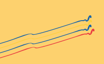
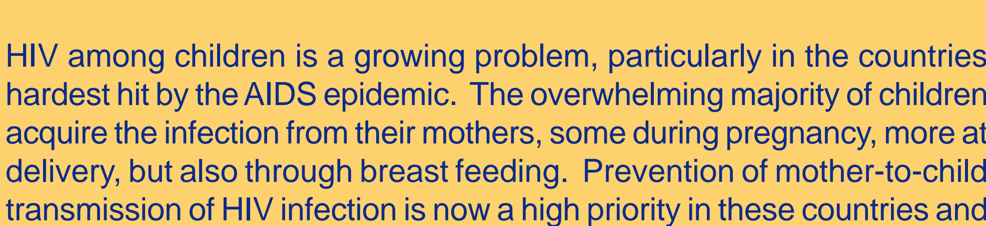
WHO/HIV_AIDS/BN/2001.1
Original: English
Distr.: General

WHO briefing notes for UNGASS on HIV/AIDS

Prevention of mother-to-child transmission of HIV infection: WHO's activities

A major public health problem





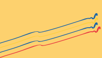
It is estimated that 4.3 million children have died of AIDS before their fifteenth birthday, nearly half a million in 2000. Another 1.4 million children are estimated to be living with HIV; most will die before they reach their teens.

HIV among children is a growing problem, particularly in the countries hardest hit by the AIDS epidemic. The overwhelming majority of children acquire the infection from their mothers, some during pregnancy, more at delivery, but also through breast feeding. Prevention of mother-to-child transmission of HIV infection is now a high priority in these countries and has been the rallying point for enhanced prevention efforts.

In the absence of interventions to prevent it, the rates of HIV transmission from mother to infant in European and American studies have been estimated to be between 15 and 20 per cent.

In Africa, the rates have been estimated to range from 25 to 40 per cent, the additional risk being primarily attributable to breastfeeding. In fact, breastfeeding can lead to additional risk of HIV transmission of 10–20%. With more than fifteen million women estimated to be living with HIV/AIDS, the need for prevention of vertical transmission of HIV is urgent.

A public health solution that works



The use of antiretroviral drugs to prevent vertical transmission of HIV has been intensely studied over the last decade. With each new development, hopes have risen that vertical transmission of HIV can be greatly reduced. In fact, mother-to-child transmission of HIV has decreased to less than 2% in developed countries. However, this is the result of a combined use of antiretroviral drugs, elective caesarean section and replacement feeding from birth. Achieving similar results in developing countries, some of which are hardest hit by the AIDS epidemic, will require innovative approaches and political will.

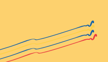
Early studies showed that an antiretroviral drug (zidovudine) administered to the mother in the second and third trimester of pregnancy, intravenously during delivery and to the infant for six weeks, reduced the risk of HIV transmission from 25% to 8%, an optimal regimen yielding a reduction of more than two-thirds. Other shorter regimens of zidovudine, alone and in combination with other antiretrovirals, or nevirapine, more affordable and more manageable for application in resource-constrained settings, can halve vertical transmission of HIV.

While replacement feeding can decrease the risk of HIV transmission significantly, it can also expose the child to increased risk of malnutrition or infectious diseases other than HIV when optimal conditions do not exist for preparation of replacement feeding. Effective counselling on infant feeding choices must be provided to help a mother choose the most appropriate option for her and her infant.

Affirming that these challenges are surmountable with sufficient effort and resources, the Secretary General of the United Nations issued his Call to Action on HIV/AIDS in May 2001, targeting the prevention of mother-to-child transmission of HIV as a key priority.

To galvanize the action needed, the UN General Assembly Special Session on HIV/AIDS has set an ambitious goal of reducing the number of children infected with HIV by 50% by the year 2010. Many challenges must be faced and many problems solved if this goal is to be met. A key problem is the continued rate of new infections among young women, increasing the pool of potential mothers who can transmit HIV to their children in the absence of appropriate preventive interventions.

A framework for action to prevent mother-to-child transmission



Recognising the complexity of the issue, WHO and its partners have defined a three-pronged strategy for the prevention of mother-to-child transmission of HIV. The first prong of the strategy is the prevention of HIV infection, especially in young women. Avoiding infection in women is certainly the most effective way to prevent transmission of HIV infection to infants. The second prong of the strategy is the avoidance of unintended pregnancy in women who are HIV infected. Reinforcing reproductive health and family planning services that help all women avoid unintended pregnancy is an essential component of this strategy. In fact, most women of childbearing age in developing countries do not know whether they are infected or not. Therefore, another essential component is expanding access to quality voluntary counselling and testing, so that more women can know whether they are infected and can use this

The framework for action to prevent mother-to-child transmission of HIV

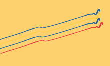
All women → *prevent HIV infection*

HIV infected women → *prevent unintended pregnancy*

HIV infected pregnant women → *prevent transmission to infants*

information in making decisions about their future reproductive life. Use of voluntary counselling and testing is also essential for the final prong of the strategy: providing antiretroviral drugs to all pregnant infected women, with the goal of decreasing the risk of vertical transmission from a known-infected mother to her newborn. This final prong must be reinforced with counselling about feeding options, to prevent transmission of HIV infection through breastfeeding.

More than the cost of drugs alone



For many years now, the cost of antiretroviral drugs has been seen as the key limitation in the implementation of interventions to prevent mother-to-child transmission in resource-constrained countries. Now that more advantageous pricing agreements are being negotiated, as well as large scale donations of some drugs, the possibility that pregnant women in these countries might have access to these drugs has increased enormously.

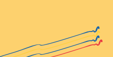
However, even if the cost barrier is removed, many hurdles to implementation remain. The most important may be the inability of health systems in some of the worst affected countries to deliver the necessary services. In many of these countries, the use of antenatal care is too limited at present to permit efficient and widespread provision of interventions to prevent mother-to-child transmission.

Furthermore, even when antenatal care is used, it is often restricted to one visit only, or happens late in pregnancy, and may not be associated with skilled assistance by a health care worker at the time of delivery. In addition, access to voluntary counselling and testing, essential if women seeking antenatal care are to know their HIV status and make use of specific prevention and care interventions, seldom exists in many of the countries where the need is greatest. Until these issues can be addressed, the ability to deliver the interventions needed to prevent mother-to-child transmission will be limited.

Based on WHO estimates, the percentage of women receiving antenatal care, defined as at least one visit, ranges from 20 to 99 per cent in Africa, with an average of 62%. The percentage of women having a professionally attended delivery ranges from 2 per cent to 99 per cent, with an average of 36%.

Other concerns about the prevention of mother-to-child transmission also need to be addressed. How best to deal with the issue of infant feeding has been and will continue to be a difficult and sometimes contentious issue, in view of inadequate but rapidly evolving knowledge about the role of breastfeeding in HIV transmission. The UN agencies have concluded that replacement feeding from birth may be a safer choice than breastfeeding for a mother who is HIV-infected, but only if nutritionally adequate, safely prepared and given, and available in an uninterrupted supply. These conditions are difficult to meet in many settings, and women may hesitate to avoid breastfeeding altogether for many reasons, including fear that this will reveal their HIV status. Finally, the task of providing care to infected mothers, including antiretroviral drugs when possible, is a difficult one but essential if we are to increase the length and enhance the quality of their lives and improve their ability to care for their children.

What WHO is doing



The task of helping countries prepare to engage in this complicated effort is enormous and WHO is committed to working with its traditional partners, both ministries of health, international agencies, nongovernmental organisations and people living with HIV/AIDS, to make the prevention of mother to child transmission of HIV a reality, especially in the most affected developing countries. To do this, WHO is working with UNAIDS, UNICEF and UNFPA in the Inter Agency Team on mother-to-child transmission. Knowledge in this area is evolving rapidly, and WHO will be issuing a strategy paper soon, based on an extensive review of the evidence to date and the development of consensus on country needs.

Highlighting the importance of prevention

WHO is committed to keeping the focus on the best and most humane ways to prevent transmission of HIV to infants: that is, keeping young women free from infection. HIV prevention and care are inseparable and are the key focus for WHO's Department of HIV/AIDS. While increasing attention is also being directed towards treatment breakthroughs and their application in resource-constrained developing countries, WHO will continue to advocate for a public health approach to preventing mother-to-child transmission of HIV that focuses on basic prevention first, assisting countries to improve the efforts that exist, and to strengthen linkages between prevention and care activities to maximise the impact of both.

Promoting dual protection in family planning programmes

WHO will build upon its long history of supporting countries to improve the quality and coverage of their family planning and reproductive health services, through the efforts of its Department of Reproductive Health. It will also continue to advocate for a shift in emphasis in family planning programmes, with greater attention given to preventing infection and preventing pregnancy simultaneously. In some cases, this will entail greater emphasis being placed on the use of male and female condoms, both male and female, as a primary family planning method so that motivated clients can prevent infection and pregnancy using one simple means.

Strengthening the infrastructure for preventing mother-to-child transmission

- **Expanding antenatal care services:** If the prevention of mother-to-child transmission is to be successful, women must have expanded access to antenatal care, must use the services more frequently and earlier in pregnancy than is currently the case. WHO will support reproductive health programmes in countries through its Making Pregnancy Safer Initiative (MPS) to address this issue and to form the alliance needed with mother-to-child transmission prevention services.

- **Increasing access to voluntary counselling and testing:** Even if women use antenatal care services, they must have access to voluntary counselling and testing to detect infection and be offered interventions to prevent vertical transmission of HIV. Expanding the access to voluntary counselling and testing is a major challenge and WHO is contributing to this by developing guidelines for the management of those services, whether they be free standing or linked to antenatal care or other reproductive health services.

- **Extending skilled attendance to all births:** Another important focus of WHO's work is increasing the proportion of pregnant women who are assisted by a skilled health care worker during childbirth. This is key in ensuring support for the appropriate use of antiretroviral drugs for preventing vertical transmission of HIV, as well as ensuring that interventions for the infant, including infant feeding counselling and support, take place.

- **Promoting the integration of MTCT prevention in health systems:** To be successful on the scale that is needed and hoped for, mother-to-child transmission prevention must become an integral part of the primary health care and integrated health system of a country, especially in those countries most heavily affected by HIV. The Mother-to-Child Transmission Unit is working with other departments in WHO responsible for strengthening health systems to facilitate this integration.

Providing guidance

- ® **Keeping abreast of the science:** WHO actively reviews developments in the science that underlies mother-to-child transmission prevention, assessing the strength of evidence and highlighting key gaps in the research base. This is an important service to countries, many of which do not have timely access to complete information on scientific developments and are thus at a disadvantage in trying to develop and improve prevention policies and programmes.

- ® **Choice and use of antiretroviral drugs:** WHO is reviewing evidence and developing guidance that countries need to enable them to choose among a range of options for the use of antiretroviral drugs for preventing mother-to-child transmission, and for treatment of HIV/AIDS-related conditions. The results of the many trials that have been conducted are at times confusing and WHO hopes to clarify the choices for countries. Guidance is also being provided to clinicians on how to safely and effectively use the antiretroviral drugs.

- ® **Support for infant feeding programmes:** The issue of infant feeding when a mother is HIV-infected remains complicated. WHO is supporting research to explore ways to make infant feeding safer and to facilitate the decisions about feeding options that mothers must now make. Tools to support counselling on replacement feeding for HIV-infected mothers are under development and will be of great use to countries in implementing programmes to prevent mother-to-child transmission.

- ® **Monitoring and evaluation:** The cost and complexity of the interventions for preventing mother-to-child transmission make it essential to ensure the effectiveness of the interventions. WHO is working hard with its partners to develop the indicators needed to assess the performance of programmes in developing countries. In addition, the long-term safety of antiretroviral use, for both mother and child, the possibility of developing resistance to antiretrovirals and the continuing efficacy of chosen regimens all require careful monitoring and evaluation. WHO is committed to helping our partners implement monitoring and evaluation systems capable of tracking these important issues.

- ® **Modelling impact of the three pronged strategy:** While the attention of most of the world is focused on the provision of antiretroviral drugs to decrease vertical transmission, it is possible that the greatest prevention impact may derive from investments in the first two prongs of the proposed framework: preventing HIV infection in young women and preventing unintended pregnancy in HIV infected women. WHO is developing models to address this question and to assess under what conditions investments in prevention of mother-to-child transmission may yield the most substantial and cost-effective results.

- ® **Technical support to countries for a public health approach to prevention and care.** WHO is committed to helping countries deliver both the best HIV prevention and the best HIV/AIDS-related care. In doing so, WHO hopes to elaborate the links and mutual benefits between prevention and care and to develop and strengthen a public health approach for confronting the AIDS epidemic in the future.

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