

World AIDS Day: December 2006

- **Since HIV was first identified in 1981 65 million people have been infected.**
- **25 million people have died**
- **64% of those with HIV live in sub-Saharan Africa.**

A Tale of Two Worlds- MGC Briefing paper Number 1, December 2006.By Peter Gyves

In sub-Saharan Africa, where antiretroviral therapy has increased more than eightfold since the end of 2003, great strides are being made in treating patients with H.I.V./AIDS. Those in the know, like participants in the 16th International AIDS Conference held last April in Toronto, Canada, express great optimism about treating the disease in the developing world. The United Nations' Global Fund, the U.S. president's Emergency Plan for AIDS Relief and the Bill and Melinda Gates Foundation have directed funds to this part of the world and made rapid progress possible. Although such optimism is largely justified, much work remains to be done, especially in preventing and treating H.I.V./AIDS in children.

Visiting African Hospitals

Over the past three years, I have visited Kenya, Chad, South Africa and Zambia to understand better the changes taking place in the care of people infected by H.I.V. What I have learned is that progress in preventing and treating the disease in children lags far behind the advances made in treating adults, and that among adults men fare significantly better than women.

During a recent visit to the university teaching hospital in Lusaka, the capital of Zambia, I met with staff physicians responsible for the care of children admitted with a variety of illnesses, including H.I.V./AIDS. I accompanied the chief pediatrician as she examined a child—H.I.V. positive, with severe anemia and malnutrition—and noticed another physician across the ward applying oxygen to an infant. By the time we approached this baby and her mother, the examining physician had just removed the oxygen from the child's face. The mother began to cry as a nurse wrapped the infant in a sheet and carried her away; her tiny daughter had died before much could

be done to help her. The mother had brought her, in severe respiratory distress, to the hospital from an outlying clinic, because it had been unable to care for her baby. The examining physician told us that the infant was about 4 months old and appeared wasted. He thought it possible, even likely, that both the infant and her mother were H.I.V. positive and that the baby had died from an untreated AIDS-related pneumonia. Neither the mother's nor the infant's H.I.V. status was known.

This sad but familiar scenario, one I had seen several times before in visits to sub-Saharan Africa, was an unpleasant reminder that despite increased access to antiretroviral therapy in this part of the world, childhood death is frequently H.I.V.-related.

AIDS Devastation in Sub-Saharan Africa

The magnitude of the problem is striking. Since AIDS was first recognized in 1981, H.I.V. has infected 65 million people and killed 25 million of them. Today 38.6 million people live with H.I.V. Of these, 24.5 million—64 percent of the world's total—are in sub-Saharan Africa, an area that contains only 10 percent of the world's population.

Women and children suffer disproportionately. For example, 75 percent of all women with H.I.V. live in sub-Saharan Africa; they account for almost 60 percent of the adults living with the disease there. Despite this, only 6 percent of pregnant women in sub-Saharan Africa are offered treatment to prevent mother-to-child transmission of the virus. It is not surprising then that some 2 million children in the region live with H.I.V., which is almost 90 percent of the world's H.I.V.-infected children. Still, only 7 percent of the people receiving antiretroviral therapy in sub-Saharan Africa are children. Among the enormous consequences of H.I.V. infection in the region are an estimated 12 million orphans.

Mother-to-Child Transmission

The number of children with H.I.V. worldwide is directly linked to the number of pregnant women with the disease, and mother-to-child transmission is the most common way that children become infected. In the United States, the near universal access of pregnant women to a combination of antiretroviral therapy and intensive surveillance of those treated has reduced the transmission rate to approximately 1 percent (down from 25 percent before antiretroviral therapy was provided).

What a contrast to the situation in sub-Saharan Africa, where access to such preventive programs is limited. Access varies from country to country and within countries and reflects the financial resources of a country, access to treatment centers of any kind, problems in identifying H.I.V.-positive pregnant women and varying levels of training among the health personnel who deliver and monitor the programs. Moreover, mother-to-child prevention programs in sub-Saharan Africa usually offer pregnant women a single dose of antiretroviral therapy at the onset of labor and one dose to the newborn within the first 72 hours of life. This strategy has decreased the mother-to-child transmission of H.I.V. from approximately 25 percent to 11 percent.

The simplified, shorter course of antiretroviral therapy is related to cost and the inherent difficulties in monitoring those receiving treatment.

Breast-feeding by H.I.V.-positive women is problematic. It increases the risk of transmitting the virus to babies by 5 to 15 percent over their first two years of life. Consequently, in sub-Saharan Africa the overall risk that mothers who have not received preventive treatment will transmit the virus to their newborns reaches 30 to 40 percent. Even the women benefitting from prevention therapy still incur a risk of some 15 to 25 percent. Despite the additional risk, the practice of breast feeding continues to be encouraged, because it protects against bacterial intestinal infections and ultimately carries less risk of death to H.I.V.-positive infants than do the alternatives: using formulas and solid foods during the early months of life.

A worldwide view of H.I.V. infection in children sees two very different worlds. While few infants with H.I.V. are currently being born in the United States, the number of infected infants born in sub-Saharan Africa remains alarmingly high. The nearly universal availability of programs to prevent mother-to-child transmission in the United States is further enhanced by physicians' ability to identify H.I.V.-positive infants quickly and to offer high-tech treatment. Caregivers can quantify the amount of H.I.V. in the body, monitor drug levels to ensure a therapeutic effect, determine whether the virus is resistant to individual antiretroviral drugs and provide access to newer classes of antiretrovirals and antibiotics.

In sub-Saharan Africa, by contrast, identifying H.I.V. in infants is mostly limited to antibody testing, which often produces false positive results during the first 18 months of life because of interference from maternal antibodies. While treatment in this setting usually consists of a variation of the combination antiretroviral drugs used in the United States, surveillance remains a major obstacle. Issues range from the need to refrigerate some antiretroviral drugs to the prohibitive costs of high-tech laboratory testing and medicines.

Attainable Goals

U.S. standards for the prevention and treatment of children with H.I.V. are unrealistic for sub-Saharan Africa at the present time. Still, several attainable goals would significantly lower the prevalence of H.I.V. in children there and increase the survival time of children already infected. Here are some of them:

1. Increase dramatically the percentage of pregnant women enrolled in programs to prevent mother-to-child transmission (the current level is only 6 percent). These programs must also move toward the combination drug therapy and surveillance system offered in the United States.
2. Make the prevention and treatment of all women with H.I.V. a high priority.
3. Improve the general health care of H.I.V.-infected children, especially those under the age of 2. Improvement would include timely immunization

against common childhood diseases and reducing the prevalence of malnutrition, tuberculosis and the most common causes of child deaths in the developing world—malaria and intestinal and respiratory diseases.

4. Provide care and monitoring for children who need combination antiretroviral therapy. That would entail a commitment to increase significantly the percentage of children receiving the therapy (from the current level of 7 percent) and a shift toward more high-tech treatment.

5. Encourage governments of the developed and developing worlds to respond to the plight of children with H.I.V. in sub-Saharan Africa, allocating more H.I.V. funding for children and pregnant women.

Without progress in these areas, large numbers of children in sub-Saharan Africa will continue to be born with H.I.V. and to die long before their time. The current contrast demonstrates that the story of children with H.I.V./AIDS is a tale of two very different worlds. The achievement of the developed world in preventing and treating children with H.I.V. is arguably the greatest success story to date in the struggle to control AIDS, yet it stands as a tragedy alongside the number of children who are dying of the same disease in the developing world.

Peter Gyves, S.J., is a physician who is studying theology at Weston Jesuit School of Theology, Cambridge, Mass. All data in this article are from: [Report on the Global AIDS Epidemic: A UNAIDS 10th anniversary special edition](#), 2006 (data from 2005);