Tech Brief Principal Preparers:
Barbara Deller and Katrin DeCamp, ACCESS Program/JHPIEGO

Mother-to-Child Transmission of HIV

- **HIV-positive women can transmit HIV to their infants during pregnancy, childbirth, or while breastfeeding.**
- **Providing HIV prevention, care and treatment within existing maternal and child health services dramatically improves their uptake, improving maternal health and reducing mother-to-child transmission of HIV.**

Scope of the Problem

In 2007, an estimated 420,000 children under age 15 were newly infected with HIV, about 2.1 million children were living with HIV, and approximately 290,000 children died of AIDS. The most common route of HIV transmission to children is mother-to-child transmission (MTCT). Without interventions to prevent MTCT, an estimated 35% of HIV-infected pregnant women will transmit the virus to their child. Evidence suggests that providing comprehensive HIV prevention, care and treatment within existing MCH services can dramatically improve their uptake by women during pregnancy and the postpartum period. Moreover, "nesting" recommended prevention of MTCT (PMTCT) behaviors in already established Safe Motherhood programs may help minimize stigma, "normalize" PMTCT interventions as part of routine maternity care, and make services more accessible.

Modes of Transmission

HIV-positive women can transmit HIV to their infants during pregnancy, childbirth, or while breastfeeding. The amount of HIV virus in the mother's blood, breastmilk, or other body fluids—known as viral load—is the most important risk factor for MTCT. Viral load is often high when HIV infection is new or AIDS is advanced. Viral, bacterial, or parasitic placental infection, such as malaria in pregnancy, is also associated with a higher risk of MTCT.

Prevention and Treatment

Following these steps can help prevent MTCT: 1) The woman must attend a clinic; 2) Be offered and agree to have an HIV test; 3) Receive the test results; 4) Be offered drugs by a health care worker knowledgeable in prescribing them; and 5) Take the drugs. 6) After birth, the woman or a health care worker must give drugs to the baby; and 7) the mother must use safer infant feeding practices. Integrating pre-conception counseling and family planning (FP) services into PMTCT sites can save lives. For the same cost, FP services can avert nearly 30% more HIV-positive births than the ARV drug Nevirapine (NVP), and benefit HIV-positive women who wish to delay or avoid having another child.

Antenatal Care and Pregnancy

Women who are clinically eligible for ARV therapy (ART) must get into treatment to protect their own health and maximize the reduction of transmission to their child. The provision of rapid HIV testing makes it possible for more women to be tested, receive results, be clinically staged, and begin any necessary treatment at the same visit. Ideally, HIV counseling and testing should be incorporated into antenatal care, and "opt-out" testing makes the process routine. Prevention and early detection of HIV infection, as well as counseling and testing, in men and women of reproductive age should be available in facilities and in the community. All children of HIV-positive women also need to be tested. Because HIV-1 has been shown to increase the risk of malaria infection and the development of clinical malaria, all HIV and PMTCT programs in malarious areas should include malaria prevention such as provision of insecticide-treated

bednets and intermittent preventive treatment with sulfadoxine-pyrimethamine if the woman is not already on cotrimoxazole prophylaxis. Pregnancy also requires special consideration regarding the safety of various treatments and diagnostic tests. However, because of the serious nature of opportunistic infections among HIV-infected persons, diagnostic testing and treatments should not be withheld during pregnancy.

Childbirth

To reduce the risk of transmission of HIV to the newborn during labor and birth: avoid artificial rupture of membranes, prolonged rupture of membranes, and routine episiotomies as well as routine suctioning of the infant's mouth and pharynx. Women already on ART should continue during labor and childbirth; women not on ART should be provided prophylaxis according to national protocols. Where resources are limited and an HIV-infected woman presents in labor without having received ARVs previously, a minimally acceptable regimen is a single dose of NVP to the mother during labor and a single dose of NVP to the infant within 72 hours of birth. Although a cesarean section may reduce the risk of MTCT of HIV, it should only be performed when medically necessary due to other risks to mother and baby from this surgery.

Postpartum

Even when HIV-positive women are not clinically eligible for ART, they should be given: Zidovudine (AZT) from 28 weeks of pregnancy (or as soon after as possible), and AZT and 3TC+Sd-NVP intrapartum, and AZT and 3TC postpartum for 7 days. For infants: Sd-NVP and AZT for 1 week. And: When an HIV-positive woman has received < 4 weeks of AZT before delivery, the infant should receive Sd-NVP immediately after birth (up to 72 hours after birth) and AZT for 4 weeks; When birth occurs within 2 hours of the woman's taking NVP, the infant should receive Sd-NVP immediately after birth and AZT for 4 weeks; To reduce NVP resistance, the mother should receive a nucleoside reverse transcriptase inhibitor for 7 days postpartum if she received Sd-NVP during labor.

WHO AFASS Conditions

- *Acceptable*: Is replacement feeding acceptable to the mother and in the community?
- *Feasible*: Does the family have the time, knowledge, skills and resources to prepare replacement feeding and feed the infant?
- *Affordable*: Can the family pay for the purchase and preparation?
- *Safe*: Can replacement feeds be correctly and hygienically prepared and stored?
- *Sustainable*: Will the supply of all ingredients be continuous, uninterrupted, and in sufficient quantities, and will feeding be exclusive day and night?

Mixed feeding may carry a higher risk of MTCT than exclusive breastfeeding or exclusive replacement feeding. Exclusive breastfeeding is recommended for HIV-infected women for the first six months of life, unless the WHO AFASS (see box) conditions are met earlier. Breastfeeding mothers should: Exclusively breastfeed for up to 6 months; know proper latching-on technique to prevent nipple trauma; and seek attention for breast abscess, mastitis, or fungal infection of the breast, or for newborn oral thrush.

Early infant diagnosis saves lives—infants born to HIV-positive mothers should start cotrimoxazole prophylaxis at 4 to 6 weeks of age and continue until HIV infection has been excluded and they are no longer breastfeeding. Mothers of infants who are known to be HIV-infected are strongly encouraged to breastfeed exclusively and for as long as they wish.

Other technical briefs can be found at: www.maqweb.org/techbriefs/

Last Revised: 4/29/08. Produced in association with The Maximizing Access and Quality Initiative

Designed and produced by: The INFO Project at the Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs. Published with support from the United States Agency for International Development (USAID), Global, GH/PRH/PEC, under the terms of Grant No. GPH-A-00-02-00003-00.

USAID FROM THE AMERICAN PEOPLE