SCALING UP PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV
Scaling up prevention of mother-to-child transmission of HIV

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Acknowledgements

Particular thanks are due to Regina Keith for country case study material from Nigeria, Malawi and Zambia that has been used to inform this document and to United Nations Children’s Fund (UNICEF) for source material on prevention of mother-to-child transmission (PMTCT) progress. Thanks are also due to the following for their contributions: Barbara de Zalduano, Joint UN Programme on HIV/AIDS (UNAIDS); Tin Tin Sint and Isabelle de Zoysa, World Health Organization (WHO); Doreen Mulenga and Robert Gass, UNICEF; Matthew Barnhart, United States Agency for International Development (USAID); Robert Oelrichs and Elizabeth Lule, World Bank; Elaine Abrahms, Columbia University; Vince de Gennaro, Global AIDS Alliance; Jennifer Overton, Catholic Relief Services (CRS); Ade Fakoya, International HIV/AIDS Alliance; Nick Corby, Action Aid; and Marge Berer, Reproductive Health Matters. Our thanks also go to all the governmental and non-governmental stakeholders, participants in focus group discussions and country representatives who facilitated contacts for some of the national interviews in Nigeria, Malawi and Zambia. Thanks are also due to Tearfund’s Public Policy Team and the HIV Unit for their useful comments and support.
# Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>3TC</td>
<td>Lamivudine</td>
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<tr>
<td>AED</td>
<td>Academy for Educational Development</td>
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<tr>
<td>ANC</td>
<td>Antenatal care</td>
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<tr>
<td>ART</td>
<td>Antiretroviral treatment</td>
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<tr>
<td>ARV</td>
<td>Antiretroviral</td>
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<tr>
<td>AZT</td>
<td>Zidovudine</td>
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<tr>
<td>CMMB</td>
<td>Catholic Medical Mission Board</td>
</tr>
<tr>
<td>CRS</td>
<td>Catholic Relief Services</td>
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<tr>
<td>CT</td>
<td>Counselling and testing</td>
</tr>
<tr>
<td>DBS</td>
<td>Dried blood spots</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
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<tr>
<td>EGPAF</td>
<td>Elizabeth Glaser Pediatric AIDS Foundation</td>
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<tr>
<td>FBO</td>
<td>Faith-based organisations</td>
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<tr>
<td>FHI</td>
<td>Family Health International</td>
</tr>
<tr>
<td>FP</td>
<td>Family planning</td>
</tr>
<tr>
<td>GFATM</td>
<td>Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
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<tr>
<td>GPF</td>
<td>Global Partners Forum</td>
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<tr>
<td>HBC</td>
<td>Home-based care</td>
</tr>
<tr>
<td>HMIS</td>
<td>Health and Management Information Systems</td>
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<tr>
<td>IATT</td>
<td>Inter-Agency Task Team</td>
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<tr>
<td>ICW</td>
<td>International Community for Women living with HIV and AIDS</td>
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<tr>
<td>IMCI</td>
<td>Integrated management of childhood illness</td>
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<tr>
<td>IPPF</td>
<td>International Planned Parenthood Federation</td>
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<tr>
<td>MCH</td>
<td>Maternal and child health</td>
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<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and evaluation</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MTCT</td>
<td>Mother-to-child transmission</td>
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<tr>
<td>NASCP</td>
<td>National AIDS and STI Control Programme</td>
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<td>NVP</td>
<td>Nevirapine</td>
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<tr>
<td>PCR</td>
<td>Polymerase chain reaction</td>
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<tr>
<td>PEPFAR</td>
<td>President’s Emergency Plan for AIDS Relief (US)</td>
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<tr>
<td>PLHA</td>
<td>People living with HIV and AIDS</td>
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<tr>
<td>PMTCT</td>
<td>Prevention of mother-to-child transmission</td>
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<tr>
<td>PPTCT</td>
<td>Prevention of parent-to-child transmission</td>
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<tr>
<td>RH</td>
<td>Reproductive health</td>
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<tr>
<td>sdNVP</td>
<td>Single dose Nevirapine</td>
</tr>
<tr>
<td>SRH</td>
<td>Sexual reproductive health</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually transmitted infection</td>
</tr>
<tr>
<td>TBAs</td>
<td>Traditional birth attendants</td>
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<tr>
<td>UNAIDS</td>
<td>Joint UN Programme on HIV/AIDS</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Family Planning Agency</td>
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<tr>
<td>UNGASS</td>
<td>United Nations General Assembly Special Sessions on HIV/AIDS</td>
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<td>United Nations Children’s Fund</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>UNITAID</td>
<td>The International Drug Purchase Facility</td>
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<tr>
<td>VCT</td>
<td>Voluntary counselling and testing</td>
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<td>WHO</td>
<td>World Health Organization</td>
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</table>
Executive summary

Background

Mother-to-child transmission (MTCT) of HIV, which can occur during pregnancy, delivery or breastfeeding, is responsible for over 90 per cent of paediatric infections. Sub-Saharan Africa, where women represent 61 per cent of adults living with HIV, accounted for 90 per cent of the 420,000 children newly infected with HIV in 2007 (UNICEF, 2007). Without any interventions, one in three children of women living with HIV will be infected with HIV. With interventions, the rate of transmission of HIV from mother to child can be dramatically reduced. While many developing countries have made significant progress, there is an urgent need to scale up access to services to achieve global targets for reduction of MTCT. The following summarises current global action and country progress, factors that support or hinder PMTCT scale-up, and issues that need to be addressed if scale-up is to be achieved.

Global action

- International commitments, targets and calls to action highlight the importance of action to reduce MTCT of HIV. The 2001 United Nations General Assembly Special Sessions on HIV/AIDS (UNGASS) Declaration commits Member States to reduce the proportion of infants infected with HIV by 20 per cent by 2005 and by 50 per cent by 2010, by ensuring that 80 per cent of pregnant women accessing antenatal care (ANC) have access to PMTCT services. This was reinforced by the December 2005 Call to Action for the Elimination of HIV Infection in Infants and Children and the subsequent commitment to universal access to HIV prevention, treatment and care. By the end of 2006, only eight countries exceeded the 40 per cent (ARV) prophylaxis uptake mark required to achieve the 2005 PMTCT UNGASS target of reducing new infections in children by 20 per cent.

- The Inter-Agency Task Team (IATT) on PMTCT and paediatric HIV is co-convened by UNICEF and WHO and brings together UN agencies, donors, and implementing and technical partners. The IATT provides global leadership and has taken steps to support countries to establish, scale up and improve the effectiveness of programmes to prevent paediatric HIV infection. Action has included advocacy and resource mobilisation, development of global guidance, country technical missions and capacity development workshops.

- While significant resources have been made available for HIV in recent years, the proportion of funding allocated to PMTCT is difficult to determine. However, there is a consensus that PMTCT is higher on the donor agenda, in response to poor progress towards the UNGASS target. The IATT reports that funding for PMTCT and the number of organisations supporting PMTCT implementation have increased, although detailed figures are not available.

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1 Partners include UNAIDS, World Bank, Global Fund to fight HIV, TB and Malaria (GFATM) (observer status), USAID, US Centers for Disease Control (CDC), Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), Clinton Foundation, Family Health International (FHI), Population Council, Academy for Educational Development (AED), Columbia University, Witwatersrand University, Catholic Medical Mission Board (CMMB) and the French NGO Esther. International Planned Parenthood Federation (IPPF), Baylor (BIPAI) and International Community of Women Living with HIV/AIDS (ICW) have been invited to join and the IATT is considering further expansion to include the International Confederation of Midwives and International Federation of Gynaecology and Obstetrics.
Country progress

Progress towards the UNGASS targets for coverage with PMTCT services and reduction of HIV infection in infants has been slow. Seventeen low- and middle-income countries are on track to meet the 80 per cent coverage target for ARV prophylaxis by 2010, but only four of these – Botswana, Namibia, South Africa and Swaziland – are in sub-Saharan Africa. There are significant regional differences in the percentage of ANC facilities providing a minimum package of PMTCT services, ranging from 38 per cent in East and Southern Africa to 12 per cent in West and Central Africa.

The proportion of pregnant women tested for HIV increased from 10 per cent in 2005 to 16 per cent in 2006 and the proportion of pregnant women living with HIV who received ARVs for PMTCT increased from 11 per cent in 2005 to 20 per cent in 2006. Again there are significant regional variations. East and Southern Africa made the most rapid progress, while progress was relatively slow in West and Central Africa, South Asia and East Asia and the Pacific. The proportion of women receiving ARV prophylaxis appears to have stagnated or declined in Latin America and Central and Eastern Europe.

The proportion of infants born to mothers living with HIV who were given ARV prophylaxis increased from 10 per cent in 2005 to 15 per cent in 2006. The number of children receiving antiretroviral treatment (ART) increased from 71,892 in 2005 to 127,087 in 2006, a quarter of the estimated 490,000 children in need of treatment. However, only Brazil, Botswana, Namibia and Thailand provided ART to at least 50 per cent of children who needed it in 2006.

Of the over 100 countries that have developed national policies and strategies to guide implementation of PMTCT programmes, 52 have a national scale-up plan with population-based targets, an increase from 32 countries in 2005. As of March 2007, 92 of 123 low- and middle-income countries had set universal access targets, although only 36 had incorporated these into their national strategic plan. While 100 per cent of countries in East and Southern Africa have set PMTCT targets, only around 80 per cent in West and Central Africa and the Caribbean and 60 per cent in Latin America and the Asia and Pacific region have done so (UNICEF, 2007).

Factors that support or limit scale-up

The evidence and analysis of the country-level PMTCT responses over the past seven years of the programme, both pilots and roll-out, capture critical lessons for stepping up the comprehensive programme scale-up. The introduction of more effective ARV drug regimens for treatment and prevention alone cannot result in achieving the goal of an HIV- and AIDS-free generation. It must be combined with concerted efforts from all stakeholders to promote integrated and comprehensive PMTCT programmes while simultaneously increasing coverage and uptake of PMTCT services at community level.

Factors that support scale-up of PMTCT include:

- strong political leadership and commitment, from national governments and development partners
- development and implementation of national scale-up plans with population-based targets
- establishment of effective national management and co-ordination mechanisms
- decentralised approaches, where regional, provincial or district health management teams are responsible for planning, implementation and monitoring of PMTCT services
- action to strengthen health systems, in particular maternal and child health (MCH) services, including efforts to train, motivate and retain health workers and to improve equipment and supplies
- integration of PMTCT services within MCH services, supported by co-ordinated government and donor financing, planning and delivery of integrated services
increased access to HIV services, in particular counselling and testing (CT) and antiretroviral treatment (ART) including for eligible pregnant women, with the latter playing an important role in reducing HIV-associated stigma

adoption of new approaches, such as provider-initiated testing and couple counselling for HIV, and of new technologies, such as rapid HIV tests and dried blood spot (DBS) technology for HIV diagnosis in infants

involvement of male partners, communities and people living with HIV in raising awareness, promoting HIV CT, reducing stigma and linking communities and health facilities.

Factors that limit scale-up include:

- slow progress in revising national policy to reflect global guidance, inadequate dissemination to and uptake of policy at service delivery level, and lack of operational guidelines for implementing comprehensive PMTCT
- weak health systems, including shortages of human resources for health, staff burn-out as a result of other illnesses and diseases, inadequate equipment, and poor procurement and supply management
- vertical programmes, weak links between PMTCT, MCH, family planning (FP) and HIV services and poor service quality
- low uptake of ANC and delivery care and of HIV services, due to financial, geographical and socio-cultural barriers
- poor follow-up treatment and care for mothers and children, due in part to lack of systems to identify and track exposed and infected children and to limited availability of technology for early infant diagnosis
- lack of clarity about infant feeding, among health providers and mothers
- insufficient training for staff on the most recent policies and guidelines
- stigma and discrimination
- limited involvement of male partners
- inadequate data and weak monitoring and evaluation (M&E) systems.
### Areas of action to achieve scale-up of PMTCT

#### INCREASE COMMITMENT AND LEADERSHIP

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<thead>
<tr>
<th>Action at international level by:</th>
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<td>• UN agencies, e.g. UNICEF, WHO, UNAIDS, Donors</td>
<td>• UN agencies, Governments, NGOs</td>
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<td>• Donors, UN agencies, NGOs</td>
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#### STRENGTHEN INFORMATION GATHERING, GUIDANCE AND M&E

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<td>• UN agencies</td>
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**IMPROVE AVAILABILITY AND QUALITY OF PMTCT SERVICES**

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<tr>
<th>Action at international level by:</th>
<th>Action at national level by:</th>
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<tr>
<td>Accelerate integration of PMTCT into MCH services and provision of comprehensive family care that includes antenatal, delivery, postnatal, FP, child health and HIV care in settings with high HIV prevalence</td>
<td>Implementing agencies • NGOs</td>
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<tr>
<td>Strengthen human resource planning, and develop and implement innovative solutions to shortages of human resources for health</td>
<td>Donors • UN agencies</td>
</tr>
<tr>
<td>Increase efforts to improve procurement and supply management to ensure adequate supplies and equipment, in particular HIV test kits, contraceptives, cotrimoxazole and other essential drugs</td>
<td>Donors • UN agencies • Implementing agencies</td>
</tr>
<tr>
<td>Encourage and support countries to switch from sdNVP to more efficacious combination regimens for ARV prophylaxis as rapidly as possible</td>
<td>IATT and UN agencies, specifically UNICEF and WHO</td>
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<tr>
<td>Expand access to ART for eligible pregnant women living with HIV, by ensuring that MCH services have the capacity to provide HIV CT, assess CD4 count or HIV clinical stage and offer ART or referral to nearby facilities providing ART</td>
<td>Donors • UN agencies • Implementing agencies • NGOs</td>
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<tr>
<td>Promote clear policies and messages about infant feeding, including intensified efforts to train health providers to provide appropriate infant feeding counselling</td>
<td>IATT and UN agencies, specifically UNICEF and WHO • Implementing agencies • NGOs</td>
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<tr>
<td>Develop and implement strategies to increase provision of comprehensive, quality PMTCT by the private sector and NGOs, including ensuring that these providers receive guidance and training</td>
<td>UN agencies</td>
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**IMPROVE UPTAKE OF PMTCT SERVICES**

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<tr>
<th>Action at international level by:</th>
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<tr>
<td>Encourage countries that have yet to do so to implement provider-initiated testing and couple counselling</td>
<td>UN agencies • Implementing agencies • NGOs</td>
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<tr>
<td>Develop and implement strategies to increase uptake of ANC and delivery care and to provide PMTCT services for women who do not attend ANC or deliver at home</td>
<td>UN agencies • Implementing agencies • NGOs</td>
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<tr>
<td>Develop and implement strategies to increase involvement of male partners and communities</td>
<td>UN agencies • Implementing agencies • NGOs</td>
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<tr>
<td>Use innovative approaches to increase access to PMTCT within MCH services for marginalised populations in settings with concentrated epidemics</td>
<td>Implementing agencies • NGOs</td>
</tr>
<tr>
<td>Tackle gender inequalities that prevent women from accessing PMTCT and other services. Establish and enforce policy and legal frameworks that protect the rights of women living with HIV</td>
<td>UN agencies • NGOs</td>
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Introduction and methodology

This report provides an overview of PMTCT and is an attempt to explore what is working, and why, in scaling up access. The report captures innovative examples of successful programming and partnerships, while identifying challenges and bottlenecks that must be overcome if these countries are to meet their nationally-set universal access targets by 2010.

The research methodology used for this report was based on a desk review, interviews with key global informants (see Acknowledgements) and country case studies in Malawi, Nigeria and Zambia in early 2008. The in-country study included semi-structured interviews with representatives of government and non-governmental organisations as well as focus group discussions with community representatives, participatory and observational methodologies.

The main objectives of the research were to:

- identify and conduct interviews with the key international and national stakeholders and explore the structure, components, implementation, co-ordination, financing, policies, and guidelines and monitoring system of the PMTCT programmes
- determine what was working well and why
- identify specific bottlenecks, challenges and recommendations for progress.

This report provides an overview of the perceptions of key experts and communities on PMTCT interventions and approaches, current global action and country progress.
2 Background

2.1 Prevention of mother-to-child transmission of HIV

In 2007, 30.8 million adults and 2.5 million children were living with HIV. MTCT, which can occur during pregnancy, delivery or breastfeeding, is responsible for over 90 per cent of paediatric infections. The risk of paediatric infection is higher in countries with high HIV prevalence in women. Sub-Saharan Africa, where women represent 61 per cent of adults living with HIV, accounted for 90 per cent of the 420,000 children newly infected with HIV in 2007. Despite the reported decline in HIV prevalence among young pregnant women attending antenatal clinics in 11 sub-Saharan African countries, prevalence remains high in some countries (UNAIDS, 2007).

In the past, PMTCT programmes viewed the ‘mother’ in PMTCT as the conduit for producing a healthy baby and provided ARV therapy to pregnant and lactating women in order to prevent the transmission of the virus from the mother to the baby. It is now recognised that the most effective way to prevent MTCT is to deliver more effective programmes to the women – not only to prevent transmission to their infants but also to preserve their own health and the health of their family.

Research has shown that women often refuse HIV testing or abandon medical care because they fear revealing their HIV status to husbands. Testing of both parents increases the knowledge and understanding of the man and allows him to take increased responsibility for his own health and for that of his wife or other sexual partner and family. The narrow usage of ‘mother-to-child’ transmission may undermine women’s rights by focusing the responsibility for children solely on women. The term ‘mother-to-child’ also risks labelling women as the main bearers of the disease to their offspring. Some organisations and service providers have thus chosen to use the term ‘parent-to-child’ transmission interventions (PPTCT) which acknowledges responsibilities of both parents. For the purpose of this report, PMTCT will be used.

ARV prophylaxis

Provision of the drug sdNVP to pregnant women living with HIV during the later stage of pregnancy and delivery, and to infants after delivery, cuts the risk of MTCT by more than 40 per cent. However, while relatively cheap and easy to administer, sdNVP is less effective in reducing transmission than a combination regimen. Use of sdNVP can also increase the risk of drug resistance, making subsequent ART for women with regimens that include nevirapine (NVP) or related drugs less effective.

Consequently, revised WHO guidelines on ARV prophylaxis (see Table below) recommend use of a combination of three ARV drugs (zidovudine (AZT), lamivudine (3TC) and sdNVP), which is more effective and reduces the risk of resistance, and use of sdNVP only when no alternative PMTCT regimen is available.
### WHO guidelines on ARV prophylaxis

**Source:** WHO, 2006

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<th>Pregnancy</th>
<th>Labour</th>
<th>Post-partum</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Recommended regimen</td>
<td>AZT (after 28 weeks)</td>
<td>sdNVP + AZT/3TC</td>
<td>Mother: AZT/3TC 7 days&lt;br&gt;Infant: sdNVP+AZT 7 days</td>
</tr>
<tr>
<td>Alternative regimen</td>
<td>AZT (after 28 weeks)</td>
<td>sdNVP</td>
<td>Infant: sdNVP+AZT 7 days</td>
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</table>

### Infant feeding

Until recently, WHO guidelines recommended avoidance of all breastfeeding by mothers living with HIV when replacement feeding is acceptable, feasible, affordable, sustainable and safe, or exclusive breastfeeding for the first few months of life when replacement feeding is not acceptable, feasible, affordable, sustainable and safe. To minimise the risk of HIV transmission through breastfeeding, the guidelines also recommended that breastfeeding be discontinued as soon as feasible, taking into account the woman’s situation and the risks of replacement feeding.

However, early cessation of breastfeeding can increase other health risks to infants that outweigh the benefit of reduced HIV transmission. A study in Zambia found that stopping breastfeeding at four months reduced HIV transmission but there was a substantial mortality risk associated with early cessation of breastfeeding for infants living with HIV. Studies in Malawi, Kenya and Uganda also found that early weaning had negative consequences for infant health, including increased risk of diarrhoea. There is also evidence that exclusive breastfeeding for up to six months is less risky than non-exclusive breastfeeding. Studies in Cote D’Ivoire, South Africa and Zimbabwe found that exclusive breastfeeding for up to six months was associated with a three- to four-fold decreased risk of HIV transmission compared to non-exclusive breastfeeding.

In view of these findings, WHO recently updated its guidelines on infant feeding for mothers living with HIV and now recommends exclusive breastfeeding for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe. After six months, WHO recommends replacement feeding, but when this is still not available and safe, recommends continuing breastfeeding with the addition of complementary foods. There is also evidence from Botswana, Mozambique and Uganda, suggesting that when eligible women take ART during lactation, viral load in breast-milk is reduced. Studies are underway to explore the safety and efficacy of this approach to reducing risk of HIV transmission through breastfeeding.

### 2.2 Comprehensive PMTCT approach

Early PMTCT programmes in resource-poor settings largely concentrated on providing specific interventions to prevent perinatal transmission, often delivered through separate PMTCT sites. Recognition that prevention of HIV transmission to the infant alone does not ensure child survival led to the development of the PMTCT Plus Initiative in 2002 by the Columbia University Mailman School of Public Health. PMTCT Plus expanded existing PMTCT programmes to include treatment, care and support services for women living with HIV and their families. Recognition of the limitations of vertical PMTCT services has also led to a growing emphasis on integration of PMTCT within MCH services.

In 2002, in response to the realisation that effective PMTCT requires a broader package of services that go beyond prevention of perinatal transmission and PMTCT Plus, the UN agencies adopted a comprehensive approach to prevention of HIV infection in infants and young children, which involves four elements.
This approach was reinforced by the Glion Call to Action in 2004, which concluded that focusing on preventing perinatal transmission alone would only reduce paediatric HIV infection by 2–12 per cent, and that preventing HIV infection in women and unintended pregnancy in women living with HIV could reduce HIV infection in infants by 35–45 per cent.

Primary prevention in women is the most efficient way to reduce HIV infection in infants. Preventing HIV infection in women during pregnancy and lactation is especially critical for PMTCT, since viral load is high when an individual is newly infected with HIV and high viral load increases the risk of MTCT.

Preventing unintended pregnancies in women living with HIV is also critical to reducing HIV infection in infants. Current use of FP prevents over one million births of babies with HIV a year, according to a recent issue of *Population Reports*. In sub-Saharan Africa, FP prevents an estimated 190,000 births of babies with HIV each year. An additional 120,000 could be prevented annually if all unintended pregnancies among women living with HIV were prevented. Preventing unintended pregnancies in women with HIV is also cost-effective. Models show that for the same expenditure, increasing contraceptive use averts more births of babies with HIV than ARV prophylaxis.

Provision of ART to eligible pregnant women living with HIV – those with advanced HIV disease and high viral load – contributes to improved maternal health and child survival. If a mother dies, her surviving children are three to ten times more likely to die within two years than children living with both parents. This provision also reduces the risk of MTCT by reducing viral load. The longer term effects of exposure to ART *in utero* are unknown, so ART during pregnancy is not yet routinely recommended.

Most national programmes have, however, focused on preventing HIV transmission from mothers living with HIV to their infants, and few have addressed the other three elements of the comprehensive approach.
3 Current status of PMTCT

3.1 Global action

International commitments, targets and calls to action

Millennium Development Goals In September 2000, UN Member States made a commitment to achieve eight MDGs and 18 related targets by 2015. More recently, universal access to reproductive health (RH) has been included as a target under MDG 5. In countries with generalised HIV epidemics, effective PMTCT is critical to achieving three of these goals: reduce child mortality (MDG 4); improve maternal health (MDG 5); and combat HIV/AIDS, malaria and other diseases (MDG 6).

United Nations General Assembly Special Sessions on HIV/AIDS In the 2001 UNGASS Declaration, UN Member States made a commitment to reduce the proportion of infants infected with HIV by 20 per cent by 2005 and by 50 per cent by 2010. This was to be achieved by ensuring that 80 per cent of pregnant women accessing ANC have access to information, counselling and other HIV prevention services, increasing the availability of services to reduce MTCT of HIV and of effective interventions for women living with HIV, including voluntary and confidential CT, treatment, especially ART, and breast-milk substitutes where appropriate, and of a continuum of care.

Glion Call to Action on Family Planning and HIV/AIDS in Women and Children In 2004, a WHO and United Nations Family Planning Agency (UNFPA) consultation reviewed the contribution that FP could make to prevention of HIV in women and children. The Glion Call to Action highlights the need for greater emphasis on preventing infection among women and avoiding unintended pregnancies in women living with HIV, in order to halve the proportion of infants infected by HIV by 2010. It calls for, among other actions, advocacy to increase awareness and commitment to the four elements of comprehensive PMTCT, policies to strengthen links between FP and PMTCT, support to ensure universal access to RH services and M&E systems that measure reduction of HIV in women and infants.

Universal Access In 2005, the G8 nations at the Gleneagles Summit and the UN General Assembly World Summit called for the development and implementation of a package for HIV prevention, treatment and care, with the aim of coming as close as possible to universal access to treatment for all who need it by 2010. Member States made a commitment at the UN High Level Meeting on AIDS in June 2006 to set national targets for prevention, treatment and care for 2010. This commitment implies that national governments, with support from development partners, must also strengthen efforts to achieve universal access to PMTCT services.

Call to Action for the Elimination of HIV infection in Infants and Children In December 2005, the Inter-Agency Task Team (IATT) on PMTCT and paediatric HIV convened a High Level Partners Forum in Abuja, Nigeria, to review progress towards achievement of the UNGASS PMTCT targets, and build consensus on priority actions to accelerate scale-up and achieve universal access by 2010. The Forum Call to Action called upon multilateral agencies and development partners to provide adequate financial and technical support for national PMTCT strategies, highlighted the need for national programmes based on the comprehensive PMTCT approach, and urged governments to demonstrate commitment and leadership by:

- adopting population-based targets for eliminating paediatric HIV infection
- strengthening national M&E systems for tracking progress
- developing strategies to improve service quality and uptake
- allocating and mobilising resources to strengthen health systems to deliver PMTCT services including ensuring reliable supplies of essential commodities and addressing human resources for health
- integrating PMTCT interventions into MCH services and strengthening links to RH and HIV services
■ developing strategies to reach women who do not access ANC or deliver in facilities
■ engaging communities and people living with HIV and AIDS
■ undertaking research to improve PMTCT programmes.

Unite for Children, Unite Against AIDS  Also in 2005, United Nations Children’s Fund (UNICEF) and Joint UN Programme on HIV/AIDS (UNAIDS) launched the Unite for Children, Unite against AIDS campaign to address the specific impact of HIV on children and scale-up programmes for children, including PMTCT. The campaign focuses on PMTCT, providing paediatric treatment, preventing HIV infection in young people, and protecting and supporting children affected by HIV.

Inter-Agency Task Team global leadership and support for scale-up

The IATT has made a major effort to expand and improve PMTCT services, including a focus on:
■ increasing government commitment to scale up PMTCT coverage
■ development of national targeted scale-up plans
■ realignment of PMTCT regimens with current WHO guidance
■ paediatric diagnosis, treatment and care.

IATT objectives include:
■ development of time-bound global and national goals and targets for prevention of HIV in infants and young children as well as tools for M&E
■ development and dissemination of advocacy and information materials to support policy development, fundraising and scaling-up strategies
■ assistance to develop strategic approaches that take into account diverse epidemiological, institutional and economic settings
■ taking stock of the assistance provided by UN agencies to regional and country responses for preventing HIV infection in infants, identifying gaps and opportunities for improved assistance and closer inter-agency collaboration.

IATT focus areas include: advocacy and mobilisation of international and national partners; development of strategic approaches; support for translating norms and standards into programming; and M&E, including harmonisation of indicators and production of an annual report card on country progress.

Advocacy and commitment

■ The Kampala meeting followed a resolution by health ministers of the East, Central and Southern African Health Community Secretariat on strengthening PMTCT programmes in the region, and identified key programme areas and technical support needs for accelerating scale-up.
■ The Nairobi meeting aimed to build the capacity of regional experts to support countries to adapt and implement a standard PMTCT training package. The second GPF aimed to reinforce commitment to PMTCT scale-up and ensure translation of commitment into accelerated action at country level.
■ The 2007 GPF issued the Johannesburg Consensus Statement, which emphasised political commitment, financing for country plans, regular progress reviews and reporting, strengthening M&E and positioning PMTCT within integrated maternal and neonatal care and family prevention and care.

The IATT advocates for the four elements of comprehensive PMTCT to be delivered within MCH services. For example, primary prevention requires strengthening health service provision of information, counselling and condoms. Prevention of unintended pregnancy requires integration of FP services within ANC. Treatment, care and support requires MCH services to identify pregnant women living with HIV, enrol eligible women for ART, provide women not eligible for treatment with ARV prophylaxis, diagnose and treat other infections such as TB and malaria, and offer infant feeding counselling and support.
Global guidance

Steps have been taken to develop strategic guidance for scale-up of comprehensive PMTCT. In January 2006, the IATT organised a global consultation to develop recommendations for scale-up, which included:

- strengthening government leadership and ownership, as evidenced by established management and co-ordination structures, targets and costed scale-up plans
- integrating paediatric prevention, treatment and care into existing services
- ensuring reliable supply management systems
- enhancing identification of infants exposed to and infected with HIV through improved follow-up and increased accessibility of early infant testing
- increasing provider-initiated testing at sites where many infants are likely to be infected with HIV.

In March 2006, the IATT launched a process to develop a global strategy, with a focus on country activities, for PMTCT scale-up. The outcome, a global guidance document, was launched at and endorsed by the 2007 GPF. The global guidance document provides recommendations on accelerating scale-up of comprehensive PMTCT and defines the minimum standard of care for PMTCT. The main strategies it recommends are:

- demonstrated government leadership, commitment and accountability to deliver on universal access to PMTCT and paediatric HIV care
- district-driven integrated delivery of a standard package of comprehensive services
- institutionalising provider-initiated HIV testing and long-term HIV care in MCH settings
- strengthening infant feeding and nutrition advice, counselling and support
- increased access to ART
- implementing links between PMTCT and sexual and reproductive health services; and empowering and linking with communities.

The IATT, WHO and other agencies have also developed a range of policy and technical guidance on PMTCT and paediatric HIV. Guidelines and tools are, or will shortly be, available on planning and service delivery, ARV prophylaxis and ART for pregnant women living with HIV, provider-initiated testing, paediatric HIV and infant feeding.

Country support

The IATT is organising regional and sub-regional workshops to build capacity for developing and implementing comprehensive PMTCT and paediatric HIV care scale-up plans. These workshops orient national programme managers on policies, guidelines and tools, provide support for revision of national guidelines and development of national scale-up plans including resource mobilisation, identify technical support needs and develop country-specific technical assistance plans.

The IATT has also conducted a series of joint technical missions, focusing on high prevalence countries, to assist national governments to accelerate scale-up of PMTCT and paediatric care. To date, missions have been conducted in 13 countries. Joint missions, which aim to build government ownership, concentrate on the following thematic areas:

- Programme management (eg establishing a mechanism for co-ordination of all partners and PMTCT and paediatric HIV focal points, developing a decentralised implementation strategy, improving procurement and supplies management, M&E).
- Comprehensive PMTCT (eg increasing uptake of CT in ANC, prioritising CD4 testing for pregnant women, introducing more efficacious ARV prophylaxis regimens, developing linkages between services, enhancing primary prevention).
- Paediatric care and treatment (eg reinforcing family-centred care).

Joint missions are reported to have galvanised action by ministries of health to develop national plans to deliver comprehensive PMTCT as well as assisting countries to ensure that national plans and policies are consistent with current international guidelines and to plan for implementation. Joint missions are also reported to have promoted co-ordinated programmes and technical recommendations and provision of resources, technical assistance and follow-up support by IATT partners.
Funding and donor support

Within the total funding required to achieve universal access, the cost of PMTCT activities is estimated at US$496 million in 2009 and US$654 million in 2010, based on coverage of 61 per cent and 80 per cent of pregnant women in 2009 and 2010 (UNAIDS, 2007).

Significant resources have been made available for HIV in recent years, in particular through the US Government President’s Emergency Plan for AIDS Relief (PEPFAR), GFATM and World Bank. Estimated global financial expenditure of US$7.5–8.5 billion was achieved in 2005. However, the proportion of HIV funding available for or allocated to PMTCT is difficult to determine, since most donors, with the exception of PEPFAR, do not earmark funds for specific interventions.

In 2002, the US launched the US$500 million International Mother and Child HIV Prevention Initiative, which had specific targets for PMTCT. This Initiative operated for a short time before being incorporated into PEPFAR, a US$15 billion, five-year programme in 15 focus countries. PMTCT receives a relatively limited proportion of the overall PEPFAR budget. Twenty per cent of PEPFAR funds is allocated to prevention. PMTCT is one of several areas within the prevention earmark and in financial year (FY) 2006 only represented 23 per cent of PEPFAR prevention funding or approximately US$92 million. Despite this, the US has been a key donor for PMTCT programmes. In September 2006, PEPFAR reported that its support for PMTCT services in focus countries during FYs 2004–2006 had provided interventions for women during more than 6 million pregnancies and ARV prophylaxis for women during 533,700 pregnancies, averting HIV infection in an estimated 101,500 infants.

PEPFAR supports the PMTCT programmes through:

- training for health workers
- strengthening referral links to family-centred treatment and care programmes
- improving supply chain management of PMTCT commodities
- developing plans to scale up implementation of more effective combination prophylaxis regimens,
- providing technical assistance to help countries revise national PMTCT guidelines and strengthen PMTCT monitoring systems
- strengthening systems for follow up of infants exposed to HIV including piloting Polymerase chain reaction (PCR) testing using DBS, and implementing routine CT.

PEPFAR-funded programmes are encouraged to follow WHO guidelines and to support countries to disseminate national guidelines that reflect the revised WHO recommendations on combination prophylaxis.

PEPFAR also funds a range of US technical and implementing partners including Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) and Columbia University. EGPAF, which is also funded by private donors such as the Gates Foundation, launched its Call to Action on PMTCT programme in September 1999 to provide PMTCT services in countries with limited resources. PMTCT services are now part of EGPAF’s wider International Family AIDS Initiatives programme, which focuses on: increasing access to PMTCT services; increasing access to care and treatment for children and families including ART; linking PMTCT services to care and treatment to provide a continuum of care; researching and identifying better technologies and interventions in PMTCT.
and care and treatment; documenting replicable models in PMTCT and care and treatment; and training research and programme managers. As of March 2007, EGPAF was working in more than 1,750 sites in Cambodia, China, Cote D’Ivoire, Democratic Republic of Congo, Dominican Republic, India, Kenya, Lesotho, Malawi, Mozambique, Russia, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe, reaching 3.6 million women with PMTCT services. The Columbia University PMTCT Plus Initiative, funded by private foundations including Gates, Kaiser Family and Rockefeller as well as by PEPFAR, provides funding, supplies, training and technical support in seven African countries as well as in Thailand.

To date, relatively few countries have submitted proposals to the GFATM for scale-up of PMTCT and the GFATM has not been a significant donor for PMTCT. However, the GFATM recently announced that future grants will be supporting PMTCT scale-up. UNICEF and WHO are encouraging countries to submit proposals to scale up paediatric prevention and treatment programmes and encouraging the GFATM to give PMTCT higher priority, as well as to assess whether submissions are proposing a comprehensive approach to PMTCT.

UNITAID, an international drug purchase facility established in September 2006, aims to distribute essential diagnostics and medicines at low prices to the poorest countries. Following a proposal from the IATT, UNITAID has agreed to provide US$21 million to fund equipment and commodities for PMTCT and paediatric HIV care to support scale-up in eight countries – Burkina Faso, Cameroon, Cote D’Ivoire, India, Malawi, Rwanda, Tanzania and Zambia – over two years. UNITAID support will facilitate the shift from single dose NVP to more efficacious regimens and contribute to improved availability of cotrimoxazole prophylaxis and increased access to CD4 cell counts, HIV rapid testing and PCR testing for early diagnosis of HIV in infants.

It is difficult to assess the specific contribution of most multilaterals and bilaterals to PMTCT programming, since support is largely provided for overall national HIV and AIDS plans and PMTCT funding is not tracked separately by donors or countries. Funding for health is also increasingly linked to sector plans and channelled through pooled mechanisms such as sector-wide approaches (SWAps) or through budget support. However, there is a consensus that PMTCT is higher on the donor agenda, in response to poor progress towards the UNGASS target (see Section 3.2).

3.2 Country progress

Coverage with PMTCT services

Progress towards the UNGASS targets has been slow. Although the number of pregnant women offered PMTCT services more than doubled from 2001 to 2003, coverage in low-income and middle-income countries only reached 9 per cent by 2005 (UNAIDS, 2006).

<table>
<thead>
<tr>
<th>UNGASS targets 2005</th>
<th>Global results 2005</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Percentage of pregnant women living with HIV receiving ARV prophylaxis: 80 per cent coverage</td>
<td>9 per cent (country range 1–59 per cent coverage)</td>
<td>No country achieved this</td>
</tr>
<tr>
<td>Estimated percentage of infants born to mothers living with HIV who are infected in 2005: 20 per cent reduction</td>
<td>26 per cent of infants born to mothers living with HIV were infected; in 2001, 30 per cent were infected – there was an estimated 10 per cent reduction in transmission between 2001 and 2005</td>
<td>11 of the most affected countries achieved this</td>
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The executive summary of progress on scaling up 2004–2006, based on surveys submitted by 108 countries in 2006, shows that globally the proportion of pregnant women tested for HIV increased from 10 per cent in 2005 to 16 per cent in 2006. The proportion of health facilities providing ANC that also provide a minimum package of PMTCT services varies from region to region. In sub-Saharan Africa approximately 27 per cent of
health facilities providing ANC also provide a minimum package of PMTCT services, but service coverage is significantly higher in East and Southern Africa (38 per cent) than in West and Central Africa (12 per cent).

Despite this, the 2008 Unite for Children Unite Against AIDS Second Stocktaking Report shows that the proportion of pregnant women living with HIV who received ARVs for PMTCT increased from 11 per cent in 2005 to 20 per cent in 2006. East and Southern Africa made the most rapid progress, with an increase from 19 per cent to 31 per cent between 2005 and 2006, while progress was relatively slow in West and Central Africa, South Asia and East Asia and the Pacific. The proportion of women receiving ARV prophylaxis appears to have stagnated or declined in Latin America and Central and Eastern Europe.

Based on progress in 2006, 17 low- and middle-income countries (Argentina, Belarus, Belize, Bhutan, Botswana, Brazil, Cuba, Fiji, Georgia, Jamaica, Moldova, Namibia, Russian Federation, South Africa, Swaziland, Thailand and Ukraine) are on track to meet the 80 per cent coverage target for ARV prophylaxis by 2010, an increase from 11 countries in 2005.

There are significantly different coverage rates in the 12 countries that account for 75 per cent of all pregnant women living with HIV. Of these, only Kenya and South Africa were reaching at least 40 per cent of women in need in 2006.

There was progress in 2006 in provision of ARV prophylaxis for infants and paediatric ART:

- The proportion of infants born to mothers living with HIV given ARV prophylaxis increased from 10 per cent in 2005 to 15 per cent in 2006.
- The number of children receiving ART increased from 71,892 in 2005 to 127,087 in 2006, a quarter of the estimated 490,000 children in need of treatment.

However, only Brazil, Botswana, Namibia and Thailand provided ART to at least 50 per cent of children who needed it in 2006. Botswana, as a result of achieving the highest ARV prophylaxis coverage in Africa, reported that only 7 per cent of infants born to mothers living with HIV became infected with HIV in 2006 compared to 35–40 per cent before the PMTCT programme began.
PMTCT policy frameworks, plans and targets

Over 100 countries have developed national policies and strategies to guide implementation of PMTCT programmes. Of these, 52 have a national scale-up plan with population-based targets, an increase from 32 countries in 2005. As of March 2007, 92 of 123 low- and middle-income countries had set universal access targets, although only 36 had incorporated these into their national strategic plan. The extent to which targets have been set for PMTCT coverage varies between regions. And, while 75 per cent of countries had developed national PMTCT guidelines, less than 30 per cent had revised these to reflect the latest WHO recommendations on ARV prophylaxis for PMTCT.

Within regions, targets and planned scale vary. For example, Botswana aims to increase coverage from 83 per cent in 2006 to 97 per cent by 2010, Swaziland from 67 per cent to 80 per cent and Lesotho from 5 per cent to 80 per cent in the same timeframe.

PMTCT scale-up plans and targets: regional differences

- In 2005, only 5 per cent of countries in West and Central Africa, 20 per cent in Latin America and the Caribbean, 28 per cent in East and Southern Africa, 50 per cent in Central and Eastern Europe, and 63 per cent in East Asia and the Pacific had national PMTCT scale-up plans.
- While 100 per cent of countries in East and Southern Africa have set PMTCT targets, only around 80 per cent in West and Central Africa and the Caribbean and 60 per cent in Latin America and the Asia and Pacific region have done so (UNAIDS, 2007a).

Other countries have also set ambitious targets. For example, Benin, Cameroon, Congo-Brazzaville, DRC and Gabon, all of which had coverage of less than 20 per cent in 2005, aim to increase this to 60–80 per cent by 2010. Mali and Senegal aim to increase coverage from around 35 per cent in 2005 to 70–80 per cent by 2010.

In Asia, while Thailand has already achieved universal coverage with PMTCT and Vietnam aims to achieve universal coverage by 2010, other countries in the region have yet to develop plans or targets for PMTCT coverage.

The slow but promising progress reported over the last few years is well documented across geographic regions, specifically with regard to coverage of ARV prophylaxis among pregnant women living with HIV. The Second Stock Taking Report produced by UNICEF clearly reflects the proportion of pregnant women who are living with HIV receiving ARV prophylaxis to reduce the risk of transmission increased from 10 per cent in 2004 to 23 per cent in 2006.

However, progress in scaling up the effective and comprehensive PMTCT programmes is still lagging behind in most middle- and low-income countries. This might be partly due to the fact that national programmes have focused more on prevention of HIV transmission during pregnancy, delivery and breastfeeding and paid little attention to primary prevention, prevention of unintended pregnancies among women living with HIV, and access to ART. It is therefore imperative for national governments to critically analyse universal levels of service coverage, the current contexts, the policies and programmes in place and to identify the key barriers, opportunities and immediate steps to accelerate scale up of comprehensive PMTCT programmes.
4 Lessons learned

4.1 Factors contributing to progress

Political leadership and commitment

Political commitment to PMTCT and government leadership and ownership are critical to success. A key factor in moving forward is the existence of a plan and budget for scale-up that includes population-based targets. Botswana, Brazil and Thailand are good examples of countries that have made considerable progress as a result of these factors being in place. In Botswana, reducing MTCT has been given high priority by the government and successful scale-up is attributed to political support.

Even countries with limited resources such as Zambia and Rwanda have demonstrated that scale-up can be achieved if there is sufficient political will. Zambia, which has made rapid progress, has a strategic framework that sets out a clear plan for achieving 100 per cent coverage with PMTCT services over a two-year period. Establishment of annual progress review mechanisms in Rwanda demonstrates political commitment to accountability. The Nigeria country case study highlighted the importance of greater political and financial commitment if the country is to meet its targets of 50 per cent reduction in MTCT and 80 per cent coverage by 2010. It also highlighted the need to establish time-bound population-based targets and state-level budgeted plans.

While most key informants do not consider lack of funding to be a significant obstacle to scale-up of comprehensive PMTCT, in sub-Saharan Africa, there has generally been more progress in countries with more resources, such as Botswana and South Africa, and in counties that have received external funding as well as technical support, such as PEPFAR focus countries such as Rwanda and Zambia.

Effective management and co-ordination mechanisms

An effective national management team that guides programme implementation and monitoring and an effective co-ordinating mechanism that brings together all key partners within and outside government are critical.

- **Zambia**, for example, has established a programme management structure in the RH unit of the Ministry of Health (MOH), a multi-sectoral working group involving all key stakeholders, to inform policy development, and a PMTCT technical sub-committee.

- **In Nigeria**, a PMTCT task team has been established which meets quarterly, comprising stakeholders including Department for International Development (DFID), UNICEF and the Clinton Foundation.

- **Malawi** has improved co-ordination and donor harmonisation through establishing a co-ordination mechanism under the leadership of the MOH, integrating PMTCT into Integrated management of childhood illness (IMCI) guidelines and establishing one reporting system, including development of an integrated register that incorporates ANC and PMTCT data.

The 2005 UNICEF PMTCT report card noted that, while two-thirds of countries surveyed had national programmes and co-ordinating bodies, most of these structures were weak and ineffective. In countries without effective co-ordination, partners and implementing organisations develop their own plans and make their own decisions about where they will work, resulting in fragmented support and implementation.
Decentralised approach

UNICEF also attributes encouraging trends in PMTCT coverage in countries such as Rwanda and Zambia to a decentralised approach, where regional, provincial or district health management teams are responsible for planning, implementation and monitoring of PMTCT services including training of service providers.

Zambia increased the number of sites providing PMTCT services from 80 to 254 in one year and aims to provide services at 600 sites to achieve 100 per cent coverage. To support scale-up, provincial health directors have been oriented and a programme management structure with clearly defined functions co-ordination, integration of activities into provincial plans, training district trainers and health workers, logistics management, and M&E has been established at provincial level. Other countries, such as Cameroon, which has increased the number of sites providing PMTCT services from 64 to 420 in three years, have taken a similar decentralised approach (Ngashi et al).

Health system strengthening and integration of PMTCT services

Higher coverage has also been achieved by countries that have taken steps to strengthen health systems and maternal, neonatal and child health services, and to integrate PMTCT interventions into existing services. Full integration of PMTCT into services and high coverage with ANC and delivery supervised by a skilled attendant are essential for successful scale-up of PMTCT.

- In Botswana, PMTCT services are provided by all public sector MCH and FP clinics, which serve almost 100 per cent of pregnant women. Around 95 per cent of women attending ANC are tested for HIV, 80 per cent of women who test positive receive ARV prophylaxis and infants receive AZT for four weeks and replacement formula for 12 months. Test results for the period November 2006 to February 2007 indicated that fewer than 4 per cent of infants born to mothers who tested positive were infected.

- In Kenya, PMTCT is a key component of safe motherhood and is integrated with ANC and other MCH services. Pathfinder International is supporting nearly 200 clinics in Kenya to improve basic ANC services alongside introducing PMTCT and, as a result, the number of new ANC clients has increased, as has acceptance of HIV CT and uptake of ARV prophylaxis.

- In Zimbabwe, 96 per cent of ANC facilities offer PMTCT.

- In Malawi, the MOH is pursuing a one-stop shop approach, whereby women can access a range of MCH services, including PMTCT, at the same site.

- In Zambia, a key lesson learned from the pilot programme was the importance of integrating PMTCT services into MCH services. CT is offered on labour wards to ensure that women who have missed ANC or have become infected since a previous HIV test are identified and have access to ARV prophylaxis. Very few women refuse to be tested or to accept prophylaxis for themselves and their infants. In addition, in Zambia, 85 per cent of hospitalised children are tested for HIV.
Measures that have contributed to PMTCT integration within MCH services include effective government and donor co-ordination around financing, planning and delivery of integrated services.

- The PMTCT working group in Zambia, for example, requires PMTCT donors to support all elements of ANC. As noted above, the Zambian focal point for PMTCT is located in the RH unit of the MOH, which is leading the integration of PMTCT into routine MCH services.
- In Kenya, the PMTCT task force has promoted the development of joint HIV and RH programme guidelines, protocols, training and supervision schedules.
- In Uganda, a range of stakeholders developed joint policies and guidelines to support delivery of CT, PMTCT and ART services and of integrated care. Institutional arrangements that promote integration of PMTCT within MCH services also play an important role.

Effective integration of services also depends on efforts to address shortages of human resources, provide the necessary equipment and ensure reliable supplies of commodities such as HIV test kits.

- Malawi has mapped services and trained health workers to identify service and training gaps, established an accreditation committee to ensure that health providers already working in ANC and PMTCT services are given priority for training, and developed materials to support trainers of trainers. A shorter PMTCT training module has been developed and piloted. Malawi has also taken steps to ensure that every district has a CD4 machine. However, this is usually at the district hospital and lack of transport between facilities providing PMTCT services and the district hospital is a challenge.

Adoption of new approaches to HIV testing and new technologies

The introduction of provider-initiated HIV testing in MCH services has been credited with increasing uptake of PMTCT services. The number of countries that are implementing provider-initiated testing in some or all PMTCT sites increased from 55 in 2005 to 82 in 2006. For example:

- Botswana introduced provider-initiated HIV testing in 2004 and within three months the proportion of women tested for HIV increased from 75 per cent to 90 per cent.
- Zambia doubled the number of pregnant women tested in a year by introducing provider-initiated testing.
- A rural hospital in Uganda increased the proportion of pregnant women who knew their HIV status at discharge from 39 per cent to 88 per cent following the introduction of provider-initiated testing.
- Malawi also operates an 'opt out' system in ANC and provides HIV CT in sexually transmitted infection (STI) clinics and has promoted increased uptake of services through scale-up of CT and initiatives such as national testing week.

Other countries, such as Cameroon and Kenya, have also started to adopt provider-initiated testing for all pregnant women. Lesotho, where 90 per cent of pregnant women make at least one ANC visit but only five per cent of pregnant women living with HIV receive PMTCT services, the health sector plans to introduce provider-initiated testing for HIV using rapid tests for all pregnant women in ANC clinics (UNICEF, 2007a).

Couple counselling has also helped to increase uptake of CT services and, hence, of PMTCT interventions. Other approaches have been used to promote HIV CT, including community outreach.

- Efforts in Malawi to encourage couple counselling are reported to have increased uptake of CT and PMTCT and the proportion of women who return for results of their HIV test and CD4 cell counts. It has reduced stigma and improved dialogue between men and women, so women are less afraid of disclosing their status.
- Integrated Community Based Initiatives, an NGO in Uganda funded by PEPFAR, has made door-to-door voluntary counselling and testing (VCT) services available in Bushenyi district, bringing counsellors to the homes of families who want to learn about HIV and their status. This approach has helped to promote couple counselling and has reached over 200,000 people in the district, of whom 10,000 have learned they are living with HIV.

Informants also cited the adoption of new technologies, such as rapid tests for HIV and DBS technology for early infant diagnosis, as factors that have contributed to scale-up of PMTCT.
Increased access to HIV services

Success in scale-up of PMTCT services is also related to efforts to expand access to HIV treatment and care, in particular increased availability of ART. Increased availability of ART appears to play an important role in reducing HIV-related stigma and encouraging women to seek CT. For example, in Malawi, the fact that HIV testing and ARVs are more widely available and are free of charge is reported to be a major reason for increased uptake of HIV services including PMTCT. Availability of treatment has also been a factor in Nigeria, as the following quote illustrates.

‘...there is increasing awareness of HIV and less stigma than there used to be …churches, TV and radio all talk about HIV openly and many people come into contact with people living positively with HIV. Health workers have better attitudes now that they have access to training and they can offer the hope of treatment and refer them to support groups.’
A PERSON LIVING WITH HIV, JOS, NIGERIA

Provision of ART to pregnant women who are eligible for treatment is reported to be encouraging uptake of PMTCT. This requires effective links between PMTCT and ART services.

- In Malawi, a pregnant woman who tests HIV positive, based on positive results from two rapid tests, is referred to the ART team. All women are supposed to be offered a CD4 cell count but this is not happening everywhere as yet. If a woman’s CD4 count is less than 250, or in the absence of a CD4 count she is defined as WHO clinical stage III or IV, she is started on ART.

- In Zambia, a similar approach is used. Pregnant women who test HIV positive are enrolled on the ART register so that they can be followed up regardless of their CD4 count result. If the CD4 count is below 350 they are started on ART.

Efforts to improve community awareness and tackle stigma and discrimination, the involvement of people living with HIV and AIDS and support groups are also reported to have played an important role in encouraging uptake in Malawi and Zambia.

Community and PLHA involvement

While there are differing views about the extent to which there is a need to create ‘demand’ for PMTCT services, there is consensus that community groups, and PLHA, play an important role in raising awareness, promoting HIV CT, reducing stigma associated with HIV and linking communities and health facilities.

‘I am able to have a life now – I am fit and strong and I can plough my own field – I spoke to at least four couples and encouraged them all to get tested to know their status and they did – it makes me feel good to help others.’
ZAMBIAN MOTHER LIVING POSITIVELY WITH HIV

- Achievement of PMTCT coverage of around 85 per cent in Cameroon is attributed in part to a clear policy of linking communities and health facilities.

- In Zambia, the International HIV/AIDS Alliance is implementing the Antiretroviral Community Education and Referral project, using community members to promote awareness, encourage people to go for testing, and make referrals.

- In Nigeria, Planned Parenthood Federation of America works with church leaders, traditional birth attendants (TBA) and other community members to increase uptake of HIV CT, FP and paediatric HIV testing and treatment.

- Mothers2Mothers, an innovative project that works with 73 facilities in Botswana, Ethiopia and South Africa, trains and employs mothers living with HIV as peer educators or ‘mentor mothers’. An evaluation of the project in KwaZulu Natal, South Africa (Baek et al, 2007) found that women reached by the project were more likely to use PMTCT services and to adhere to ARV prophylaxis and exclusive breastfeeding and had higher rates of disclosure of HIV status. The project also kept women linked to health facilities, which is especially important for follow-up treatment, care and support.
In Zimbabwe, a project providing psychosocial support for pregnant women in the PMTCT programme in Chitungwiza, implemented by Zimbabwe Aids Prevention Services Organisation found that community-based support was most effective and also highlighted the importance of partner involvement, male counselling and couple peer support groups.

Lessons learned from evaluation of pilot programmes

A UNICEF evaluation of pilot programmes in Botswana, Burundi, Cote d’Ivoire, Honduras, India, Kenya, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe (Rutenberg et al, 2003) concluded that PMTCT programmes are feasible in resource-limited settings and that MCH services can effectively integrate PMTCT interventions. However, there were variations in the proportion of women attending ANC who were offered HIV CT. In some settings relatively few women collected their test results, and this was attributed to uncertainty about the benefits of testing, poor quality counselling and partner opposition. The proportion of women testing positive receiving a full course of ARV prophylaxis ranged from 40–60 per cent. With the exception of Botswana, follow-up care and support for women living with HIV and their infants was limited. Most countries had also made limited progress on the other two elements of comprehensive PMTCT, primary prevention and prevention of unintended pregnancy in women living with HIV. Factors contributing to success included political support, functioning structures for management and co-ordination, motivated and trained health workers, reduced stigma and discrimination, and community support. Challenges related to staff shortages, communication and awareness raising activities in communities, involvement of male partners, inadequate staff knowledge and skills to provide effective counselling and support for infant feeding choices, and integration of PMTCT into Health and Management Information Systems (HMIS).

4.2 Challenges to scale-up

Challenges to PMTCT scale-up identified by the Commission on HIV/AIDS and Governance in Africa include: broadening PMTCT programmes to include primary prevention, treatment, care and support for mothers and families, and prevention of unintended pregnancy in HIV-positive women; lack of health system capacity for scaling up, including human resources for health; low service uptake and a decline in the proportion of women using services at every stage after initial contact (CT, collecting test results, receiving treatment, follow-up care and support) due to denial, opposition from male partners, fear of disclosure of HIV status, and delivery at home.

Translating policy into practice and operational guidelines

There is a consensus that there are no significant gaps in current policy and technical guidance on PMTCT. However, policy and technical guidance is not easily accessible. The IATT does not have a dedicated website or a ‘one-stop shop’ where organisations can access information and guidance on PMTCT and paediatric HIV care.

The extent to which global policy and technical guidance is adopted at country level or is translated into practice is also a concern. The IATT reports that many countries have revised national policy, but few have made the switch from sdNVP to combination regimens. Nigeria, for example, has a number of effective policies but more concerted action is required to translate these policies and plans into practice.

There are related concerns about the extent to which guidance is disseminated. Anecdotal feedback suggests that guidance does not always reach district and facility level and that health workers lack up-to-date knowledge. During recent country visits, one informant found that providers were unaware of current policies and guidelines and were uncertain what advice to give to pregnant women living with HIV.

Operational guidance to support implementation of comprehensive PMTCT is lacking. There is a perception that national programmes are unclear about the scope of the four elements of the comprehensive approach and have found interpretation and implementation of the approach challenging. In practice, therefore,
many programmes continue to focus on interventions to prevent perinatal transmission and have made limited progress with implementing primary prevention, prevention of unintended pregnancy and follow-up treatment, care and support interventions.

**Weak health systems**

Weak health systems, especially shortages of human resources, and poor procurement and supply management were among the main challenges to scale-up of PMTCT identified by the 2005 report card. While Africa accounts for 11 per cent of the world’s population, it has only 3 per cent of the world’s health workers (WHO, 2006), and staff shortages are exacerbated by HIV and migration of skilled professionals. Lack of doctors is especially critical in countries where other cadres of health workers are not permitted to prescribe ARVs.

- In Zambia, constraints to PMTCT scale-up include shortages of staff, in particular staff to provide quality CT, the need for regular in-service training at district level because of rapid staff turnover, inadequate infrastructure in rural areas, and capturing data from all sites and mainstreaming data collection into the HMIS.

- In Malawi, there is an acute shortage of health workers with 44–68 per cent of posts in the health sector unfilled. In 2004, the Malawian government launched an emergency human resources relief programme, which aims to expand health workers’ capacity and train and retain more health workers through improved salaries and incentive systems, and which is funded by donors including DFID and the GFATM.

- In Nigeria, 74 per cent of doctors work in private hospitals and most doctors, nurses and midwives work in urban areas. This is a serious constraint to PMTCT scale-up.

Provision of PMTCT services is also constrained in many settings by lack of availability of drugs and supplies. In Rwanda, less than a third of sites for PMTCT can provide ARV prophylaxis because of a shortage of CD4 machines and other laboratory equipment as well as of trained staff (UNICEF et al, 2007). PMTCT and follow-up services are also adversely affected by weak logistics in Malawi, where informants reported lack of HIV test kits, NVP tablets and syrup and septrin.

Challenges identified by an assessment of procurement and availability of drugs and commodities for the PMTCT programme in Ethiopia included: shortages of professional staff; limited management capacity at district and facility levels; inadequate inventory control and M&E systems, resulting in expiry or running out of stock; weak quantification for procurement; and inadequate storage and handling capacity in pharmacies and laboratories.

**Vertical programmes and service delivery**

Other challenges identified by the 2005 report card included inadequate integration of PMTCT interventions into MCH services, weak linkages with HIV treatment and care, and poor service quality.

Vertical programming and service delivery is an obstacle to scaling up comprehensive PMTCT. Integration of PMTCT within MCH services and with HIV treatment and care requires co-ordinated planning, funding, management and service delivery. However, international and national policy and funding often contribute to separation of MCH and HIV programmes rather than providing incentives to bring them together. In many countries MCH and HIV programmes are funded and managed separately. Responsibility for scaling up PMTCT often resides with MCH or RH divisions that are not linked to HIV structures.

- In Zambia, initial challenges to PMTCT scale-up included: establishing an integrated, decentralised structure for programme implementation, as the earlier pilot programme was vertical with no links to MCH or HIV treatment and care services, and poor co-ordination of many implementing partners, resulting in duplication of efforts and resources.

- In Ukraine, PMTCT and HIV treatment are organised as vertical programmes with separate funding, training and drug procurement.
In **South Africa**, despite commitment to delivery of a comprehensive package of primary care services, which includes MCH, FP and HIV, integration at service delivery level was hampered by separate funding channels and lack of dialogue between departments responsible for HIV and MCH/FP.

Providing comprehensive PMTCT as an integral part of routine services could reduce the number of women living with HIV who fall through the system. However, in practice women may have to visit several facilities to receive a comprehensive range of services or to come on different days for different clinics. Many lack the time or money to do this, a factor in high drop-out rates following HIV CT. In Malawi, for example, links between MCH, including ANC, and ART services are weak. While MCH facilities offer HIV CT, they refer women for ARV prophylaxis and ART, resulting in high drop-out rates.

**Low uptake of services**

A major challenge to scale-up of PMTCT is low uptake of ANC services and low rates of supervised delivery. In many countries, a high proportion of women make at least one ANC visit but the proportion declines for each subsequent visit. In sub-Saharan Africa, fewer than half of deliveries take place with a skilled attendant. In the least developed countries only 36 per cent of births are attended by a skilled health professional (United Nations Development Programme (UNDP), 2006).

- **In Uganda**, for example, 92 per cent of pregnant women make at least one visit to an ANC facility but only 40 per cent make four or more visits. In other countries, the proportion of women using ANC is much lower.
- **In Ethiopia**, for example, less than 30 per cent of women visit an ANC clinic.
- **In Zambia**, over 92 per cent of women attend ANC at least once but 60 per cent deliver at home and postnatal care services are limited.

Increasing uptake of ANC and supervised delivery is a particular challenge in countries where these services are not free. In Nigeria, ANC and delivery care is supposed to be free, but policies are not being implemented, and most women cannot afford the cost of delivering at a health centre or hospital. Transport was cited as a key challenge in Malawi, Nigeria and Zambia, in terms of transport costs to seek health care, seasonal transport failure in hard-to-reach areas, and weak public health transport systems.

Provision of PMTCT services in countries where the epidemic is concentrated in populations that engage in high-risk behaviours, such as sex work or injecting drug use, is a particular challenge. Effective strategies are required to reach these often marginalised populations with PMTCT and other HIV services.

There are concerns that provider-initiated testing in MCH services may have an adverse impact on uptake of services in settings where HIV remains highly stigmatised. Anecdotal reports suggest that the introduction of provider-initiated testing is deterring some women from seeking ANC services and that women who feel pressured to take a test are less likely to return to find out their test results. ICW has highlighted concerns about the extent to which women have a choice of opting out in MCH services that have adopted provider-initiated testing. Other issues that need to be addressed if uptake is to be increased, including in the context of routine testing, are concerns about confidentiality, negative attitudes of health workers, and male involvement.

**Unmet need for family planning**

Preventing unintended pregnancy among women living with HIV is one of the four elements of comprehensive PMTCT, but FP has received limited attention. Unmet need for FP is high among women living with HIV, reflecting wider unmet need. In sub-Saharan Africa, between 13 per cent and 41 per cent of currently married women have an unmet need for FP.

FP services are not routinely offered as part of VCT, PMTCT or HIV treatment and care services.
In **Kenya**, there were concerns that adding FP to VCT services would increase the time required for client sessions and the workload for providers.

In **Uganda**, integration of FP into VCT and PMTCT sites was hampered by the limited range of contraceptives available in these settings. Even where services are available in the same facility, they are not always incorporated into routine care.

Analysis in eight countries in Africa, Latin America and Asia found that availability of FP services at the same sites as PMTCT did not mean that an integrated service was provided and that FP was given low priority (Population Council, 2004). Many MCH and FP services are still oriented towards the child-spacing needs of married women and promote the use of hormonal contraception. Health workers lack awareness of appropriate advice and contraceptive options for women living with HIV, and often assume that they are not sexually active and therefore do not need FP services. Available evidence suggests that this is not the case, so it is important that women living with HIV and their partners have access to appropriate information and contraceptive methods.

**Malaria and STI in pregnancy**

Malaria during pregnancy has a negative impact on maternal and child health, and this is exacerbated by the presence of HIV infection. The presence of HIV increases the risk of placental malaria infection, which in turn increases the risk of MTCT.

Evidence from **Kenya and Uganda** suggests that pregnant women with HIV infection and placental malaria are two to three times more likely to transmit HIV to their infants during delivery than mothers with HIV but no malaria.

More attention needs to be given to ensuring that all pregnant women, especially pregnant women living with HIV, receive malaria prevention and treatment interventions.

There is also evidence that women with HIV infection who also have herpes simplex virus, gonorrhoea or syphilis are more likely to transmit HIV to their infants during pregnancy or delivery. Screening and early treatment of these STI, including routine screening for syphilis, should be included in ANC.

**Limited follow-up care, treatment and support**

Follow-up treatment, care and support, the fourth element of the comprehensive PMTCT approach, has also received inadequate attention. A meeting of the UN Asia-Pacific Regional Task Force on PMTCT in March 2005 concluded that follow-up of women and children in PMTCT initiatives remains a major challenge.

Infants born to mothers living with HIV are missing out on treatment and follow-up care in countries where a low proportion of women deliver in health facilities with a skilled attendant. Greater efforts are required to identify infants and children exposed to HIV, so that they receive ARV prophylaxis, are tested for HIV, and have access to appropriate treatment and care, including cotrimoxazole prophylaxis. Many are lost to follow-up. Establishment of systems to identify and track exposed and infected children is a particular challenge.

**Zimbabwe and Zambia** are among the few countries trying to address this through revision of the national child health registers and cards, to enable health workers to improve follow-up of women and infants.

In other countries, programmes are working with community health workers and TBAs to ensure these children are reached.

Early and accurate diagnosis of HIV in infants is crucial, but PCR testing is not widely available in many countries. In 2006, fewer than 30,000 of the 1.7 million infants born to mothers living with HIV were tested before the age of 12 months and only 7,000 by the age of two months. Scaling up early infant testing will require training for clinic and laboratory staff on infant diagnosis, systems to ensure reliable supplies of consumables for testing, and improved understanding of community and health worker attitudes towards infant HIV testing, including the acceptability of routine testing.
There has been some progress. In 2006, 26 countries, including 11 in East and Southern Africa, reported having DBS technology, which enables health workers and families to find out an infant’s HIV status as early as six weeks after birth. DBS capacity was reported in two countries in West and Central Africa, two in East Asia and the Pacific and two in South Asia. In the African countries supported by Columbia University, provision of PCR testing equipment has resulted in systems being set up to test infants at six weeks of age.

- Botswana has introduced testing using DBS.
- In Malawi, PCR testing is being piloted, but policies, guidelines and training need to be completed before this can be scaled up. An additional challenge is that samples are currently transported to a central site, which is inefficient and delays obtaining results.

Cotrimoxazole can significantly reduce mortality and morbidity in infants and children living with or exposed to HIV, but coverage with cotrimoxazole prophylaxis is low. Only 25,000 of the estimated 1.5 million infants born to mothers living with HIV were initiated on cotrimoxazole in 2006. Regional figures indicate that two per cent or less of infants born to mothers living with HIV in sub-Saharan Africa and South Asia received cotrimoxazole in 2006.

Lack of clarity about infant feeding

Informants and country case studies highlight confusion about appropriate infant feeding advice for mothers living with HIV. Recent country visits to Ethiopia, Guatemala and India by one informant found that health workers often gave mothers who are positive incorrect advice or no advice at all. Most believed that they should advise women living with HIV not to breastfeed and should only provide information about formula feeding. In Guatemala mothers who were positive could not afford to buy formula and were unsure how to use it. In India mothers who were positive believed that their infants would die if they breastfed them.

Country case studies in Malawi, Nigeria and Zambia indicate that many mothers who are positive are using mixed feeding, as a result of unclear messages and advice about infant feeding for women living with HIV.

- This is despite the fact that, in Zambia, national policy follows WHO guidelines that promote exclusive breastfeeding for six months.
- In Malawi, mixed feeding is the norm, because of concerns about breastfeeding and inadequate knowledge among health providers of the risks of mixed feeding for infants.
- In Nigeria, where infant feeding policy is currently being revised, there is poor follow-up to support women in their preferred option of feeding and weak monitoring and enforcement of the international code of marketing of breast-milk substitutes.

‘When I found out I was positive, my baby was three months old. I was advised to stop breastfeeding and start bottle-feeding. When the baby was four months old it got thrush and had diarrhoea and pneumonia so I brought it back to the hospital. The baby was treated for the pneumonia not the HIV it died of at nine months…’
HOME-BASED CARE (HBC) AND COUNSELOR, JOS, NIGERIA

‘HIV-positive mothers are finding it hard to follow the guidelines on infant feeding.’
HIV FAITH-BASED ORGANISATIONS (FBO) SUPPORT GROUP, LUSAKA, ZAMBIA

There is a lack of clarity and agreement regarding provision of formula. Based on experience (UNICEF, 2004), UNICEF decided in 2002 to end the procurement and distribution of free formula as part of its support to PMTCT. Some countries are promoting use of formula but do not provide formula to mothers living with HIV, while others are providing formula. Botswana provides free formula for 12 months. In Haiti, women in urban areas are given formula for six months. In South Africa, weaknesses in the distribution system for infant formula led to interrupted supplies and mixed feeding.

Key informants expressed differing views about promotion of formula feeding and provision of formula. Some support the WHO guidance, while others believe that efforts should be made to ensure that all infants born to mothers who are positive receive formula, regardless of the country context.
Stigma and limited involvement of male partners

Other challenges identified by the 2005 report card included inadequate male partner involvement. PMTCT services, because they are stand-alone or linked to MCH services, are perceived as services for women. The term ‘prevention of mother-to-child transmission’ reinforces this view.

A Tearfund review of programmes in seven African countries found that few had succeeded in involving fathers. Few men had been tested for HIV, because of the widely held belief that their status will be the same as that of their female partner. In Zambia, for example, only 10 per cent of women tested come with their partners.

‘Women are being divorced if found positive … Few men support their wives … Stigma and discrimination are still issues within the family the school and the workplace … Counsellors and churches need to be trained in HIV/AIDS to know the basic facts.’

HIV FBO SUPPORT GROUP, LUSAKA, ZAMBIA

‘… women are better than men … if they are pregnant they will get treatment to protect the baby especially when they know it is free … men are usually in denial … women can be worried their husbands will divorce them … some families feel they are disgraced and send the women out of the house when they find out they are positive…’

FEMALE HEALTH WORKER, RURAL FBO, NIGERIA

Stigma and discrimination, which deter women from seeking CT and other HIV services including PMTCT services, reflect limited community awareness and involvement.

Inadequate data and M&E systems

The number of countries reporting data on PMTCT increased from 71 in 2005 to 108 in 2006. However, few countries systematically collect information on CD4 testing, cotrimoxazole prophylaxis or early infant diagnosis, and there are concerns about the comprehensiveness and reliability of global data.

Establishing effective monitoring systems for PMTCT programmes to improve data, remains a challenge. Available information is largely based on health facility reporting and relies on the quality of national HMIS. Data on women accessing PMTCT services through the private sector and delivering at home is not consistently captured. There are also difficulties in obtaining comprehensive data on the situation in countries where vertical programme data is not captured by the HMIS.
For example, Nigeria has national standardised PMTCT registers, but these are not yet in use in all facilities. There are also multiple data and reporting forms, some of which are not linked into the national data system. There is confusion between the old and the new data forms, and no routine analysis of data quality. Many health workers find the burden of reporting onerous, while others view the collection of data as a form of audit rather than a means to ensure effective planning and service delivery, and therefore they do not commit time and effort to making systems work. Much of the data collected is not reliable and the M&E unit within the National AIDS and STI Control Programme (NASCP) lacks the capacity to monitor and co-ordinate M&E. Most large donor-funded programmes establish and use their own information systems and indicators, despite stated commitment to the Three Ones.

Data is only collected on coverage, specifically the number of women receiving CT and the number receiving ARV prophylaxis. The 2005 report card notes that there was very little information on how many pregnant women were assessed for ART eligibility. Approximately 60 per cent of the 71 countries surveyed did not have national data on the number of pregnant women living with HIV who were assessed for CD4 cell counts, and over 50 per cent lacked national data on the proportion of people receiving ART who were pregnant women.

Indicators to monitor access to primary prevention and FP services in the context of PMTCT are not included in many PMTCT programmes. Data on infant feeding choices and the quality of follow-up treatment, care and support for women and infants are not available from many of the countries surveyed.

There is also a need for better data on outcomes. Treatment data records the number of people living with HIV who initiate treatment, but not the number who remain on treatment or treatment outcomes. Limited data is available on the impact of PMTCT programmes, in terms of HIV infection in infants and children.

Some informants raised concerns about the lack of a standardised approach in the report card methodology and different global estimates of coverage. Since PMTCT and paediatric HIV care programmes are still being rolled out, many countries do not yet have standardised national monitoring systems and the number of pregnant women and children receiving treatment and care is not always recorded from all sites.

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**Consensus statement on HIV and infant feeding**

All UN departments and agencies, adopted the recommendations below following a technical consultation in Geneva, Switzerland, in October 2006 organized by WHO.

- 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.

- At six months, if replacement feeding is still not acceptable, feasible, affordable, sustainable and safe, continuation of breastfeeding with additional complementary foods is recommended, while the mother and baby continue to be regularly assessed. All breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided.

If an HIV-infected woman chooses to breastfeed, she must understand 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.

www.who.int/reproductive-health/stis/mtct/infantfeedingconsensusstatement.pdf
5 Conclusions and recommendations

Based on lessons learned about factors that support or limit scale-up of PMTCT, and priorities identified at the recent PMTCT GPF, the following highlights key issues to be addressed if scale-up of comprehensive PMTCT is to be achieved. These issues are also summarised in a separate background document.

Increase commitment and leadership

Strengthen advocacy and leadership

While IATT action has increased during the past two years, more active global advocacy is required to accelerate scale-up of the comprehensive PMTCT approach. Some key informants highlighted the need for advocacy efforts equivalent to those around universal access to treatment, to persuade donors and policy makers to give higher priority to PMTCT and achieving the maternal and child health MDGs. They also emphasised that PMTCT advocacy messages need to be carefully framed to ensure that the four elements of the comprehensive approach are viewed as achievable.

Greater consensus on priorities and the best way to achieve these would strengthen advocacy. Views appear to differ about whether the primary objective of comprehensive PMTCT is to improve maternal health and child survival or to reduce paediatric HIV infection. Views also differ about whether priority should be given, for example, to strengthening the capacity of MCH services to deliver comprehensive care or to increasing access to ART for eligible pregnant women, to increasing PMTCT service coverage in urban areas where HIV prevalence is generally higher or to expansion of PMTCT service coverage in rural areas. While objectives and approaches need to be country context specific, global guidance should assist national governments by providing a clear set of objectives and priorities for action.

There is scope to broaden the range of organisations involved in advocacy and support for implementation of comprehensive PMTCT. Making information about IATT priorities and activities more available could contribute to wider involvement. It could also help to ensure that the policies and programmes of donors and NGOs wishing to support scale-up of PMTCT are consistent with global policies and national plans.

The IATT needs to ensure that comprehensive PMTCT is endorsed and reinforced by other global efforts and initiatives.

- The annual UNAIDS Global Epidemic Update does not include a specific overview of HIV in children or of PMTCT.
- The Partnership for Maternal, Newborn and Child Health does not refer to PMTCT as an essential component of safe motherhood, newborn care or child health in its core communications.
- Similarly, the Global Coalition on Women and AIDS makes no mention of comprehensive PMTCT.
- Even more important will be making links with recently launched initiatives to strengthen health systems, in particular the Global Campaign on the Health MDGs and Deliver Now for Women + Children, and the International Health Partnership.

WHO and UNICEF share responsibility for leadership of the international response on PMTCT under the division of labour recommended by the Global Task Team. There are some concerns about joint leadership, including effectiveness and accountability. As co-convenors of the IATT, WHO and UNICEF also share leadership of implementation of the IATT global strategy. Clear agency roles and responsibilities, and mechanisms for monitoring, including at country level, will be critical.

Greater efforts are required to generate and sustain government leadership of and accountability for scale-up of comprehensive PMTCT and, more specifically, to ensure that PMTCT receives adequate attention within national plans for universal access and health system strengthening, and that all countries develop
and implement clear national PMTCT plans with population-based targets. Informants highlighted the need for clear commitments and mechanisms to hold international and national partners to account.

Use opportunities to strengthen health systems for delivering integrated services

System strengthening was highlighted as essential to longer-term sustainability by the Global Steering Committee on Scaling Up Towards Universal Access, and is critical to scale-up of comprehensive PMTCT. The IATT and national governments need to use opportunities to leverage support for comprehensive PMTCT presented by new initiatives that aim to strengthen health systems. These initiatives include Deliver Now for Women + Children, launched on 26 September 2007, which will be co-ordinated by the Partnership for Maternal, Newborn and Child Health and will commence with programmes in India and Tanzania. Deliver Now is a core component of a broader Global Campaign for the Health MDGs, launched by the Norwegian government on the same day, which aims to support health systems to reduce maternal and child deaths.

The International Health Partnership, also launched in September 2007, aims to improve international partner co-ordination in order to strengthen health systems and services in developing countries. Donor countries and agencies that have signed the partnership agreement include Norway, Germany, Canada, Italy, France, Portugal, the UK and the Netherlands, European Commission, GFATM, World Bank, WHO and UNAIDS. The Partnership, with support for co-ordination provided by WHO and World Bank, aims to tackle challenges facing country health systems, through support for and funding of national health plans. The first countries to receive support include Burundi, Cambodia, Ethiopia, Kenya, Mozambique, Nepal and Zambia.

Accelerate integration of service delivery

Integrated service delivery is essential to increase access to and coverage with comprehensive PMTCT, especially in countries with high HIV prevalence. This was reinforced by the GPF, which called for a shift from vertical donor-driven pilot programmes to national programmes that are integrated within existing health systems and for guidance on how to implement primary prevention, integration of PMTCT services within MNCH services, and links between PMTCT and sexual reproductive health (SRH) for PLHA including prevention of unintended pregnancies.

However, only a few countries have succeeded in fully integrating PMTCT interventions into existing health services for women and children, even though many of the essential elements of comprehensive PMTCT, such as FP and infant feeding counselling, should already be part of MCH care. In some contexts, PMTCT services continue to be delivered separately from ANC, SRH, FP and HIV treatment services.

Increasing the capacity of MCH services to provide follow-up treatment, care and support for women and their children and families is essential. This needs to be integrated with postnatal care and child health services, such as immunisation.

Provision of integrated services requires support for effective co-ordination and for strengthening the capacity of MCH, SRH and FP services. The Three Ones need to be implemented, especially at sub-national level, to ensure adequate financial and technical support at service delivery level. The IATT advocates during country missions for the establishment of PMTCT co-ordination mechanisms that bring together all key actors in MCH and HIV. Some informants suggested that more could be done to promote effective models and to provide practical guidance and support on how to bring ministries, departments and other stakeholders together.

Under-resourced maternal health services, in particular lack of human resources, result in high numbers of women and children missing out on HIV prevention, diagnosis and treatment. The Global Partners Forum highlighted the need for integrated human resources planning. More specifically, there is a need for innovative solutions to shortages of critical staff, including task shifting and strengthening the competencies and skills of existing staff. In Botswana, for example, the introduction of lay counsellors has freed up health workers to concentrate on clinical aspects of PMTCT services.
In addition, attention needs to be given to the supply chain to ensure adequate supplies and equipment for provision of integrated services, in particular HIV test kits, contraceptives, cotrimoxazole and other essential drugs.

Ensuring that MCH, SRH and FP receive adequate resources is critical. While funding for HIV has increased significantly during the past decade, funding for RH and FP has remained at around US$1.6 billion since 2002. An analysis of donor trends for the Countdown to 2015 project found that the proportion of maternal, neonatal and child health funding allocated to maternal health fell between 2003 and 2004. Deliver Now estimates that an additional US$9 billion a year is required to provide basic MCH services in countries with limited resources.

**Strengthening information, guidance and M&E**

*Improve dissemination and uptake of guidance*

Greater efforts are required to ensure that existing global guidance is adopted or adapted at country level and that national policies are disseminated effectively to facility level. The 2007 GPF identified a need for technical support for the development and revision of national policies, guidelines, scale-up plans as well as for resource mobilisation efforts to support implementation of national scale-up plans.

Practical guidelines are required on, among other issues, how to define a minimum package of PMTCT services, how to integrate delivery of PMTCT interventions within MCH services, how to diagnose paediatric HIV, how to provide follow-up treatment and care to mothers, infants and families, how to involve male partners, how to link communities and facilities and how to establish community support systems for women, children and families. Successful implementation in Western Cape Province in South Africa, for example, is attributed to clear practical strategies for integrating services, such as linking immunisation schedules and infant HIV diagnosis, and for ensuring that women who have limited contact with health services receive interventions.

Some informants also highlighted the need for specific operational guidance to support implementation in countries that are experiencing challenges in scaling up, in particular countries with large populations and federal structures such as Nigeria and India, and for operations research to support scale-up of comprehensive PMTCT.
Learning lessons from countries that have achieved successful scale-up requires more attention. Recognising this, the IATT global guidance emphasises the importance of analysing what works, sharing experience and promoting effective approaches and good practice. Synthesis and dissemination of issues identified during IATT joint missions could enable other countries to learn lessons from experience.

**Strengthen data and M&E**

There is a need to improve M&E systems so that comprehensive data on PMTCT coverage is captured, including data on women accessing PMTCT services through the private sector and vertical programmes. Data collection needs to go beyond the number of women receiving CT and the number receiving ARV prophylaxis, to include information about how many pregnant women are assessed for ART eligibility and the proportion of people receiving ART who are pregnant women. M&E systems also need to capture data on access to primary prevention and FP services, on infant feeding choices and the quality of follow-up treatment, care and support for women and infants. There is also a need for better data on outcomes, including the impact of PMTCT programmes on HIV infection in infants and children.

Some informants raised concerns about the lack of a standardised approach in the report card methodology and different global estimates of coverage. Since PMTCT and paediatric HIV care programmes are still being rolled out, many countries do not yet have standardised national monitoring systems and the number of pregnant women and children receiving treatment and care is not always recorded from all sites.

Limited data is available on the gender-based barriers to PMTCT, because the issues have not been examined comprehensively. There is a need to develop quantitative and qualitative indicators with a gender perspective to assist in designing comprehensive and integrated gender-based PMTCT programmes.

**Improve availability and quality of PMTCT services**

**Increase uptake of services**

Reaching more women with PMTCT services requires making use of every contact with the health system. Ensuring that women who only make one visit receive PMTCT interventions is critical. Strategies to reach women who do not attend clinics and who deliver at home, and to increase uptake of ANC and delivery care, are also needed.

- **In Kenya**, USAID is supporting innovative approaches to increase women’s access to PMTCT services including establishing temporary clinics near to where women live and providing PMTCT services through TBAs.
- **In Mozambique**, health workers provide PMTCT outreach to women who opt to deliver at home, linking them to appropriate follow-up care and treatment services.
- **In Malawi**, where 93–95 per cent of women attend at least one ANC visit, but few return and only 40 per cent actually deliver with a skilled attendant, pregnant women living with HIV are given NVP to take at the onset of labour. The MOH is also working with TBAs to encourage women to deliver at health facilities, to take NVP if they deliver at home, and to bring their infants for HIV testing and postnatal care and treatment. Giving pregnant women living with HIV NVP to give to their infant within 72 hours of delivery is also being piloted.

Uptake of services can be increased by improving accessibility, such as by introducing more flexible opening hours and providing transport. Experience in a range of countries indicates that integrated delivery of comprehensive services can also increase uptake of services.

- **In Brazil**, uptake of HIV CT and ARV prophylaxis in ANC services is higher if follow-up treatment, care and support are available.
In South Africa, provision of comprehensive care for mothers and infants, for example in Western Cape Province and at the McCord Hospital ANC clinic in Durban, has increased uptake and resulted in a rapid decline in HIV in infants.

HIV CT is critical, as pregnant women who do not know they are HIV positive cannot benefit from PMTCT interventions. Increasing uptake of CT is an essential component of expanding access to PMTCT interventions. As discussed above, introducing provider-initiated testing using rapid tests in MCH settings has increased the proportion of women tested for HIV. In East and Southern Africa, where provider-initiated testing has been widely introduced, almost 90 per cent of women counselled in 2005 received an HIV test. In contrast, in West and Central Africa, where few countries have introduced a routine offer of testing, only 42 per cent of women counselled received an HIV test (UNICEF, 2005).

Implement more efficacious ARV prophylaxis, and ART, for pregnant women

Countries need to be encouraged and supported to switch from sdNVP to more efficacious combination regimens for ARV prophylaxis as rapidly as possible. While the IATT is advocating introduction in a phased manner, based on assessment of facility capacity, there are concerns that this will mean some women continue to receive ‘second rate’ interventions. In Malawi, for example, while national policy now emphasises providing triple therapy for PMTCT and this has begun to be implemented in urban areas, in many rural areas women are still receiving sdNVP.

All regions reported a decrease in the number of countries using sdNVP as the most common regimen for PMTCT and many countries are beginning to shift towards more efficacious regimens for PMTCT prophylaxis and ART for eligible HIV-positive women living with HIV. However, only seven per cent of HIV-positive women living with HIV and receiving ARVs for PMTCT were assessed for treatment eligibility in 2006, even though an estimated 25 per cent of pregnant women living with HIV have advanced HIV disease and are in need of ART.

Higher priority also needs to be given to providing ART to all pregnant women living with HIV who are eligible, in line with the latest WHO guidance. This means ensuring that MCH services have the capacity to provide HIV CT, to assess CD4 count or HIV clinical stage and to offer ART or referral to nearby facilities providing ART. Establishing related targets is essential, since targets help to galvanise action. Currently, treatment targets are not disaggregated by gender and little attention has been given to setting targets for treatment of positive women identified through MCH and PMTCT services.

Promote clear messages about infant feeding

Infant feeding is another aspect of PMTCT that merits greater attention. As discussed in the previous section, there are significant variations in the extent to which countries are following WHO guidance on when exclusive breastfeeding and when formula feeding are appropriate, and are aware of or apply guidance that reflects evidence about the risks of early cessation of breastfeeding. The GPF highlighted the need to clarify infant feeding recommendations, including weaning, in settings where formula feeding is unsafe, and to improve health worker capacity regarding infant feeding issues.

There is an urgent need to ensure that health workers and communities understand the risks of mixed feeding and, specifically, to ensure that providers have a clear understanding of infant feeding guidance and can provide appropriate advice and support to women living with HIV about infant feeding and weaning. More rigorous analysis of health worker knowledge and attitudes concerning infant feeding and HIV is required, as is a better understanding of the most effective ways to provide effective infant feeding counselling and nutritional support for positive women who choose to breastfeed and to minimise the potential negative nutritional impact of cessation of breastfeeding.
Increase private sector and NGO involvement

Informants highlighted the need to include private providers in efforts to tackle MTCT of HIV. In some countries, a significant proportion of women, including those who are not particularly wealthy, seek ANC and delivery care from the private sector.

- In India, for example, 50–60 per cent of institutional deliveries take place in private facilities. Private providers do not receive training from health ministries or UN agencies and are not always aware of current guidance. Consequently, women seeking care in the private sector may receive inadequate PMTCT services. EGPAF has worked with the private sector and NGOs to establish a model for provision of PMTCT services in the private sector in India, and also convinced the government to include private hospitals in the GFATM application which provides funding to expand PMTCT efforts.

NGOs also play an important role in service delivery and community mobilisation in many countries, and need to be included in plans for PMTCT scale-up as well as in efforts to disseminate policies and guidance and to update knowledge and skills.

- In Nigeria, church groups and NGOs are playing an important role, but there are no formal mechanisms for civil society co-ordination or partnership with government.

- In contrast, in Kenya, International Planned Parenthood Federation (IPPF) is supporting the FPA, now called Family Health Options, Kenya, to provide comprehensive VCT, PMTCT and ART services. Family Health Options is one of a number of NGOs that is collaborating with the government, including as contracted service providers. Civil society can also play an important role in advocacy and in ensuring that governments and donors live up to their commitments.

Improve uptake of PMTCT services

Increase male partner and community involvement

Scaling up PMTCT depends on the involvement of male partners. Male involvement is essential to achieve all four elements of the comprehensive PMTCT approach. This could involve increasing men’s awareness of their role in primary prevention, securing their support for FP, enabling women to discover their HIV status and access ARV prophylaxis and treatment without experiencing stigma and discrimination from the family, and ensuring that women and children living with HIV benefit from follow-up treatment, care and support.

Engaging men will require greater emphasis on PPTCT so that men understand their role in protecting the wellbeing of their children, increased awareness of the concept of discordant couples and stronger promotion of couple CT. Available evidence suggests that uptake of testing increases when routine testing of both parents is promoted.

Most PMTCT programmes are developed from the assumption that women are free to function independently from their male partners, have the resources to access testing, counselling, prenatal and postnatal care, and alternatives to breastfeeding. However, women confront a number of gender-based obstacles to PMTCT, including lack of negotiation skills, cultural barriers and violence.

Involving male partners can make a real difference in improving women's uptake of PMTCT services. When outreach efforts successfully engage men, they are far more likely to support women at critical turning points such as deciding whether to take an HIV test, returning for test results, taking ARV drugs, and practising safer infant feeding methods.
Successful programmes have demonstrated that it is easier to reach men through more traditional and close-knit communities or initiatives where male leaders were used to promote PMTCT services outside of the antenatal or maternal/child health clinic setting. It is a more recognisable leadership structure, usually headed by a man.

- In Cambodia, for example, involvement of fathers in pre- and post-test counselling in the PMTCT programme resulted in high rates of sharing of results.

Community involvement is also an essential aspect of scaling up PMTCT. Development and implementation of integrated community strategies was identified as a priority by the recent GPF.

Address gender and human rights issues

Gender inequalities have not been well addressed in the HIV response and there is a need to consider the potential impact of women’s lack of voice, power and choice on scale-up of PMTCT. Gender inequalities limit women’s autonomy and access to information and services. Gender-based violence increases the risk of unintended pregnancy and fear of violence can prevent women from disclosing their HIV status and accessing treatment, care and support.

Policy and legal frameworks that protect the rights of women living with HIV are also essential to scale-up of PMTCT. Existing laws and regulations, such as on mandatory testing and partner and parental notification, can act as barriers to accessing services. In regions where HIV is concentrated in marginalised groups, women living with HIV who are sex workers or injecting drug users may not come into contact with health services providing PMTCT, because of fear of stigma and discrimination and of negative attitudes of health workers.

- For example, in Ukraine, HIV diagnosis and PMTCT among pregnant women who do not access ANC is identified as an important challenge (UNAIDS, 2006). Alternative approaches to provision of PMTCT services are likely to be required in such settings.
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