.int/nut/documents/optimal_duration_of_exc_bfeeding_report_eng.pdf
- WHO. 2000. *HIV and Infant Feeding Counselling: A Training Course. Trainer's Guide*. WHO: Geneva. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_Inf_Feeding/Trainers%20_Guide.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*, Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf
- WHO, CDD Programme, and UNICEF 2002. *Breastfeeding Counselling: A Training Course. Director's Guide*. Unpublished. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/Breastfeeding/Directors_Guide.pdf

WHO, CDD Programme, and UNICEF 2002. *Breastfeeding Counselling: A Training Course. Trainer's Guide*. Parts 1–4. Unpublished. Retrieved 30 July 2004, from <http://www.who.int/child-adolescent-health/publications/NUTRITION/BFC.htm>

WHO, CDD Programme, and UNICEF. 2002. *Breastfeeding Counselling: A Training Course. Participant's Manual*. Parts 1–4. Unpublished. Retrieved 30 July 2004, from <http://www.who.int/child-adolescent-health/publications/NUTRITION/BFC.htm>

WHO 2001. *Breastfeeding and Replacement Feeding Practices in the Context of Mother-To-Child Transmission of HIV: An Assessment Tool for Research*. Unpublished. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/Tool-breast_feeding.htm

MODULE 5—Stigma and Discrimination Related to MTCT

Key Resources

CDC. 2000. *HIV-related knowledge and stigma*. Retrieved 30 July 2004, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4947a2.htm>

Mukasa S et al. 2001. Uganda: HIV and AIDS-related discrimination, stigmatization and denial, in UNAIDS Best Practice Collection. Retrieved 30 July 2004, from http://www.unaids.org/en/other/functionalities/ViewDocument.asp?href=http%3a%2f%2fgva-doc-owl%2fWEBcontent%2fDocuments%2fpub%2fPublications%2fIRC-pub02%2fJC590-Uganda_en%26%2346%3bpdf

Aggleton P. 2001. Comparative analysis: Research studies from India and Uganda. HIV and AIDS-related discrimination, stigmatization and denial, in *UNAIDS Best Practice Collection*. Retrieved 30 July 2004, from http://www.unaids.org/en/other/functionalities/ViewDocument.asp?href=http%3a%2f%2fgva-doc-owl%2fWEBcontent%2fDocuments%2fpub%2fPublications%2fIRC-pub02%2fJC650-CompAnal_en%26%2346%3bpdf

Bharat S. 2001. India: HIV and AIDS-related discrimination, stigmatization and denial, in *UNAIDS Best Practice Collection*. Retrieved 30 July 2004, from http://www.unaids.org/en/other/functionalities/ViewDocument.asp?href=http%3a%2f%2fgva-doc-owl%2fWEBcontent%2fDocuments%2fpub%2fPublications%2fIRC-pub02%2fJC587-India_en%26%2346%3bpdf

Busza J. 1999. Literature review: Challenging HIV-related stigma and discrimination in Southeast Asia: Past successes and future priorities, in *Horizons Global Operations Research on HIV/AIDS/STI Prevention and Care*. The Population Council: New York.

Gilbert L and L Walker. 2002. Treading the path of least resistance: HIV/AIDS and social inequalities. A South African case study. *Soc Sci Med* 54: 1093–1110.

Gilmore N and M Somerville. 1994. Stigmatisation, scapegoating and discrimination in sexually transmitted diseases: Overcoming 'them' and 'us.' *Soc Sci Med* 39(9): 1339–1358.

- Health Resources and Services Administration, US Department of Health and Human Services, 2003. *Stigma and HIV/AIDS: A review of the literature—introduction*: Rockville, MD. Retrieved 30 July 2004, from <http://hab.hrsa.gov:80/publications/stigma/introduction.htm>
- International Center for Research on Women (ICRW). 2002. *Addressing HIV-related stigma and resulting discrimination in Africa: a three-country study in Ethiopia, Tanzania, and Zambia* [Information Bulletin]. Retrieved 30 July 2004, from http://www.icrw.org/docs/Stigma_Africa_InfoBulletin_302.pdf
- International Center for Research on Women (ICRW). 2002. *Understanding HIV-related stigma and resulting discrimination in sub-Saharan Africa*. Emerging themes from early data collection in Ethiopia, Tanzania and Zambia [Research Update]. Retrieved 30 July 2004, from http://www.icrw.org/docs/Stigma_ResearchUpdate_062502.pdf
- Kidd R. 2003. *Anti-Stigma toolkit: A research-based adult education curriculum to address stigma and discrimination against PLWHAs*. The CHANGE Project, Academy for Educational Development/The Manoff Group: Washington, DC.
- Malcolm A et al. 1998. HIV and AIDS-related stigmatisation and discrimination: Its form and contexts. *Critical Public Health* 8(4): 347–370.
- Moore M. 2003. *A behavior change perspective on integrating PMTCT and safe motherhood programs: A discussion paper*. The CHANGE Project: Washington, DC.
- Panos Institute. 2001. *Stigma, HIV/AIDS and prevention of mother-to-child transmission: Women, children, and HIV*. Resources for prevention and treatment CD ROM, in *HIV InSite and Global Strategies for HIV Prevention*, 2nd ed. Panos Institute: Washington, DC.
- Parker R and P Aggleton. 2003. HIV and AIDS-related stigma and discrimination: A conceptual framework and implications for action. *Soc Sci Med* 57(1): 13–24.
- Parker R and P Aggleton with K Attawell, J Pulerwitz, and L Brown. 2002. *HIV/AIDS-related stigma and discrimination: A conceptual framework and an agenda for action*. Horizons Program, The Population Council, Inc.: New York.
- Rutenberg N, ML Field-Nguer, and L Nyblade. 2001. *Community involvement in the prevention of mother-to-child transmission of HIV: Insights and recommendations*. The Population Council, ICRW, Glaxo: New York.
- Seaton R (ed). 2003. *HIV/AIDS stigma in HRSA care action*. US Department of Health and Human Services Health Resources & Services Administration, HIV/AIDS Bureau: Rockville, MD.
- UNAIDS. An overview of HIV/AIDS-related stigma and discrimination [Fact Sheet]. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/Publications/Fact-Sheets02/FSstigma_en_doc.htm
- UNAIDS/IPU. 1999. *Handbook for legislators on HIV/AIDS, law and human rights: Action to combat HIV/AIDS in view of its devastating human, economic and social impact*. UNAIDS/IPU: Geneva. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/publications/irc-pub01/jc259-ipu_en_pdf.pdf

- UNAIDS, OHCHR. 2002. HIV/AIDS and human rights, international guidelines: Third international consultation on HIV/AIDS and human rights [Guideline 6]. Geneva, 25–26 July, 2002. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/Publications/IRC-pub02/JC905-Guideline6_en_pdf.pdf
- UNAIDS. 1993. *Stigma and discrimination*. Fact sheet. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/publications/factsheets03/fs_stigma_discrimination_en_pdf.pdf
- UNAIDS and WHO. *Fighting HIV-related intolerance: Exposing the links between racism, stigma and discrimination*. (Prepared in consultation with the Office of the High Commission for Human Rights). Retrieved 30 July 2004, from http://www.unaids.org/html/pub/Publications/IRC-pub03/BPracism_en_doc.htm
- Valdiserri R. 2002. HIV/AIDS stigma: An impediment to public health. *Am J Public Health* 92: 341–342.
- Weiss MG and J Ramakrishna. 2001. Interventions: Research on reducing stigma. Presented at Stigma and Global Health: Developing a Research Agenda. Bethesda, MD. Retrieved 30 July 2004, from <http://www.stigmaconference.nih.gov/WeissPaper.htm>
- World Bank. 2000. *Confronting AIDS*. Oxford University Press: New York.
- WHO. HIV/AIDS World AIDS Campaign 2002–2003, Live and Let Live. Retrieved 30 July 2004, from <http://www.who.int/hiv/events/wad2003/dec1/en/>

MODULE 6—HIV Testing and Counselling for PMTCT

Key Resources

- WHO and CDC. 2004. *Rapid HIV Tests: Guidelines for Use in HIV Testing and Counselling Services in Resource-Constrained Settings*. Retrieved 30 July 2004, from <http://www.who.int/hiv/pub/vct/en/rapidhivtests.pdf>
- WHO. 2003. *The right to know. New approaches to HIV testing and counselling*. WHO: Geneva. Retrieved 30 July 2004, from <http://www.who.int/hiv/pub/vct/pub34/en/print.html>

- CDC. 2001. Revised guidelines for HIV counseling, testing, and referral and revised recommendations for HIV screening pregnant women. *MMWR Morb Mortal Wkly Rep* 50(RR-19).
- Commonwealth Regional Health Community Secretariat (CRHCS). 2002. *HIV/AIDS voluntary counselling and testing: review of policies, programmes and guidance in East, Central and Southern Africa*. CRHCS: Arusha, Tanzania.
- Family Health International. 2004. *Preparedness of voluntary counseling and testing centers in Kenya to provide family planning*. Retrieved 30 July 2004, from <http://www.fhi.org/en/RH/Pubs/Briefs/KenyaVCT.htm>

- Family Health International. 2003. *HIV voluntary counseling and testing: A reference guide for counselors and trainers*. Family Health International: Research Triangle Park, NC.
- Family Health International. 2003. *Models of HIV voluntary counselling and testing (VCT) service delivery*. Retrieved 30 July 2004, from <http://www.fhi.org/en/HIVAIDS/Publications/FactSheets/vctmodels.htm>
- Kankasa C et al. 2002. *Why do women accept VCT during antenatal care? The experience from the prevention of mother-to-child transmission of HIV program in Zambia*. Horizons Project, The Population Council: Washington, DC.
- Pronyk PM et al. 2002. The introduction of voluntary counselling and rapid testing for HIV in rural South Africa: From theory to practice. *AIDS Care* 14(6): 859–865.
- UNAIDS. 2001. *Counselling and voluntary HIV testing for pregnant women in high HIV prevalence countries: Elements and issues*. UNAIDS: Geneva. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/publications/irc-pub01/jc245-couns&test_en_pdf.pdf

MODULE 7—Linkages to Treatment, Care, and Support for Mothers and Families with HIV Infection

Key Resources

- Food & Agriculture Organization of the United Nations (FAO) and WHO. 2002. *Living well with HIV/AIDS: a manual on nutritional care and support for people living with HIV/AIDS*. Available online at: <http://www.fao.org/DOCREP/005/Y4168E/Y4168E00.HTM>
- Rutenberg N, ML Field-Nguer, and L Nyblade. Undated. *Community involvement in initiatives to prevent mother-to-child transmission of HIV*. The Population Council and the International Center for Research on Women. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/mtct.pdf>

- Demarco R, M Lynch, and R Board. 2002. Mothers who silence themselves: A concept with clinical implications for women living with HIV/AIDS and their children. *J Pediatr Nurs* 17(2): 89–95.
- Kitahata M et al. 2002. Comprehensive health care for people infected with HIV in developing countries. *BMJ* 325: 954–957.

- Mbori-Ngacha D and O Ogutu. 2002. *Integrating the prevention of mother-to-child transmission of HIV into existing maternal and child health services in PMTCT training curriculum*. Horizons, Kenya PMTCT Project.
- Moss WJ, CJ Clements, and N Halsey. 2003. Immunization of children at risk of infection with human immunodeficiency virus. *Bulletin of the World Health Organization* 81:61–70. Retrieved 30 July 2004, from [http://www.who.int/docstore/bulletin/pdf/2003/bul-1-E-2003/81\(1\)61-70.pdf](http://www.who.int/docstore/bulletin/pdf/2003/bul-1-E-2003/81(1)61-70.pdf)
- Woods, MN: 1999. Dietary recommendations for the HIV/AIDS patient. In: *Nutritional Aspects of HIV Infection*, ed. T. Miller and SL. Gorbach, Arnold Press, London. pp 191–203
- Working Group on Antiretroviral Therapy and Medical Management of HIV-Infected Children. 2004. *Guidelines for the use of antiretroviral agents in pediatric HIV infection*. Retrieved 30 July 2004, from http://aidsinfo.nih.gov/guidelines/pediatric/PED_012004.pdf
- WHO. 2004. *Scaling up antiretroviral therapy in resource-limited settings: Recommendations for initiating antiretroviral therapy in adults and adolescents with documented HIV infection*. Retrieved 30 July 2004, from http://www.who.int/hiv/pub/prev_care/en/arvrevision2003en.pdf
- WHO. July 2003. *A reference guide on HIV-related care, treatment and support of HIV infected women and their children in resource-constrained settings* [Draft]. Retrieved 30 July 2004, from www.ahfji.org/global_pdf/refguide_toc.doc
- WHO. 2003. Emergency scale up of antiretroviral therapy in resource limited settings: Technical and operational recommendations to achieve 3 by 5. Retrieved 30 July 2004, from http://www.who.int/3by5/publications/documents/en/zambia_doc_final.pdf
- WHO and Child and Adolescent Health and Development. 2002. *Integrated management of childhood illness* [IMCI] guidelines. Retrieved 30 July 2004, from <http://www.who.int/child-adolescent-health/integr.htm>
- WHO, Department of Vaccines and Biologicals. 2001. Introduction of hepatitis B vaccine into childhood immunization services. Management guidelines, including information for health workers and parents. Retrieved 30 July 2004, from www.who.int/vaccines-documents/DocsPDF01/www613.pdf
- WHO, Regional Office for Africa, IMCI Unit, Division for Prevention. 2001. *Report on the workshop on adaptation of IMCI guidelines to include HIV/AIDS, Harare, 18 to 23 June 2001: Draft*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/HIV/report_HIV_Harare.htm
- WHO, Department of Vaccines and Biologicals. 2000. *Introduction of haemophilus influenzae type B vaccine into immunization programmes: Management guidelines, including information for health workers and parents*. Retrieved 30 July 2004, from <http://www.who.int/vaccines-documents/DocsPDF99/www9940.pdf>
- WHO, UNAIDS. 2000. *Provisional WHO/UNAIDS secretariat recommendations on the use of cotrimoxazole prophylaxis in adults and children living with HIV/AIDS in Africa*. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/publications/irc-pub04/recommendation_en_pdf.pdf

MODULE 8—Safety and Supportive Care in the Work Environment

Key Resources

- CDC. 2001. Updated US public health service guidelines for the management of occupational exposure to HBV, HCV and HIV and recommendations for postexposure prophylaxis. *MMWR Morb Mortal Wkly Rep* 50(No. RR-11): 1–42. Retrieved 30 July 2004, from <http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf>
- WHO. 2004. Post-exposure prophylaxis. Retrieved 30 July 2004, from <http://www.who.int/hiv/topics/prophylaxis/en/index.html>
- WHO. 2003. His life and her trust are in your hands. [electronic version]. Retrieved 30 July 2004, from <http://www.injectionsafety.org>
- WHO. 2003. Secretariat of the Safe Injection Global Network. Health care worker safety. *Aide-memoire*. Retrieved 30 July 2004, from http://www.who.int/injection_safety/toolbox/en/AM_HCW_Safety_EN.pdf
- CDC. 1996. *Exposure to blood—what health-care workers need to know*. Retrieved 30 July 2004, from http://www.cdc.gov/ncidod/hip/blood/exp_blood.htm
- CDC. 1989. Guidelines for transmission of human immunodeficiency virus and hepatitis B virus to health care and public-safety workers. *MMWR Morb Mortal Wkly Rep* 38(S-6).
- Israel E and M Kroeger. 2003. *Integrating prevention of mother-to-child transmission into existing maternal, child, and reproductive health programs*. Pathfinder International: Watertown, MA, pp 9–11. Retrieved 30 July 2004, from <http://www.pathfind.org>
- Mountain Plains AIDS Education & Training Center in Consultation with the National Clinicians' Postexposure Prophylaxis (PEP) Hotline. 2002. *PEP steps: A quick guide to postexposure prophylaxis in the health care setting*. Retrieved 30 July 2004, from <http://www.uchsc.edu/mpaetc/images/PEP%20web.pdf>
- Tietjen L, D Bossemeyer, and N McIntosh. 2003. *Prevention: Guidelines for Healthcare Facilities with Limited Resources*. [electronic version]. JHPIEGO Corporation, Baltimore, MD. Retrieved 30 July 2004, from http://www.reproline.jhu.edu/english/4morerh/4ip/IP_manual/ipmanual.htm
- UCSF Center for AIDS Prevention Studies. *Fact sheet: What is post-exposure prevention (PEP)?* [electronic version] Retrieved 30 July 2004, from <http://www.caps.ucsf.edu/PEP.html>
- WHO. 2003. *Post exposure prophylaxis*. Retrieved 30 July 2004, from <http://www.who.int/hiv/topics/prophylaxis/en/print.html>
- WHO. 2001. Best infection control practices for skin-piercing intradermal, subcutaneous, and intramuscular needle injections. Retrieved 30 July 2004, from http://www.who.int/injection_safety/toolbox/en/LeafletBestPracticesPrinter.pdf

MODULE 9—PMTCT Programme Monitoring

Key Resources

- Family Health International and The Elizabeth Glaser Pediatric AIDS Foundation. 2003. Baseline assessment tools for preventing mother-to-child transmission (PMTCT) of HIV. Retrieved 30 July 2004, from <http://www.fhi.org/NR/rdonlyres/ejkelmggqkbumgmsmuzbeaiys3rjpgbnzed5jtygb26iny2vhlk4naexoprcwoy6u6e5vnsfcd4yga/PMTCTreportcorrectedFINAL.pdf>
- Preble EA and EG Piwoz. 2001. Prevention of mother-to-child transmission of HIV in Africa: Practical guidance for programs. Support for Analysis and Research in Africa (SARA) Project, Academy for Educational Development: Washington, DC. Retrieved 30 July 2004, from <http://www.aed.org/publications/healthpublications/mtctjuly17.pdf>
- UNICEF, UNAIDS, WHO and Children's Fund Organisation. September 2001. Local monitoring and evaluation of the integrated prevention of mother to child transmission in low-income countries. [electronic version] Draft. Retrieved 30 July 2004, from http://www.unaids.org/html/pub/Publications/IRC-pub03/ME2001_en_doc.htm

- Health Communication Partnership. 2003. *The new p-process, steps in strategic communication*. Retrieved 30 July 2004, from <http://www.hcpartnership.org/Publications/P-Process.pdf>
- Kanshana S and R Simonds. 2002. National program for preventing mother-child HIV transmission in Thailand: Successful implementation and lessons learned. *AIDS* 16(7):953–959.
- McCoy D et al. 2002. Interim findings on the national PMTCT pilot sites: Lessons and recommendations. Health Systems Trust, Department of Health: South Africa.
- Preble EA and EG Piwoz. 2002. *Prevention of mother-to-child transmission of HIV in Asia: Practical guidance for programs*. Linkages Project. Retrieved 30 July 2004, from <http://www.aed.org/publications/AsiaPMTCT.pdf>
- Rutenberg N, S Kalibala, C Baek and J Rosen. 2003. *Programme Recommendations for the Prevention of Mother-to-Child Transmission of HIV: A Guide for Managers*. UNICEF. Retrieved 30 July 2004, from <http://www.popcouncil.org/pdfs/horizons/pmtctunicefevalprogmgr.pdf>
- Rutenberg N, S Kalibala, and C Mwai. 2002. *Integrating HIV Prevention and Care into Maternal and Child Health Care Settings: Lessons Learned from Horizon Studies*. The Population Council: New York.
- Stringer EM et al. 2003. Prevention of mother-to-child transmission of HIV in Africa: Successes and challenges in scaling-up a nevirapine based program in Lusaka, Zambia. *AIDS* 17(9): 1377–1382.

- Synergy Project. 2003. *APDIME toolkit resources for HIV/AIDS program managers* [CD-ROM]. Retrieved 30 July 2004, from <http://www.synergyaids.com/>
- USAID. 2003. Meeting discusses effective programs for preventing mother-to-child HIV transmission. [electronic version] Washington, DC, 16 December 2003. The Population Council: Washington, DC USA. Retrieved 30 July 2004, from <http://www.popcouncil.org/horizons/mtgs/dcmtct03.html>
- Wilson D. 2001. *HIV/AIDS rapid assessment guide*. [electronic version]. Family Health International: Research Triangle Park, NC. Retrieved 30 July 2004, from http://www.dec.org/pdf_docs/PNACP112.pdf
- UNAIDS and World Health Organization. 2004. *National Guide to Monitoring and Evaluating Programmes for the Prevention of HIV in Infants and Young Children*. Retrieved 30 July 2004, from http://www.who.int/hiv/pub/prev_care/en/nationalguideyoungchildren.pdf

For further information, please contact:

World Health Organization
Department of HIV/AIDS
20, Avenue Appia, CH-1211 Geneva 27, Switzerland
E-mail: hiv-aids@who.int
<http://www.who.int/hiv/en>

ISBN 92 4 159205 2

