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**ELIMINATING MOTHER-TO-CHILD HIV TRANSMISSION WORLDWIDE WILL  
REQUIRE DRAMATIC IMPROVEMENT IN HEALTH SERVICES**

**According to a New IHI Study in *Health Affairs*, Poor Access to Routine Health Services  
in High HIV-Burden Countries Will Be a Major Stumbling Block to the Ambitious  
Global Efforts to Drastically Cut Mother-to-Child HIV Transmission**

**Cambridge, MA** – July 9, 2012 – In an article published today in the July issue of *Health Affairs*, two leading physicians and researchers at the Institute for Healthcare Improvement (IHI) argue that eliminating HIV infection from mother to child in some countries that are worst affected by the HIV epidemic will require improvements to maternal and child health services. The success of the ambitious global initiative to decrease infant HIV infections by 90 percent is critically dependent on easy access to routine maternal and child health services.

The researchers reached their conclusions by modelling how two factors – access to maternal and child health services, and the effective delivery of anti-HIV-transmission interventions – impact efforts to eliminate HIV transmission during pregnancy and after childbirth in low- and middle-income countries. Focusing on the 10 countries with the highest HIV burden in the world (South Africa, Nigeria, Mozambique, Uganda, Tanzania, Kenya, Zambia, Malawi, Zimbabwe, and India), the model suggests that, under current conditions, poor access to routine antenatal and postnatal health services contributes three times more to overall mother-to-child HIV transmission than do current suboptimal levels of delivery of anti-HIV-transmission interventions. The authors' conclusion that improvements to maternal and child health services are critical is supported by the remarkable success in reducing infant HIV infections in countries like South Africa and Botswana that have highly accessible mother-and-child care. The authors argue that improving access to basic maternal and child health services should be a primary objective of the global campaign. Countries that have already achieved good access to maternal and child health services should focus on improving reliability of HIV prevention and treatment programs for mothers and infants.

The study's co-authors are **Pierre M. Barker, MD**, IHI Senior Vice President responsible for IHI's large-scale health systems improvement initiatives in Africa, and **Kedar Mate, MD**, Country Director, IHI South Africa Program.

In the countries that carry the highest burden of HIV, the model uses current levels of access and efficiency of maternal and child health and HIV treatment to predict average transmission rates of 19.7 percent (compared to 35 percent transmission with no treatments). Even if current treatment programs were carried out at 95 percent perfect levels, it predicts significant residual mother-to-child transmission of HIV (7.9 percent) would remain.

The study concludes that current efforts to optimize programs to prevent mother-to-child HIV transmission will not, on their own, eliminate HIV in newborns. Access to maternal and child health services will need to be dramatically improved, and other preventive measures, including identifying and treating HIV before pregnancy, will need to be optimized. The fact that routine child care visits in worst-affected countries tend to decrease substantially during the first year of life is a particular worry. This presents major challenges for applying new interventions to prevent mother-to-child HIV transmission for HIV-infected mothers who breastfeed their infants beyond the first few months of life.

“The model described in this article should allow countries to make strategic decisions on how to sequence investments of limited resources,” said Dr. Barker. “For some countries with a high burden of HIV infection in infants, that means a major investment in improving access to maternal and child health services. You can have the best treatments in the world sitting on your clinic shelves, but they are of no use if a mother and her infant don’t turn up for care.”

“We are encouraged by what has been shown to be possible in countries like South Africa and Botswana that have accessible maternal and child health services,” added Dr. Mate. “In those countries, we have seen dramatic reduction in HIV infection rates of newborn infants by improving the performance of HIV prevention strategies.”

## **Background**

Much progress has been made to address the HIV/AIDS epidemic that has claimed so many lives around the world. Nonetheless, an additional 2.7 million people were infected with HIV in 2010, and 14 percent of those were infants and children.

Global health agencies and programs, including the President’s Emergency Plan for AIDS Relief (PEPFAR), have been laying the groundwork to eliminate mother-to-child HIV transmission. They aim to reduce the number of new HIV infections in children by 90 percent and to reduce the number of AIDS-related maternal deaths by 50 percent. The United Nations Millennium Development Goals (MDGs) include a set of ambitious targets to reduce maternal and child mortality in low- and middle-income countries by 2015. These two global initiatives hold out hope that outcomes for mothers and their infants in developing countries will improve greatly over the next few years.

Antiretroviral drugs can effectively eliminate the risk of mother-to-child HIV transmission during pregnancy and breastfeeding and can improve maternal survival. Clinical studies have demonstrated dramatic reduction in mother-to-child HIV transmission rates among infants that receive antiretroviral therapy either before or after birth – offering hope that about 350,000 babies can be spared from HIV infection each year. The clinical interventions needed to reduce new HIV infections in children and reduce maternal and child mortality are well documented, and most are inexpensive and cost-effective. In both areas, some countries have met MDG targets, which suggests that these ambitious global goals can be realized.

Effective implementation of lifesaving antiretroviral interventions is essential to preventing mother-to-child HIV transmission. Yet despite a decade of great progress, in 2010 only 42 percent of pregnant women in sub-Saharan Africa had an HIV test, and only 60 percent received some form of antiretroviral therapy.

## Discussion

Efforts to eliminate mother-to-child HIV transmission cannot succeed where maternal and child health care services are inaccessible or services fail to deliver effective care for complex conditions such as HIV. Countries with the highest burdens of HIV infection often have health systems that are the least capable of delivering reliable and accessible care. Furthermore, in many low- and middle-income countries, the critical clinical intervention for patients with AIDS – antiretroviral therapy – is often delivered in a completely separate location from the usual maternal and child health care setting. This creates unnecessary system barriers and the potential for breakdowns in the delivery of effective care.

Prevention of mother-to-child HIV transmission in any region depends on both the ability of the local population to gain access to appropriate health services and the reliability of services actually delivered. Recent data show that lack of access to facility-based prenatal, obstetric, and postnatal care remains a major barrier to the widespread receipt of most maternal and child health services.

In 2010 a survey of 68 low- and middle-income countries reported that 82 percent of pregnant women obtained prenatal care at least once. Such prenatal visits offer the primary opportunity to test mothers for HIV and, if the result is positive, to deliver at least one of the main antiretroviral interventions: zidovudine therapy. Subsequent prenatal care visits provide the opportunity to administer or refer the mother for three-drug highly active antiretroviral therapy, if needed.

However, only half of pregnant women received the recommended four or more prenatal care visits, according to the survey. In the survey countries, babies were born with a skilled attendant present only 54 percent of the time. Thus, almost half of the HIV-infected women giving birth missed the opportunity to receive treatment that could stop them from passing on the virus to their breastfeeding newborns.

For a copy of the article or to speak with Dr. Barker, please contact Nicole Summer, Goodman Media International, at (212) 576-2700 x255 or [nsummer@goodmanmedia.com](mailto:nsummer@goodmanmedia.com).

### ***About IHI:***

*The Institute for Healthcare Improvement ([www.IHI.org](http://www.IHI.org)) is an independent not-for-profit organization that works with health care providers and leaders throughout the world to achieve safe and effective health care. IHI focuses on motivating and building the will for change, identifying and testing new models of care in partnership with both patients and health care professionals, and ensuring the broadest possible adoption of best practices and effective innovations. Based in Cambridge, Massachusetts, IHI mobilizes teams, organizations, and increasingly nations, through its staff of more than 100 people and partnerships with hundreds of faculty around the world.*

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