Prevention of Parent to Child Transmission (PPTCT)

Dr. Sonal Parikh

Prevention of Parent-to-Child Transmission of HIV in India

- 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-pronged comprehensive approach to the prevention of parent-to-child transmission (PPTCT) of HIV
- describe the role of maternal and child health (MCH) services in the PPTCT of HIV

The Terminology

MTCT – mother-to-child transmission

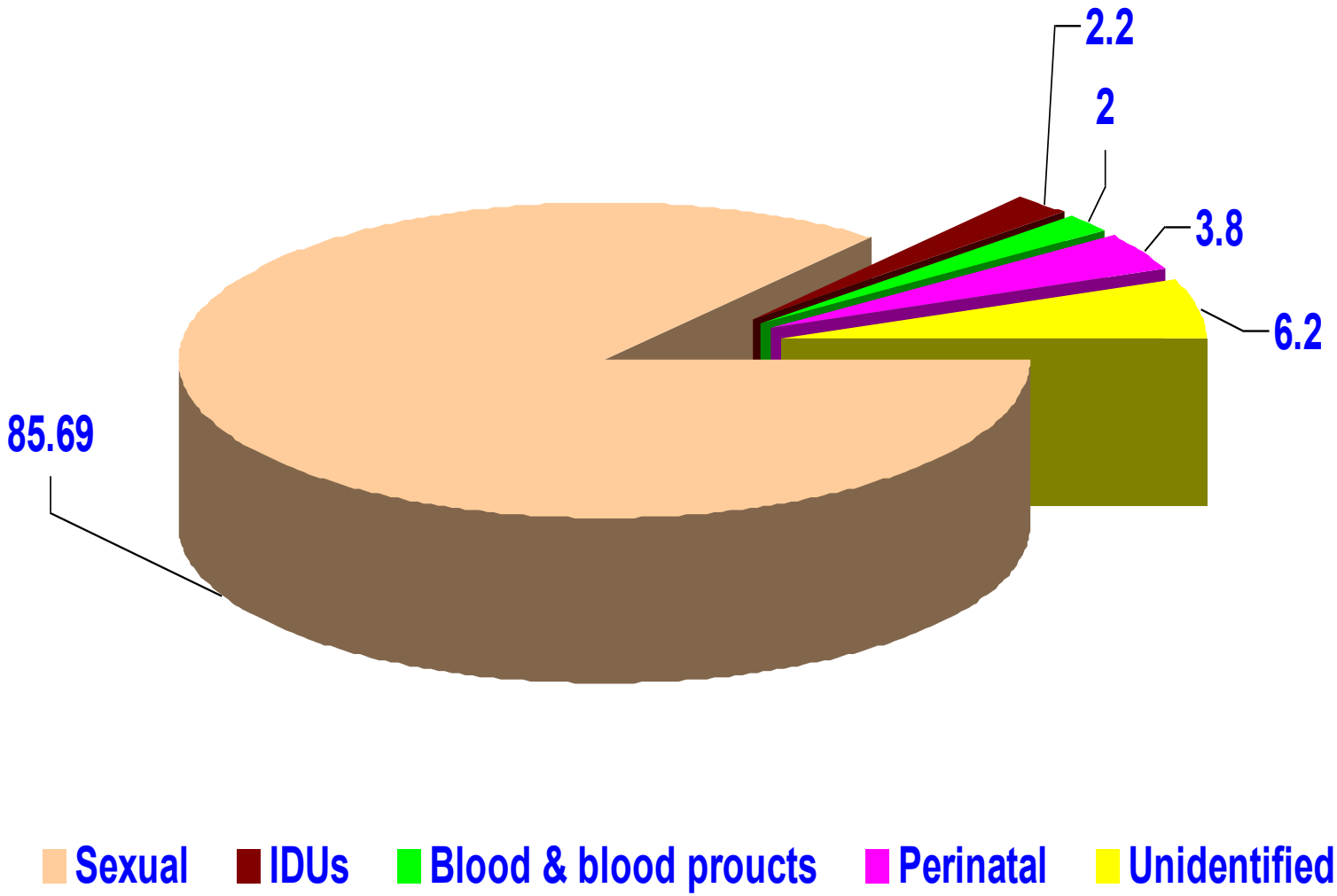
PMTCT – prevention of MTCT

PTCT – parent-to-child transmission

PPTCT – prevention of PTCT

PLWHA – people living with HIV/AIDS

Mode of Transmission among HIV infection in India

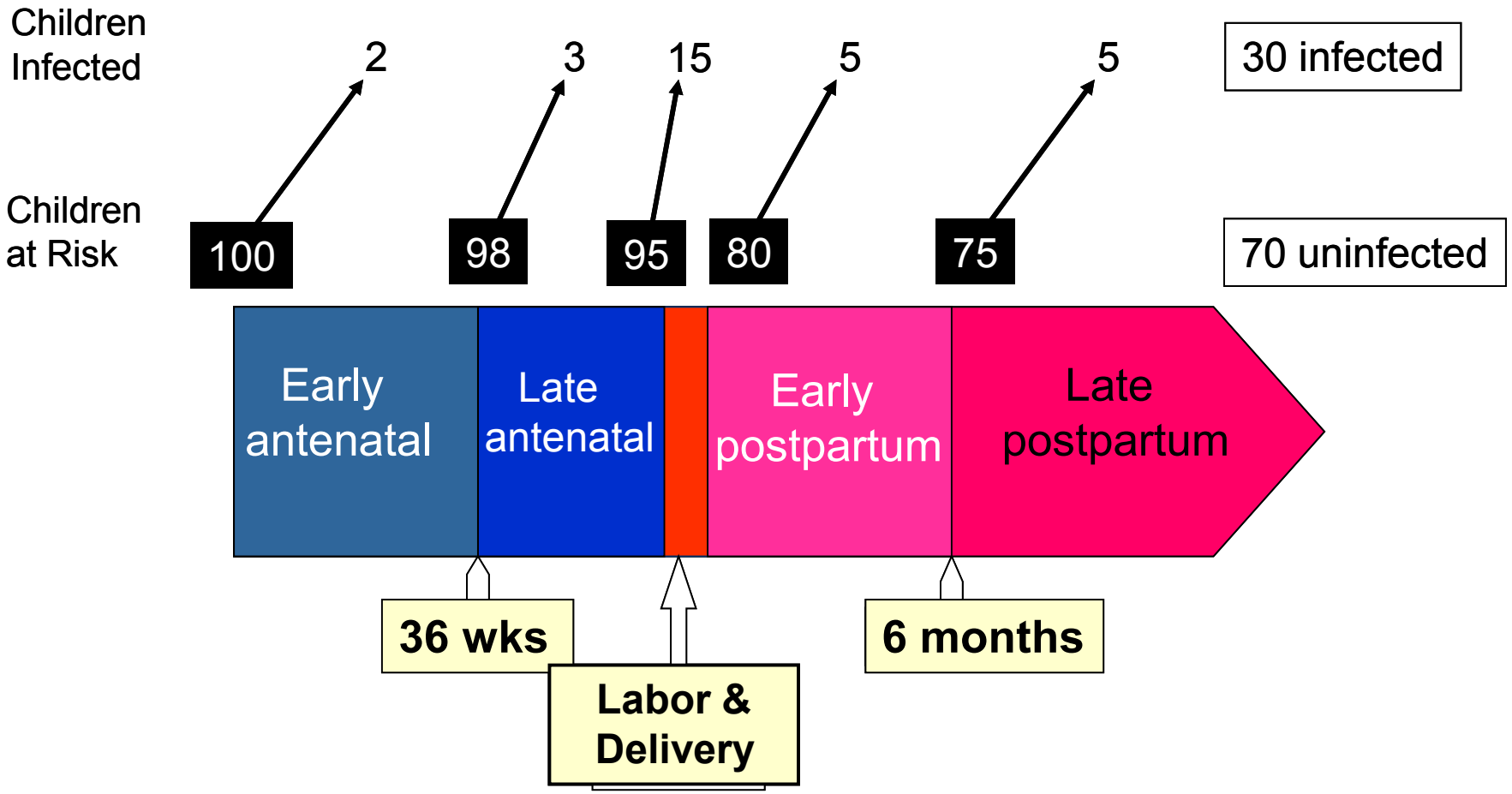


Global HIV/AIDS in 2004

Effect on Children

- 39.4 -40.0 million people are living with HIV/AIDS
- 2.2 million are children under 15 years
- 6,40,000 children were newly infected with HIV in 2004
- 5,10,000 children died of HIV in 2004

Mother-Infant HIV Transmission in Hypothetical Cohort of 100 Children of HIV+ Mothers



PTCT Risk

- **25-40 %** Without interventions
- Can reduce **up to 40 % by** combination interventions in breastfeeding populations
- Because ARV prophylaxis alone does not treat the mother's infection, ongoing care and support is needed

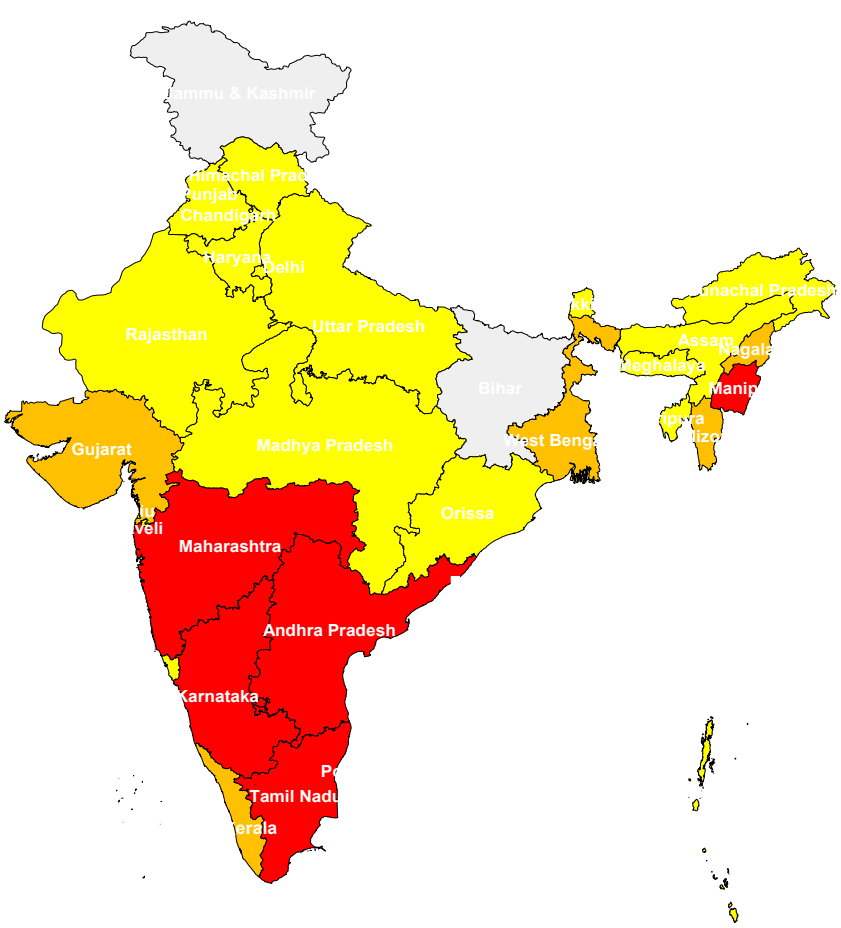
Role Of RCH services

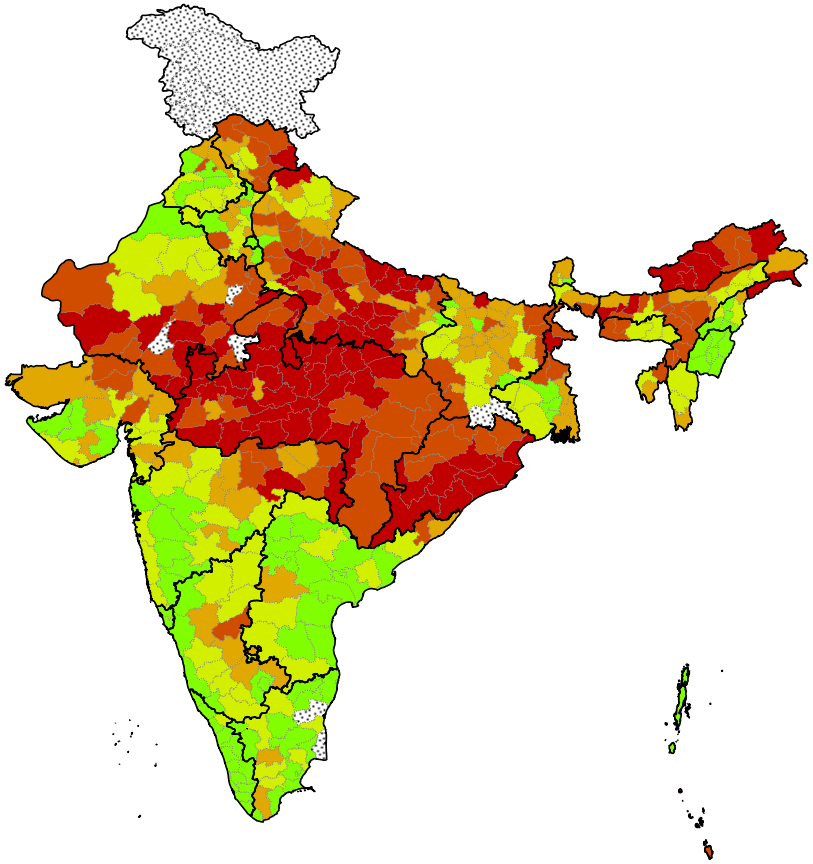
- Can act as an entry point to the range of services that can provide care and support to the HIV-positive women and affected family members
- Linkages to community services can provide enhanced care and support

Risk of PTCT Transmission

- Globally: 15-45%
- India : 30-37% (average)

New Challenges…...New Opportunities





Rationale for PPTCT in India

27 million pregnancies per year

↓ 0.6% prevalence

1,62,000 infected pregnancies

↓ 30% transmission

Cohort of 55,425 infected newborns per year

↓

Most of these children die within 2-5 years

Natural History of HIV Infection

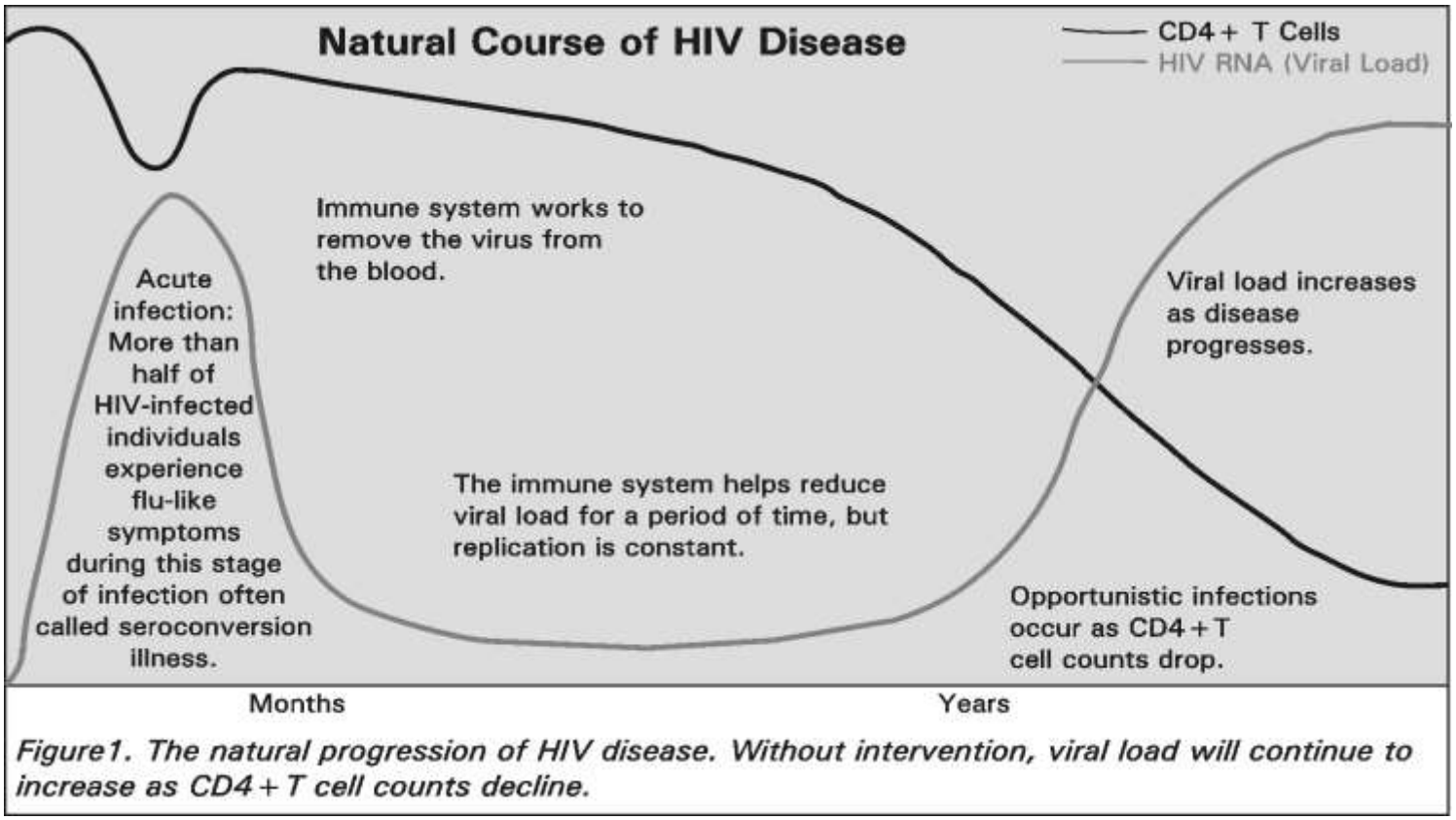
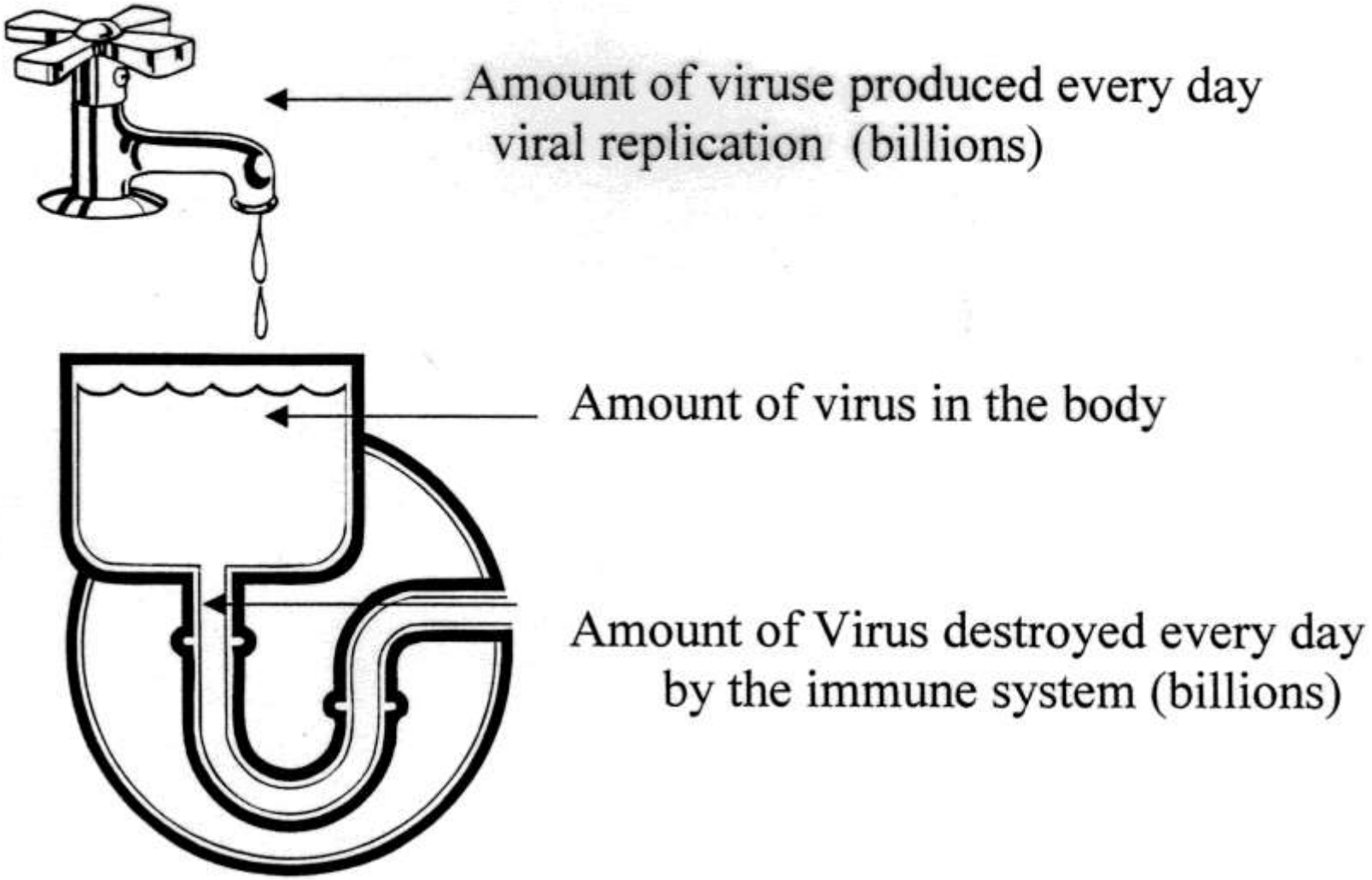


Figure1. The natural progression of HIV disease. Without intervention, viral load will continue to increase as CD4+T cell counts decline.

HIV Disease

- Progression of HIV disease is measured by:
  - CD4+ count
    - Degree of immune suppression
    - Lower CD4+ count means decreasing immunity
  - Viral load
    - Amount of virus in the blood
    - Higher viral load means more immune suppression

Severity Of Infection



PPTCT Interventions

- **Antenatal**
- **Intra natal**
- **Post natal**

ANTE NATAL

During pregnancy

- Decrease viral load (ARV prophylaxis and treatment)
- Monitor and treat infections
- Support optimal nutrition

All pregnant women

- Physical examination
- Urine exam, Hb
- Lab or rapid HIV antibody test
- Nutritional counselling
- Counselling about infant feeding

HIV-infected women

- Viral loadTests - CD4+ and CD8 counts, if possible
- Counseling about infant feeding
- Counseling about danger signs of HIV/AIDS

Routine Antenatal Care

- Testing and counselling for HIV
- Diagnosing and treating STIs
- Promoting safe sex practices
- Providing information on HIV
- Nutritional assessment and counselling
- Providing infant feeding counselling and support
- Immunization
- Education about physical activity

ANC and Women with HIV Infection

- Access to PPTCT interventions
- Prophylaxis for OIs when indicated
- Assessment and management of HIV-related illnesses
- Early treatment of infections including STIs
- Psychosocial and community support
- Linkages to HIV-related care, treatment, and support services

POST NATAL INTERVENTION

- Mother
- Neonate

PPTCT: Interventions to Decrease Risk of HIV Transmission to Infant

- During labour and delivery

Avoid

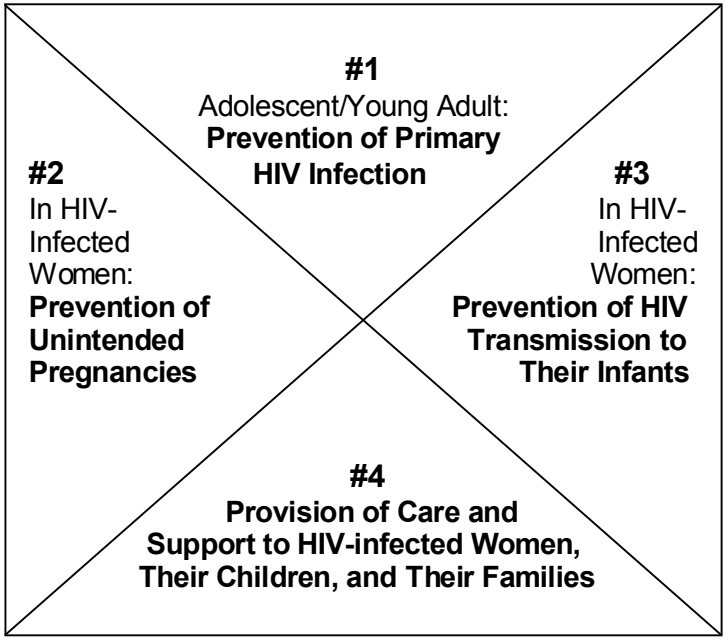
- Premature rupture of membranes
- Invasive delivery techniques
- Unresolved infections such as STIs
- Provide ARV
- Elective caesarean section when safe and feasible

PPTCT: Interventions to Decrease Risk of HIV Transmission to Infant

- Promote safer infant feeding
  - Replacement feeding
  - Exclusive breastfeeding for limited time
  - Avoidance of mixed feeding
  - Reporting breast problems
  - Support for optimal nutrition

PPTCT: The Four Prongs

- **Four-Pronged Approach to Comprehensive Prevention of HIV in Infants and Young Children**



Comprehensive Approach to Reducing HIV Infection in Infants and Young Children

Comprehensive PPTCT services include 4 prongs:

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

Prong 1:
Prevention of Primary HIV Infection

For parents-to-be . . . the ABCs

A = Abstinence

B = Be faithful to one HIV-uninfected partner

C = Condoms — use consistently and correctly

Adapt approach to local culture and target groups at risk

Prong 2: Prevention of Unintended Pregnancies in HIV-Infected Women

- Access to counselling and referral for family planning
- Safe, consistent, effective contraception

Prong 3: Preventing HIV Transmission from HIV-Infected Women to Infants

PPTCT core interventions

- HIV counselling and testing – detection of Infection
- ARV prophylaxis
- Safer delivery practices
- Safer infant feeding practices

Prong 4: Provision of Care and Support to HIV-Infected Women and Their Families

- Prevention and treatment of opportunistic infections
- ARV treatment
- Palliative and non-HIV care
- Nutritional support
- Reproductive healthcare
- Psychosocial and community support

Specific Interventions to Prevent MTCT OF HIV

Antenatal Management

- Reduces risk of MTCT during pregnancy
- Provides linkages to treatment, care and support services
- Help HIV-positive women stay healthier for longer
- Helps HIV-negative women stay uninfected

Confidentiality

- Need for confidentiality is ongoing
- Share the diagnosis with care providers only “as needed”
- Inform client when you share the diagnosis

Women with HIV Infection

- Weight gain or loss
- Other respiratory infections
- Persistent diarrhoea
- Urinary tract infections
- Lymphadenopathy
- Tuberculosis
- Herpes zoster
- Other skin conditions
- STIs
- Oral and vaginal candidiasis

Care of the Pregnant Woman with HIV Infection

Prevention of

- Anaemia
- Tetanus
- Vitamin deficiency
- Malaria
- Pneumonia
- Tuberculosis

Treatment of

- STI
- UTI
- Vaginal candidiasis

Provision of

- ARVs when indicated
- Vitamin supplements

Antiretroviral Treatment

and Prophylaxis

- **Prophylaxis:** short-term use of ARV drugs to reduce MTCT of HIV. Does not provide long-term benefit

- **Treatment:** long-term use of ARV drugs to treat maternal HIV/AIDS and prevent MTCT

Antiretroviral Treatment

- Reduces viral replication and viral load
- Treats maternal infection
- Protects the HIV-exposed infant
- Improves overall health of mother
- Requires ongoing care and monitoring

Pregnant Women and ARV Treatment

- Susceptibility of foetus to teratogenic effects of ARV drugs -- first 10 weeks of gestation

- Risks to foetus during this period -- not known

ARV Prophylaxis

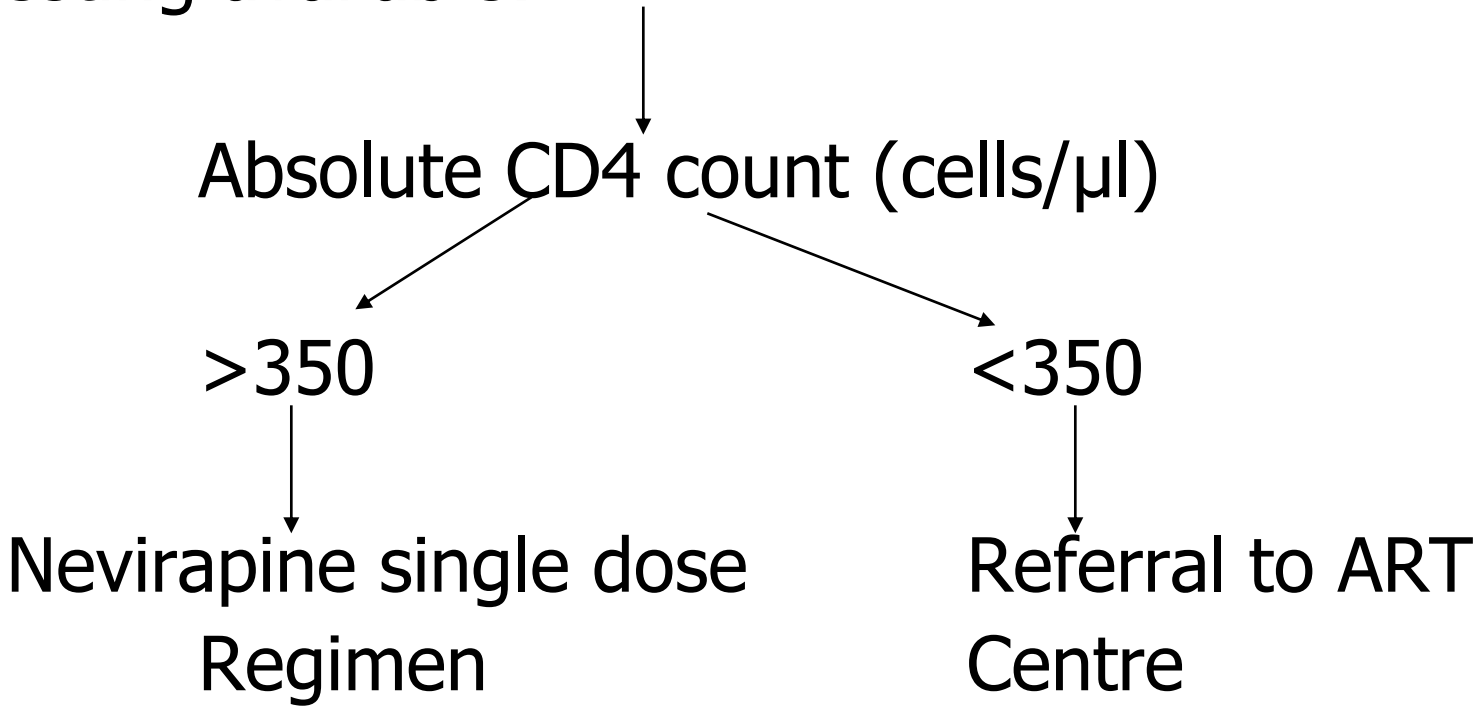
- Short-course ARV prophylaxis regimens effective in reducing MTCT
- All regimens include intrapartum component, varying duration of

ARV Prophylaxis for PPTCT

- WHO (2004)
- Longer combination regimens where feasible
- Short-course prophylaxis regimens
- - combination regimen not provided
- - combination regimen is not

ARV Prophylaxis

CD4 testing available:



CD4 testing not possible: Nevirapine single dose Regimen

Nevirapine

- Long-acting, non-nucleoside reverse transcriptase inhibitor
- Rapidly absorbed
- Crosses the placenta
- Produces rapid drop in viral load
- Can be taken with or without food
- Simple dose schedule
- Cheap
- Can be taken at home

Advantages of Single-Dose NVP

- Simple
- Cheap
- Can be taken at home

Nevirapine

- Single oral dose 200mg to mother at the beginning of labour
- Single dose 2 mg/kg suspension to baby within 72 hrs of birth or discharge, whichever is first

Nevirapine Resistance

- Resistance develops rapidly after single dose
- Has been a concern
- Resistance fades in the absence of continued drug pressure
- Benefits of NVP prophylaxis for PPTCT far outweigh risks of resistance

Zidovudine

- Rapidly and completely absorbed after oral dose
- Food doesn't affect bioavailability
- Well tolerated
- May cause mild reversible anaemia

3TC

- Absorbed rapidly and completely after oral administration
- Can safely be taken with other medications for HIV-related symptoms

Goals of Labour and Delivery

- Reduce MTCT risk by providing ARV prophylaxis to mother
- Minimize exposure of foetus to maternal blood and body fluids
- Support safer delivery practices

PPTCT: Interventions to Decrease Risk of HIV Transmission to Infant

- **During pregnancy**

- Decrease viral load (ARV prophylaxis and treatment)
- Monitor and treat infections
- Support optimal nutrition

PPTCT: Interventions to Decrease Risk

- **During labour and delivery**
-
- ***Avoid***
- Premature rupture of membranes
- Invasive delivery techniques
- Unresolved infections such as STIs
- ***Provide***
- Elective caesarean section when safe and feasible

PPTCT: Interventions to Decrease Risk

- **Promote safer infant feeding**
  - Replacement feeding
  - Exclusive breastfeeding for limited time
  - Avoidance of mixed feeding
  - Reporting breast problems
  - Support for optimal nutrition

Comprehensive MCH Services

- Essential obstetric care (ANC)
- Family planning services
- Counselling and testing for HIV
- Emergency obstetric services
- Nutritional Care
- ARV prophylaxis
- Early recognition and treatment of

Goals of Labour and Delivery

- Reduce MTCT risk by providing ARV prophylaxis to mother
- Minimize exposure of foetus to maternal blood and body fluids
- Support safer delivery

Reducing MTCT Risk During Labour and Delivery

- **Minimize cervical examinations**
- **Use partogram to monitor labour**
- **Always use clean techniques**

- *Avoid*

Specific Interventions to Prevent MTCT OF HIV

Session 4

- Immediate Postpartum Care of HIV-Infected Women and Women with Unknown HIV Status

Women of Unknown HIV Status: Benefits of HIV Testing After Delivery

- Initiate ARV prophylaxis for infant if indicated
- Encourage safer feeding selection option if she tests positive
- Encourage exclusive breastfeeding if she tests negative or refuses to be tested

Specific Interventions to Prevent PTCT OF HIV

- Immediate Neonatal Care of HIV-Exposed Infants

Immediate Postpartum Care of Women with HIV Infection

Pre-discharge patient education

- Symptoms of infection
- Information on where to return for treatment
- Perineal care
- Breast care
- Disposal of blood-stained pads and materials

Immediate Postpartum Care of Women with HIV Infection

Newborn Feeding

- Mother chooses and begins feeding option
- Support the choice of feeding option
- Provide training on feeding option
- Observe feeding technique

Postpartum Care of Women

Family planning

- Discuss contraception and child spacing, especially if woman is not breastfeeding
- Support child spacing
- Discuss prevention of unintended pregnancy
- Encourage barrier method
- Promote continued safer sex practices

Immediate Care of Newborn

Do's

- Cut the cord under cover of light gauze
- Handle infant with gloves until bathed
- Clean injection sites
- Determine mother's feeding choice

Don'ts

- Don't milk the cord
- Don't suction (unless me conium stained fluid)
- Don't use mouth-operated suction

Neonatal Care of Infants

Nevirapine prophylaxis for the infant

One 6 mg (0.6mL) dose syrup within 48–72 hours of age (or at discharge)

- Dose: 2 mg/kg (0.6 mL for most infants)
- If infant vomits within 1 hour, repeat dose
- If infant weighs less than 2 kg, give 2 mg/kg
- If mother discharged in less than 24 hours, give infant dose at discharge

Nevirapine: Simple Regimen

- **If infant born less than 3 hours after mother's dose:**
  - **Give one dose immediately**
  - **Give second dose at 24–48 hours or at discharge (at least 5–6 hours after first dose).**

Follow-up Newborn Care

- Infant feeding as per mother's choice
- Follow standard practices for well-baby care
- HIV/AIDS follow-up care for HIV-exposed infants

Mother and Infant Follow-up Schedule

- Routine follow-up for mother and infant
  - First visit - 10 days after the birth
  - Second visit - 6 weeks after the birth
  - Ongoing visits: At 3, 4, 5, 6, 9, and 18 months
- Assess and record status of mother, infant
- Recognition of opportunistic infections
- Treat medical problems

HIV/AIDS Care

Medical support

- Nutritional advice
- Prevention measures for TB, respiratory, GI and other infections
- Assess for ARV therapy, when available

PPTCT Services in Gujarat

- C & T facility (Mamta Clinic) in 176 hospitals across the state
- Availability of Nevirapine & PEP in labour room of all above hospitals
- 90 new centre
- CD4 testing facility will be soon available in all district hospitals

THANK YOU

Module 3: Key Points

- **Replacement feeding (or exclusive breastfeeding with early weaning) reduces risk of MTCT.**
- **Mother should make decisions about infant feeding before childbirth or**

M O D U L E 6

- **HIV Counselling and Testing for PPTCT**

Module 6: Objectives

After completing this module, the participants will be able to:

- discuss the integration of HIV CT into ANC settings
- discuss HCWs' role in maintaining confidentiality

Overview of HIV Counselling and Testing of Pregnant Women

Session 1

HIV Counselling and Testing (CT)

- Plays vital role in identifying HIV-positive women to provide services
- Provides an entry point to comprehensive HIV/AIDS treatment, care and support
- Helps identify and reduce behaviors that increase HIV transmission risks
- Becomes available to all women of childbearing age and their male partners

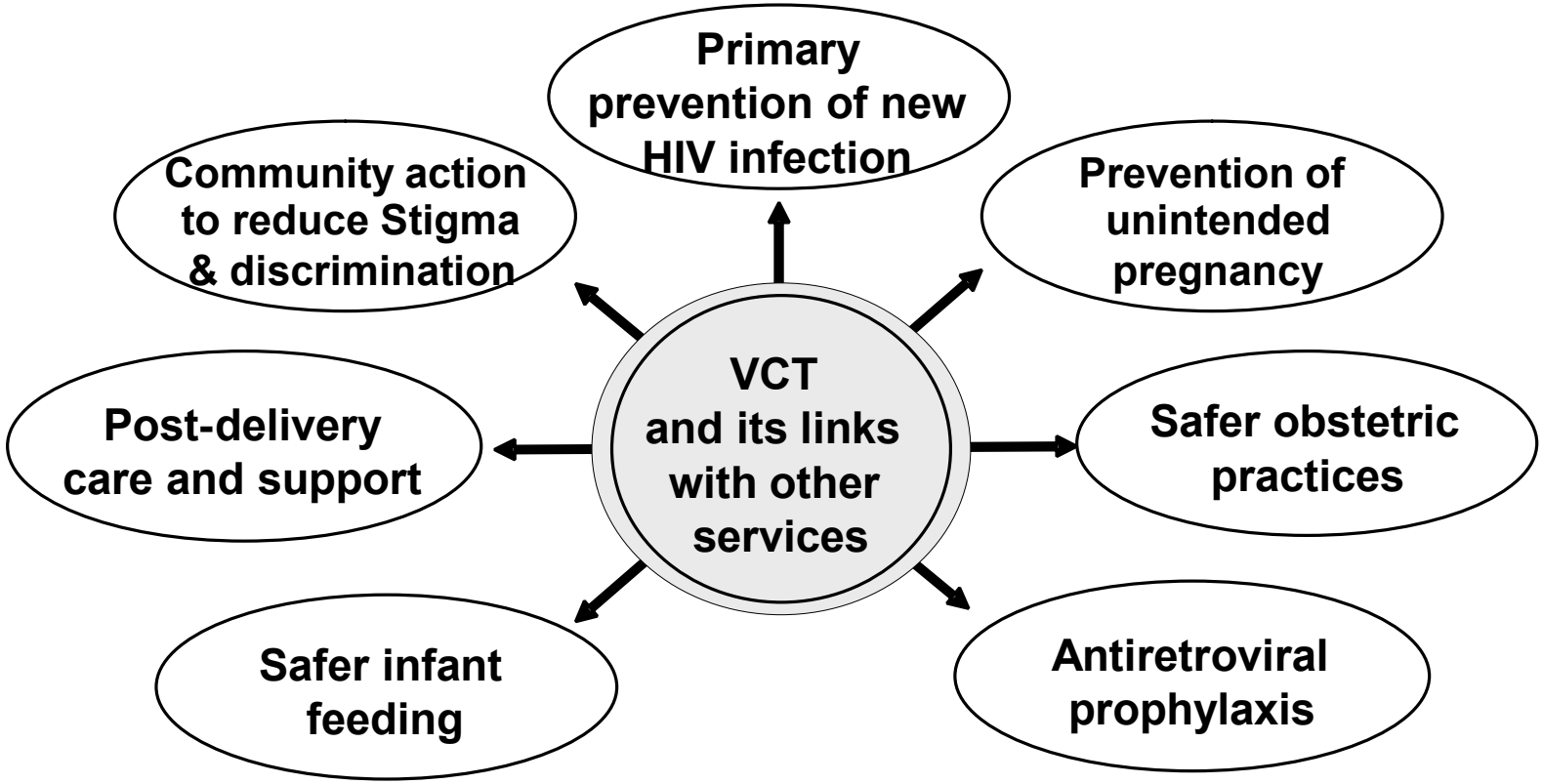
HIV Counselling and Testing (CT)

- **HIV Counselling**
- Confidential discussion(s) between an individual and their care provider to examine HIV transmission risk and explore HIV testing

- **HIV Testing**
- The process that determines whether a person is infected with HIV

- **HIV CT**
- A flexible intervention integrated into ANC settings

Counselling and Testing As an Entry Point to PPTCT



Guiding Principles for CT in PPTCT

- **Confidentiality**
- Information on HIV status kept private
- Information shared only with providers directly involved in care—and only on a "need to know" basis
- Medical records kept in safe place

Guiding Principles for CT in PPTCT

- **Post-test support and services**
- Always give results in person
- Provide appropriate post-test information
- Offer counselling and referral

Approaches to Testing

Opt-In

- Explicit request to be tested
- Written or verbal informed consent

Opt-Out

- Testing routinely offered
- Clients not explicitly asked to be tested
- Client has right to refuse

Preferred Strategy – Opt-Out

- **Opt-out Approach**
- Normalises HIV testing by integrating it into ANC care
- Increases the number of women who receive testing and PPTCT interventions
- May increase the uptake of PPTCT services including testing

Counselling and HIV Testing for PPTCT

- **Session 2**

- Providing Pre-test Information (Group Education) and Counselling

Individual Pre-test Counselling

- May be offered by healthcare educator, healthcare provider, trained volunteer in ANC settings
- Refer when indicated to trained HIV counsellors with specialized training or VCT site

Working with Couples

- Provides CT to male partners
- Emphasizes male responsibility to protect the health of partner and family
- Reduces ‘blaming’ the woman
- Identifies discordant couples

HIV Counselling and Testing for PPTCT

- **Session 3**
- The Testing Process

Selection of the HIV Test

Is site-specific based on:

- National/local policies
- Availability of supplies and laboratory support
- Availability of trained personnel
- Evaluation of specific tests in the country
- Costs

The Testing Process

- Test sample
  - Blood, saliva, urine
- Process the sample, on-site or in lab
- Obtain results
  - Keep confidential
  - Method determined by clinic protocols and client
- Provide results to client
- Provide post-test counselling, support and referral

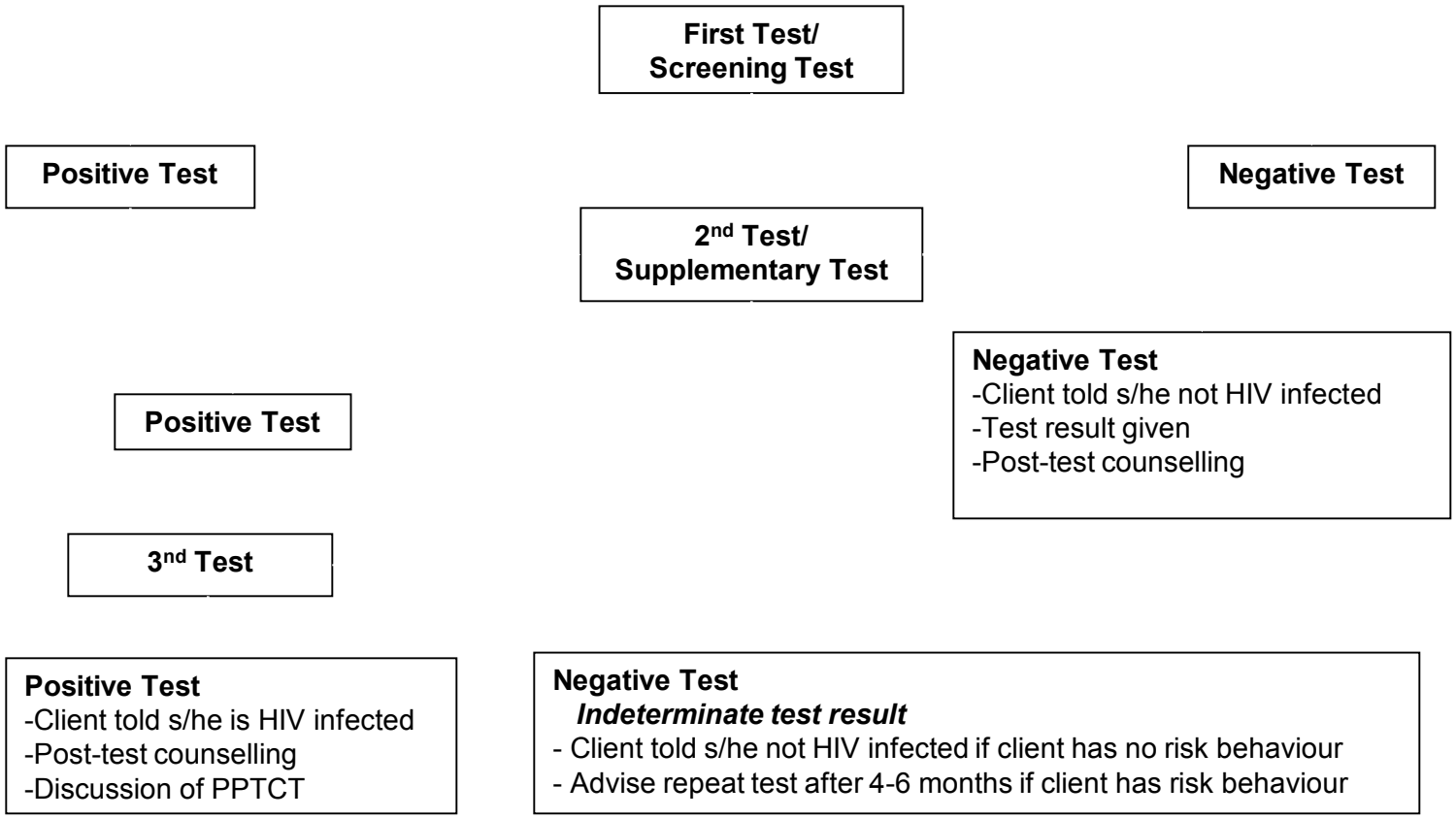
The Testing Techniques

- Antibody testing
  - Rapid HIV test
  - ELISA
  - Western blot
- Antigen testing and viral assays
-

ELISA vs Rapid Tests for HIV

	ELISA	Rapid Tests
Sample	blood from arm	blood from finger prick, saliva swabs
Lab	special equipment	limited facilities
Ease	trained technician	minimal training
Result time	up to 1 weeks	less than 30 minutes

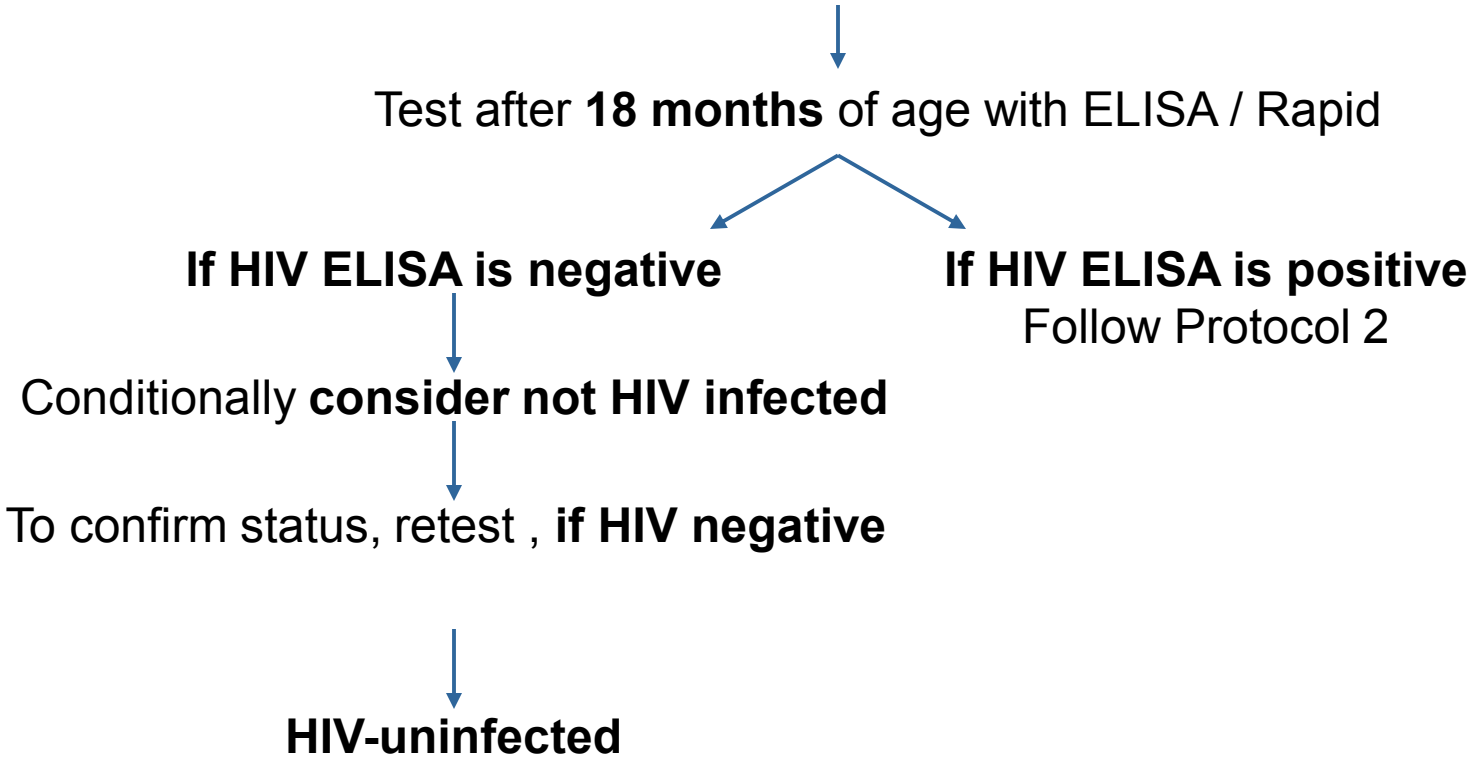
Algorithm for Diagnosis of HIV in Adults



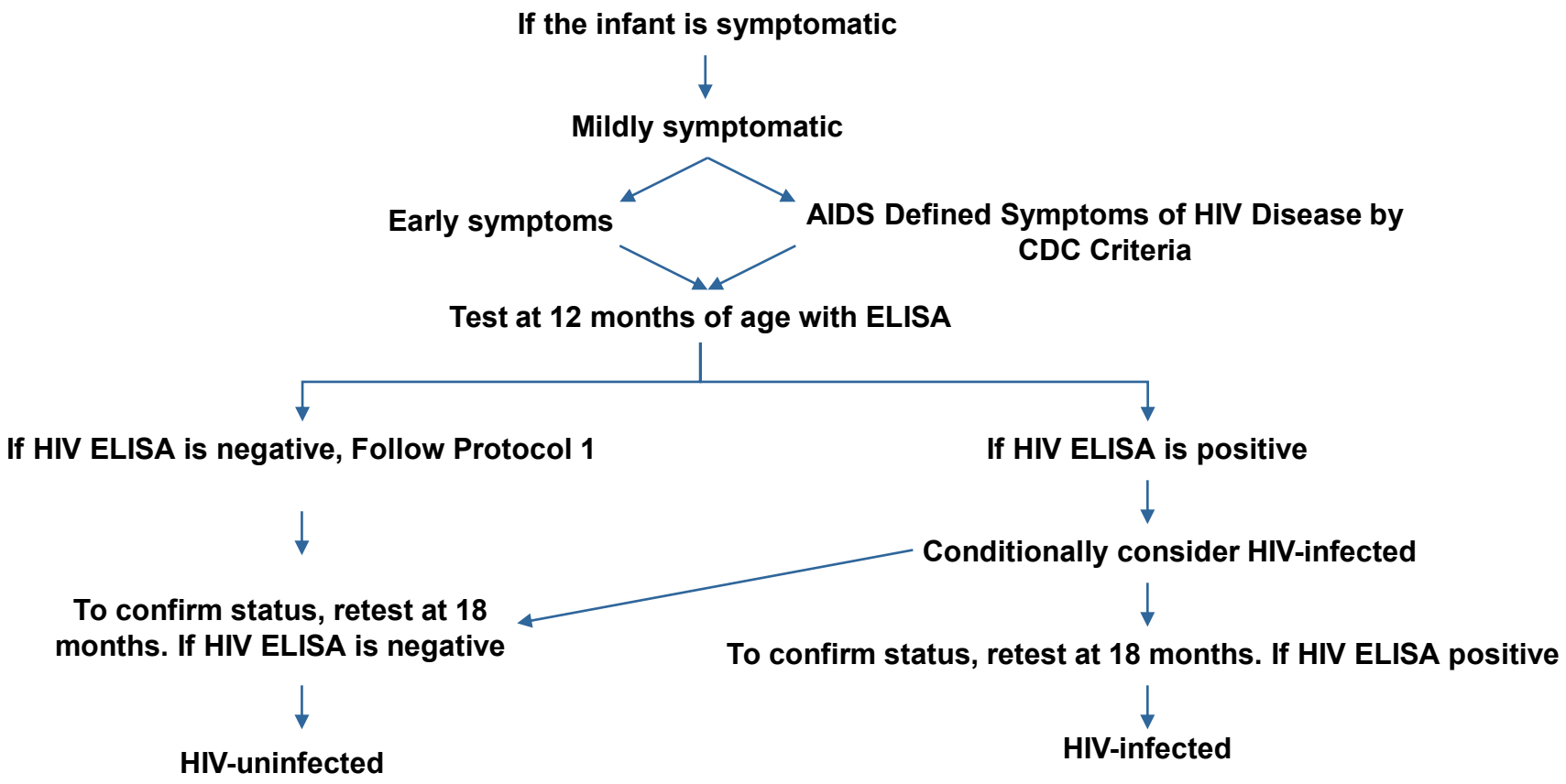
Diagnosing HIV in HIV-Exposed Infant

- ARV prophylaxis reduces but does not eliminate MTCT of HIV infection
- Since maternal antibodies cross the placenta, antibody testing is not recommended prior to 18 months of age
- Infants who are breastfeeding require additional testing 6 weeks after complete cessation of breastfeeding
- Under PPTCT programs HIV viral assays are not used for diagnosis of HIV infection in the infant

Diagnosing HIV in HIV-Exposed Infants, Protocol 1



Diagnosing HIV in HIV-Exposed Infants, Protocol 2



- 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