Prevention of Mother-To-Child Transmission (PMTCT)

Briefing Note

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Department of HIV/AIDS

World Health Organization

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1. Background

Burden of HIV in Women and Children

- Worldwide, approximately 39.5 million people are living with HIV/AIDS, including an estimated 17.7 million women and 2.3 million children under the age of 15 (December, 2006).

- Women currently represent the population with the fastest increase in HIV infection rates; in the hardest hit countries of Sub-Saharan Africa, more than 60% of all new HIV infections are occurring in women, infants, and young children.

- 1,400 children under the age of 15 are infected with HIV every day.

- In 2005 alone, an estimated 540 000 children were newly infected with HIV, with approximately 90% of these infections occurring in sub-Saharan Africa.

- Without appropriate care and treatment, more than 50% of newly infected children will die before their second birthday.

Mother-to-Child Transmission (MTCT)

- MTCT can occur during pregnancy, birth or through breastfeeding.

- As a mode of transmission, MTCT accounts for more than 10% of all new HIV infections globally.

- Over 90% of new infections in infants and young children occur through MTCT.

- In the absence of interventions, the risk of MTCT is 20-45%, with the highest rates in populations with prolonged breastfeeding.

- The risk of MTCT can be reduced to less than 2% with a package of evidence-based interventions including ARV prophylaxis and treatments combined with elective caesarean section and avoidance of breastfeeding.

- Infant feeding patterns are a very important determinant of MTCT. For mothers using replacement feeding there is obviously no transmission through breastfeeding.

- De Cock et al. (2000) suggest breastfeeding through 6 months leads to approximately 10% extra transmission (from 20% to 30%), while breastfeeding through 18-24 months leads to approximately 17.5% extra transmission (from 20% to 37.5%), compared to no breastfeeding.

- 10 countries account for two-thirds of all MTCT infections: South Africa, Uganda, Kenya, Tanzania, Zimbabwe, Mozambique, Nigeria, Democratic Republic of Congo, India and Ethiopia (Report Card on PMTCT, 2005).

- MTCT rates based on infant feeding options or PMTCT regimens:

  a) Infant feeding options:
  - No intervention, long breastfeeding (18-24 months): **35%**
  - No intervention, short breastfeeding (6 months): **30%**
  - No intervention, replacement feeding: **20%**

  b) PMTCT regimens:
  - Single-dose NVP (mothers & infants) combined with short breastfeeding: **16%**
  - Single-dose NVP (mothers & infants), combined with replacement feeding: **11%**
  - AZT long (from 28 weeks) and single-dose NVP (mothers & infants), combined with short breastfeeding: **10%**
  - AZT long (from 28 weeks) and single-dose NVP (mothers & infants), combined with replacement feeding: **2%**

2. PMTCT Strategies and Goals

- **UN Millennium Development Goals (MDGs)**
  PMTCT directly affects the achievement of three MDGs (to be met by 2015):
  - 4th MDG: Reduce by two thirds the mortality rate among children under five
  - 5th MDG: Reduce by three quarters the maternal mortality ratio
  - 6th MDG: Halt and begin to reverse the spread of HIV/AIDS

- **Universal Access of Prevention, Treatment and Care**

The G8 nations at the Gleneagles Summit in July 2005 called for the development and implementation of "a package for HIV prevention, treatment and care, with the aim of as close as possible to universal access to treatment for all those who need it by 2010."

- **Abuja Call to Action**

In 2005, representatives of governments, multilateral agencies, development partners, research institutions, civil society and people living with HIV assembled at the PMTCT High Level Global Partners Forum in Abuja, Nigeria which resulted in a 'Call to Action' for the elimination of HIV infection in infants and children and an HIV- and AIDS-free generation.

- **UNGASS**

The Declaration of Commitment of UNGASS in June 2001 has set the goal of reducing the proportion of infants infected with HIV by 20% by the year 2005 and by 50% by the year 2010, by means of:
- Ensuring that 80% of pregnant women accessing antenatal care receive information, counselling and other HIV-prevention services;
- Increasing the availability of and providing access for HIV-infected women and babies to effective treatment to reduce MTCT, as well as to voluntary and confidential counselling and testing, breast milk substitutes and the provision of a continuum of care.

- **United Nations Comprehensive Approach**

The **UN four-pronged strategy for PMTCT** addresses a broad range of HIV-related prevention, care, and treatment and support needs of pregnant women, mothers, their children and families. This comprehensive approach includes the following four elements:

1. **The primary prevention of HIV infection among women, especially young women**
   Avoiding infection in parents-to-be will help to prevent HIV transmission to infants and young children, as well as help towards other prevention goals. HIV prevention needs to be directed at a broad range of women at risk and their partners. As primary HIV infection during pregnancy and breastfeeding poses an increased threat of MTCT, HIV prevention efforts should address the needs of pregnant and lactating women, especially in high prevalence areas. In addition, special effort should be made to prevent future infection among women diagnosed HIV-negative especially in antenatal care settings.

2. **The prevention of unintended pregnancies among HIV-infected women.**
   Reproductive health (including family planning) services need to be strengthened so that all women, including those who are infected, can make informed decisions about their future reproductive life, including when to seek appropriate support and services to prevent unintended pregnancies. Most HIV-infected women in the developing world do not know their serostatus. Increased availability of counselling and testing services would enable them to obtain essential care and support services, including family planning and reproductive health services, in order that they can make informed decisions about their future reproductive lives.

3. **Provision of specific interventions to reduce HIV transmission from HIV-infected women to their infants.** For HIV-positive women who do become pregnant, WHO has identified a package of interventions for the PMTCT. It includes antiretroviral drug regimens for HIV-infected pregnant women and their newborn, safe obstetric practices and counselling and support for HIV-infected pregnant women on infant feeding options.

4. **Provision of treatment, care and support for HIV-infected mothers, their infants and family.** Care and support must be fully integrated into ongoing efforts to improve maternal and child health services, and be tailored to the needs of women for safe and effective antenatal, obstetric and reproductive health services. This also includes sexual and reproductive health interventions for HIV-infected women and other care for HIV-infected women and for children born to HIV-infected mothers.

Table 1: Core PMTCT interventions within the context of a comprehensive approach

Element	Key activities to be considered	
Primary prevention of HIV infection among women, especially young women	▪ Health information and education ▪ HIV testing and counselling - regular retesting for those with exposure ▪ Couple counselling and partner testing ▪ Safer sex practices, including dual protection (condom promotion) ▪ Delay of onset of sexual activity ▪ Behavioural change communications to avoid high risk behaviour	
Prevention of unintended pregnancies among HIV-infected women	▪ FP counselling and services to ensure women can make informed decision about their reproductive health ▪ HIV testing and counselling in RH/FP services ▪ Safer sex practices, including dual protection (condom promotion)	
Prevention of HIV transmission from HIV-infected women to their infants	▪ Quality antenatal and delivery care ▪ HIV testing and counselling in ANC, retesting in late pregnancy in high prevalence settings ▪ Clinical (staging) and immunological (CD4) assessment of pregnant women ▪ ART for pregnant women eligible for treatment ▪ ARV prophylaxis for MTCT prevention for women not receiving ART and for all exposed children ▪ Safer obstetric practices ▪ Infant feeding counselling and support	
Provision of appropriate treatment, care and support to HIV-infected mothers, their infants and family.	**Package of services for mothers**	**Package of services for HIV-exposed children**
	▪ ART for women eligible for treatment ▪ Co-trimoxazole prophylaxis ▪ Continued infant feeding counselling and support ▪ Nutritional counselling and support ▪ Sexual and reproductive health services including FP ▪ Psychosocial support	▪ ARV prophylaxis ▪ Routine immunization and growth monitoring and support ▪ Co-trimoxazole prophylaxis starting at 6 weeks ▪ Early diagnosis testing for HIV infection at 6 weeks where virological tests are available ▪ Antibody testing for young children at 18 months where virological testing is not available ▪ Continued infant feeding counselling and support ▪ Screening and management of tuberculosis ▪ Prevention and treatment of malaria ▪ Nutrition care and support ▪ Psychosocial care and support ▪ Antiretroviral therapy for eligible HIV infected children ▪ Symptom management and palliative care if needed.

3. WHO PMTCT Guidelines

History

- WHO first issued recommendations for the use of ARV drugs for PMTCT in 2000
- Recommendations related to infant feeding with regards to HIV were first issued in 2000

- A comprehensive approach to PMTCT (outlined by four elements) was promoted by the UN after a consultative meeting in 2002
- Use of ARV drugs were revised in 2004 with the adoption of simplified and standardized regimens
- Following a Technical Consultation in 2005, the guidelines on the use of ARV drugs for treating pregnant women and preventing HIV infection in infants were updated
- In 2006, the guidelines were updated to incorporate new evidence and were aligned with the global commitment to universal access

Objectives
- To provide guidance to assist national ministries of health in the selection and the provision of ART and ARV prophylaxis for women and their infants in the context of PMTCT, taking into account the needs of and constraints on health systems in various settings

Guiding Principles
- Adopting a public health approach for increasing access to PMTCT services
- A comprehensive strategic approach to the prevention of HIV infection in infants and young children
- Integrated delivery of PMTCT interventions within maternal and child health services
- A woman's health as the overarching priority in ARV treatment decision during pregnancy
- Highly effective ARV regimens for MTCT prevention

4. WHO PMTCT Recommendations

Provider-Initiated HIV Testing and Counselling (PITC)
- PITC refers to HIV testing and counselling which is recommended by health care providers to persons attending health care facilities as a standard component of medical care.
- PITC should be accompanied by a recommended package of HIV-related prevention, treatment, care and support services.
- All pregnant women, except those with confirmed infection, should be tested as early as possible in each new pregnancy. Repeat testing late in pregnancy should also be recommended to HIV-negative women in generalized epidemics.
- As a substantial proportion of pregnant women present to health facilities at the time of labour, HIV testing and counselling should be recommended to all women of unknown HIV status in labour, or as soon as possible after delivery.
- When recommending testing and counselling to a patient, the health care provider should at a minimum provide the patient with the following information:
  - The reasons why HIV testing and counselling is being recommended
  - The clinical and prevention benefits of testing and the potential risks, such as discrimination, abandonment or violence
  - The services that are available in the case of either an HIV-negative or and HIV-positive test result, including whether antiretroviral treatment is available
  - The fact that the test result will be treated confidentially
  - The fact that the patient has the right to decline the test
  - The fact that declining an HIV test will not affect the patient access to services

    - In the event of an HIV-positive test result, encouragement of disclosure to other persons who may be at risk of HIV exposure
    - An opportunity to ask the health care provider questions
- For pregnant women, these additional information should be given:
    - The risks of transmitting HIV to the infant
    - Measures that can be taken to reduce mother-to-child transmission, including antiretroviral prophylaxis and infant feeding counselling
    - The benefits to infants of early diagnosis of HIV
- All individual undergoing HIV testing must be counselled when their test results are given regardless of the test result.
- Antiretroviral prophylaxis and infant feeding counselling must be made available as part of the standard of care for pregnant women who are diagnosed HIV-positive through PITC.
- For women identified as HIV-negative, immediate support must be ensured to prevent becoming infected during the course of pregnancy and breastfeeding.
- Women diagnosed with HIV, should be encouraged to propose HIV testing and counselling to their make partners.
- PITC is neither mandatory nor compulsory. WHO and UNAIDS do not support mandatory or compulsory testing of individuals on public health grounds.

Use of ARVs

WHO recommends

- Anti-retroviral treatment (ART) for all pregnant women who are eligible for treatment based on clinical staging or CD4 testing (this represents approximately 20-30% of all HIV-infected pregnant women).

Table 2: ART Eligibility

WHO Clinical Staging	CD4 Testing Not Available	CD4 Testing Available
1	Do not treat	Treat if CD4 cell count < 200/ mm^3
2	Do not treat	
3	Treat	Treat if CD4 cell count < 350/ mm^3
4	Treat	Treat irrespective of CD4 cell count

Note: Women have lower CD4 cell counts during pregnancy compared to postpartum partly due to pregnancy-related haemodilution. The impact of this on using CD4-350 threshold in pregnant is not known.

- The initiation of ART in pregnant women as a means to not only address the health needs of pregnant women, but also as a means to significantly reduce HIV transmission to their infants. In addition, by securing the health of women, child wellbeing and survival is enhanced.
- Antiretroviral prophylactic regimens for HIV-positive pregnant women who do not require ART.
- A prophylactic regimens that includes maternal AZT (from 28 weeks of pregnancy or as soon as possible thereafter) plus single-dose nevirapine, and a 7-day tail of AZT and 3TC. The infant regimen includes a one-week course of AZT.

Infant Feeding

- 10-20% of infants born to HIV-infected mothers may acquire HIV through breastfeeding, depending on duration and other risk factors.

- There is convincing evidence that exclusive breastfeeding actually carries a lower risk of HIV transmission than breastfeeding combined with other fluids or foods (mixed feeding).
- There is also good evidence that high rates of exclusive breastfeeding can be achieved with good quality counselling and support and consistent messages from all sources of public health information.

A consensus statement on HIV and infant feeding was recently adopted by all relevant UN departments and agencies, following a technical consultation in Geneva, Switzerland, in October 2006 organized by WHO. Its main recommendations include:

- The most appropriate infant feeding option for an HIV-infected mother should continue to depend on her individual circumstances, including her health status and the local situation, but should take greater consideration of the health services available and the counselling and support she is likely to receive.
- When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected women is recommended.
- Exclusive breastfeeding is recommended for HIV-infected women for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe for them and their infants before that time. This recommendation holds true for HIV-negative women and women who do not know their HIV status.
- If an HIV-infected woman chooses to breastfeed, she must be cognizant that breastfeeding is not without risk to the infant. However, the risk of HIV infection must be balanced with the risks associated with replacement feeding, and this must be done for each HIV-infected woman on an individual basis.
- Women need support to choose and adhere to the best option for them. Governments and others should provide this support, and also take action in the priority areas described in the UN HIV and infant feeding Framework for Priority Action.

5. Treatment Regimens

- **ART Regimen**

- Mother
  i. Antepartum: AZT + 3TC + NVP twice daily
  ii. Intrapartum: AZT + 3TC + NVP twice daily
  iii. Postpartum: AZT + 3TC + NVP twice daily

- Infant
  i. AZT x 7 days*

  *If the mother receives less than 4 weeks of ART during pregnancy, 4 weeks of infant AZT is required.

- **ARV Prophylaxis**

- Mother
  i. Antepartum: AZT starting at 28 weeks of pregnancy or as soon as possible thereafter.
  ii. Intrapartum: Sd-NVP +AZT/3TC

iii. Postpartum: AZT/3TC (7 days)

- Infant
  i. Sd-NVP + AZT (7 days)

- **Anaemia**
- When possible, treat severe anaemia first
- If there is a need for ART, substitute d4T or ABC for AZT
- Regimen = d4T + 3TC + NVP twice daily OR ABC + 3TC + NVP twice daily

- **Active TB**
- When possible, treat TB first
- If ART is required, substitute EVF for NVP if woman is in 2nd or 3rd trimester
- Regimen = AZT + 3TC + EVF twice daily
- If in the 1st trimester, substitute an NTRI-based regimen (potentially less effective)

- **HIV-2**
  NNRTIs are NOT effective for HIV-2 treatment

- Mother
  i. Antepartum: AZT + 3TC + ABC twice daily
  ii. Intrapartum: AZT + 3TC + ABC twice daily
  iii. Postpartum: AZT + 3TC + ABC twice daily

- Infant
  i. AZT x 7 days

6. Status of Implementation of PMTCT Worldwide

- By the end of 2006, 71 countries were implementing national PMTCT programmes and had defined country-specific policies and strategies. Approximately half (45%) of these countries had developed national scale-up plans with clearly defined population based targets and time bound benchmarks.

- Country level efforts to scale-up PMTCT and paediatric HIV care and treatment is changing dramatically. There is a growing momentum built on increased leadership, country ownership, and enhanced donor and partner commitment.

- Globally, about 11% of HIV infected pregnant women received ARVs to prevent mother to child transmission, ranging from 77% and 29% in Eastern Europe and Latin America to 3% and 2% in West Africa and South Asia.

- By the end of 2006, only 8 countries exceeded the 40% ARV prophylaxis uptake mark required to achieve the 2005 PMTCT UNGASS target of reducing new infections in children by 20% (Argentina, Belize, Botswana, Brazil, Jamaica, Russia, Thailand, and Ukraine).

- In Sub-Saharan Africa, maternal ARV prophylaxis uptake has more than doubled from 2004 to 2005 in three of the most affected countries (Namibia, South Africa and Swaziland).

- Data from a select group of high-burden countries supported by the US President's Emergency Plan for AIDS Relief (PEPFAR) show continued scale-up in 2006. Approximately six million pregnant women were provided with PMTCT services through PEPFAR. Of these, over 533,700 received ARV prophylaxis for MTCT prevention, preventing an estimated 101,500 infections in newborns to date.

7. Scale-Up

- On its own, the introduction of more efficacious ARV drug regimens for treatment and prevention cannot result in the attainment of the goal of an HIV- and AIDS-free generation.
- More efficacious regimens must be combined with concerted efforts to promote integrated and comprehensive PMTCT programs while simultaneously increasing coverage and uptake of PMTCT services.
- In this context, efforts to introduce more efficacious regimens should be reviewed and introduction should follow the framework of the national scale up plan. (Introduction of the new regimen should therefore be a component strategy of the overall scale-up plan for PMTCT).
- Essential for enabling rapid scale-up of services is a country-driven scale-up plan with clearly defined numerical targets for service delivery; supply management and M&E components; budgets; and partners' roles and responsibilities.
- This is a vital component for refocusing actions to accelerate nationwide implementation and bringing together all stakeholders to invest appropriate and adequate financial and technical resources for implementation.

Linking PMTCT and ARV Scale-up

- It is inevitable that for effective and efficient service delivery, the emphasis should be on an integrated approach.
- PMTCT programmes and ARV scale-up share a unique similarity in the sense that both have same programmatic, logistical, resources mobilization and community mobilization needs.
- In most resource-limited settings, health care services are provided in a comprehensive manner at the primary health care level, within the same facility and by the same staff.
- It is therefore imperative that the scale-up of PMTCT programmes and ARV programmes be linked.
- Integration should be seen at all levels of services delivery chain:
  - Policy development
  - Planning
  - Management and coordination
  - Services delivery
  - Community mobilization
  - Patients follow-up

- Although a vertical approach may be a useful option at programme initiation and to drive implementation and monitoring, at the central level it is costly, and leads to duplication of efforts.

WHO/HHS-CDC PMTCT Generic Training Package (GTP)

- The GTP is an important tool for human capacity development for scaling-up PMTCT services and was completed and officially launched in October 2004.
- The partners in the development of the GTP include WHO and HHS-CDC, as well as the implementing partner, François-Xavier Bagnoud (FXB) Center.
- The GTP provides guidance for developing a national PMTCT training plan, along with an evidence-based training course structured to facilitate the inclusion of national PMTCT policies and programmes, and serves as the basic document amended to reflect national context and include national documents such as policies, protocols, algorithms and program descriptions.
- The package contains nine modules and 6 components (director's guide, participant's manual etc.). The 2004 version is available in English, French, and Russian.
- A revised version incorporating new WHO recommendations will be available late 2007.

8. Factors Impeding Global PMTCT Scale-Up/PMTCT Challenges in Resource-Limited Settings

- **Biomedical Factors**
  - Limitations in identifying pregnant women in need of ART
  - Impact of diverse co-morbidities (TB, Hepatitis B and C, malaria, anaemia)

- **Operational Factors**
  - Limited human resources and infrastructure for scale-up.
  - Low utilization of maternal, newborn and child health (MNCH) services. While ANC coverage has improved significantly in recent years, the proportion of births attended by skilled health professionals remains low. In addition, VCT services are not routinely offered as an integral component of the package of MNCH services.
  - Weak health care systems. Global PMTCT efforts should seek to specifically target financial resources towards strengthening health systems and increasing the quantity and competency of health service providers.
  - Lack of an integrated framework to assist national policymakers, programme managers, local and international partners in guiding country-level efforts for the scale-up of comprehensive PMTCT and paediatric HIV interventions.
  - Lack of demonstrated government leadership, commitment and accountability towards the goal of universal access to PMTCT and paediatric HIV care services.
  - Limited functional linkages or integration of service delivery (ANC, MCH, ART, RH).
  - Lack of a champion to bolster interest and commitment among the international community regarding the scale-up of PMTCT services.
  - Weak linkages with HIV care, support and treatment.
  - Lack of monitoring, follow-up or tracking of women and children post-delivery.
  - Weak supply management systems.

- Lack of technologies for early testing of infants.

- **Global and Local Factors**
  - Lack of data on impact of PMTCT programmes.
  - Sustainable funding for scaling-up national programmes.
  - Lack of coordination among partners.

9. Global Partnerships

Inter-Agency Task Team (IATT) on prevention of HIV infection in pregnant women, mothers and their children

- **History and Key Partners**
  - The IATT on MTCT of HIV was established in 1999, and initially comprised of UNAIDS, WHO, UNICEF, and UNFPA
  - In 2001, the Task Team was renamed the Interagency Task Team on the prevention of HIV transmission to pregnant women, mothers and their children and included the World Bank as a new member
  - In 2004, members decided to expand the IATT to key partners including USG Agencies (CDC, USAID), EGPAF, Columbia University, FHI and Catholic Medical Mission Board (CMMB), AED, Population Council
  - In 2007, consultations are going on to further include Clinton Foundation, the GFATM, ESTHER, IPPF and International Community of Women Living with HIV/AIDS (ICW)

- **Purpose**
  - The overall purpose of the IATT is to contribute to improving and scaling-up programmes to prevent HIV infections in pregnant women, mothers and their children, in line with the UNGASS resolutions.
  - The Task Team holds two annual meetings to report on activities achieved, discuss future directions and to review global strategies accordingly.

UNITAID

- **History**
  - Launched by the Governments of Brazil, Chile, France, Norway and the United Kingdom, UNITAID is the international drug purchase facility based on an international air-ticket solidarity levy
  - UNITAID intends to provide sustainable financing for drugs and diagnostics to fight HIV/AIDS, malaria and tuberculosis for people in need in the resource limited countries.

- **UNITAID and PMTCT**
  - In March 2007, the UNITAID Board approved the joint UNICEF and WHO proposal ‘’Acceleration of Prevention of Mother-to-Child Transmission (PMTCT) and Scale up of Linkages to Paediatric HIV Care and Treatment’’.
  - The US$20,893,506 grant for the 2007-2008 biennium will benefit eight countries - Burkina Faso, Cameroon, Cote d'Ivoire, India, Malawi, Rwanda, Tanzania, and Zambia.

- Stemming from its mandate and operational modalities, UNITAID funds for PMTCT scale-up are granted to countries to cover commodity costs associated with PMTCT and Paediatric HIV care programmes.
- The 2-year project targets at provision of the following supplies:

    1. HIV rapid antibody test kits for counselling and testing of 1,174,000 pregnant women and the exposed infants where virological testing is not available;
    2. ARVs for ensuring access to WHO recommended more efficacious PMTCT regimens to 184,189 HIV positive pregnant women and ART for 36,838 mothers in need of treatment for their own health. The component also covers CD4 test costs for the HIV positive pregnant women to determine treatment eligibility;
    3. Co-trimoxazole prophylaxis for 147,351 HIV positive mothers and 128,932 exposed infants, and
    4. Reagents for early diagnosis through PCR testing for 51,573 HIV exposed infants.

- The targets and content of the respective country proposals to UNITAID have been defined by national governments through a consultative process with UNICEF, WHO and other members of the expanded IATT for PMTCT and Paediatric HIV Care and Treatment in each of the eight countries.
- UNITAID funding will be additional to the existing and pledged financial resources by the governments and other implementing partners to enhance the overall PMTCT programme impact.
- The programme supplies secured through UNITAID funding will contribute to national efforts in increasing service delivery coverage, uptake and outcome of PMTCT interventions by switching towards more efficacious regimens, and improving linkages to care and treatment for HIV-infected mothers, children, and family members through early diagnosis, immunological and clinical assessment, and strengthened referral mechanisms.
- Through IATT PMTCT partnership, UNICEF and WHO will continue joint assessment missions to the remaining high MTCT burden countries to start preparing for expansion of this initiative beyond 8 countries, in preparation for a second phase of UNITAID support to PMTCT.
- Overall UNITAID Contributions
    - Diagnostic and medicine price reductions through increased volumes and secured financing.
    - Improved efficacy of PMTCT interventions by facilitating the switch from sd-NVP based regimens to more efficacious ARV regimens, including ART for all women with indication of ART.
    - Increased programme coverage through the availability of HIV rapid test kits, CD4 cell counts, co-trimoxazole prophylaxis for mothers and babies, and PCR tests for early diagnosis of HIV infection in infants.

Guidance for Global Scale-up of the Prevention of Mother-to-Child Transmission of HIV

- WHO and UNICEF, in collaboration with global partners, have developed the 'Guidance for Global Scale-up of the Prevention of Mother-to-Child Transmission

of HIV' to provide timely support to countries to accelerate scaling-up of national PMTCT programmes

- The Guidance promotes the integration of PMTCT and links with maternal, newborn and child health, antiretroviral therapy, family planning and sexually transmitted infection services.
- The goal of the Guidance is to ensure the delivery of a package of essential services for quality maternal, newborn and child care that includes:
    - Routine quality antenatal care for all women regardless of HIV status;
    - Additional services for women living with HIV;
    - Additional services for all women regardless of HIV status in specific settings;
    - Essential care for HIV-exposed infants and young children.
- The Guidance proposes a set of key strategic approaches:
    - Demonstrated government leadership, commitment and accountability to deliver on the goal of universal access to PMTCT and paediatric HIV care
    - District-driven delivery of a standard package of comprehensive services
    - Institutionalizing provider-initiated HIV testing and counselling in MNCH settings
    - Institutionalizing longitudinal HIV care management in MNCH settings and developing strong linkages to ARV services
    - Strengthening infant feeding and nutrition counselling and support for women, their children and families in the context of PMTCT and paediatric HIV care
    - Increasing access to antiretroviral treatment for pregnant women, mothers, their children and families in the context of PMTCT
    - Operationalizing the linkage between the delivery of PMTCT and sexual and reproductive health services
    - Empowering and linking with communities
- In addition to the development and implementation of the Guidance for accelerating PMTCT scale-up at the country level, other important components for PMTCT include:
    - Sub-regional workshops to strengthen regional and national capacity to accelerate scaling up of national PMTCT and paediatric HIV care, treatment and support through orientation of national programme managers to policies, guidelines and tools, re-alignment of national scale up plans and development of country technical assistance plans.
    - Joint technical missions to provide technical support for the implementation of national scale plans including monitoring and evaluation
    - Resource mobilization to support implementation of national scale-up plans. This includes specific initiatives such as UNITAID proposal for the acceleration of PMTCT and early paediatric care

10. WHO Contributions

Global and Regional Levels

WHO's focus at the global and regional levels include various actions to:

- Mobilize the international community, galvanize political will, and mobilize resources to reach the goal of an HIV-free and AIDS-free generation;

- Develop evidence-based policies, standards and programming tools to support country level implementation;
- Support regional and national planning and capacity building;
- Generate and disseminate strategic information;
- Support the strengthening of health systems.

Country Level
WHO's focus at the country level include various actions to:

- Assist ministries of health in strengthening coordination and collaboration around PMTCT and paediatric HIV care, treatment and support.
- Galvanize political will and commitment of national governments and key stakeholders to accelerate scale up efforts to achieve the goal of elimination of HIV infection in infants and young children;
- Assist national governments in mobilization and effective allocation of resources to support scale up efforts;
- Provide technical support for the development, adaptation and implementation of PMTCT and paediatric HIV-related policies, guidelines and tools;
- Support national processes of strategic planning around PMTCT and paediatric HIV care;
- Advocate and support human capacity development related to PMTCT, especially on training and task shifting;
- Provide technical assistance on strategic information, including monitoring and evaluation, operational research, and documentation and dissemination of experiences.

11. The Way Forward/Lessons Learned

The cumulative scientific evidence and analysis of the global and country-level PMTCT response over the last seven years of the programme piloting and roll-out capture critical lessons to fuel future dialogue and action for acceleration of the comprehensive programme scale-up:

- The existence of a **strong government commitment and ownership** of a PMTCT programme is critical for the development of one national programme and alignment of the country-level partnerships to the unified action framework.

- The existence of a **strong national management team and a well functioning national coordination mechanism is essential** to guide programme design, implementation and monitoring.

- Successful programmes are built on **strengthened health systems** and **quality maternal, neonatal and child health (MNCH) and other sexual and reproductive health services (SRH).** Full integration of PMTCT into MNCH packages and the high coverage of antenatal and skilled delivery attendance is the key to success of PMTCT scaling up in CEE/CIS countries.

- **Institutionalization of provider-initiated HIV testing and counselling** within the standard MNCH packages at antenatal and perinatal services.

- Establishment of **systems to identify and track exposed and infected children** is a frequently reported challenge, as well as data gaps between PMTCT and ART services for pregnant women.

- **Innovative solutions to address the shortage of the HIV/AIDS service workforce** are important especially in resource limited and high disease burden settings. Introduction of lay counsellors in Botswana proved to be successful in the PMTCT programme scale up.

- **Involving families and communities** is vital in creating demand, improving adherence to treatment and provision of a wide variety of necessary support (psycho-social, nutrition) often not available through public health services.

12. Costs

- Costs associated with PMTCT drug regimens have decreased drastically in the past decade

Table 3: Costs for ARV Prophylaxis

For low income countries

	INN/strength	Dose	Costs ($)	Cost/Dose ($)
Adults	AZT 300 mg	210	29.92	0.142
	AZT 600 mg	1	0.285	0.285
	3TC 150 mg	17	0.91	0.053
	NVP 200 mg	1	0.06	0.06
Paediatrics	AZT 4mg/kg	14	0.86	0.061
	NVP 2mg/kg	1	0.039	0.039

For high income countries

	INN/strength	Dose	Costs ($)	Cost/Dose ($)
Adults	AZT 300 mg	210	38.26	0.182
	AZT 600 mg	1	0.364	0.364
	3TC 150 mg	17	1.35	0.079
	NVP 200 mg	1	0.073	0.073
Paediatrics	AZT 4mg/kg	14	0.729	0.052
	NVP 2mg/kg	1	0.06	0.06

13. Advocacy Messages

- A public health approach should be applied to PMTCT services to ensure access to high quality services at the population level, while striking a balance between the best proven standard of care and what is feasible on a large scale in resource-constrained settings.
- If PMTCT services are not prioritized, Millennium Development Goals 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Halting and beginning to reverse the spread of HIV/AIDS) will not be achieved by 2015.

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